

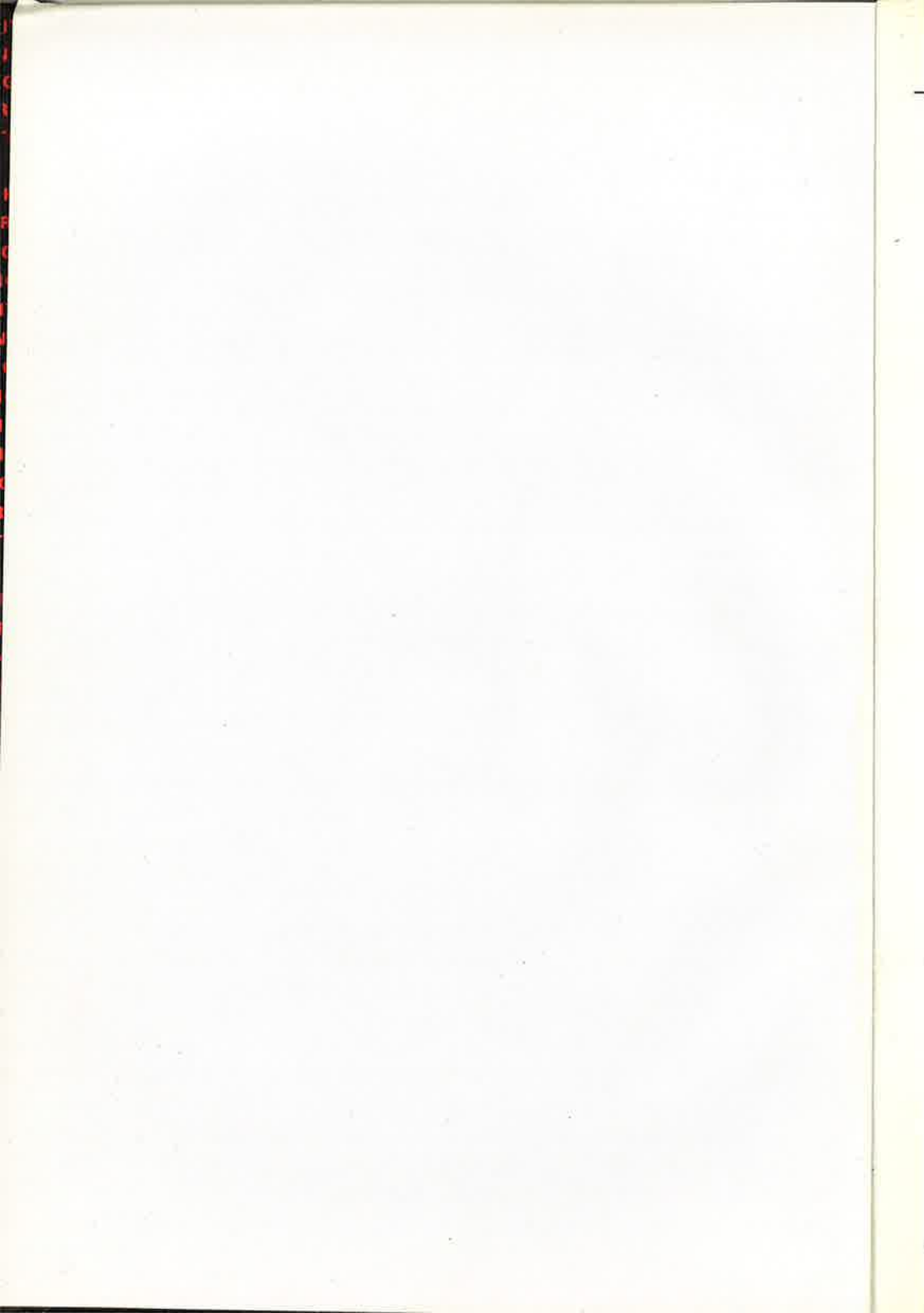
THORN LIGHTING LTD.

**COMPREHENSIVE LIGHTING CATALOGUE
1970/71**



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THORN LIGHTING LIMITED



A Member of the Thorn Group

**Thorn Lighting Limited now manufactures and
sells Atlas, Mazda and Ekco brand lighting products.**

This catalogue lists and describes all fittings, equipment, accessories, lamps and fluorescent tubes normally manufactured by Thorn Lighting Limited.

In order to assist its customers and its own organisation, Thorn Lighting is rationalising its many ranges of fittings and the brands in which any specific range is available is clearly shown at the top of the catalogue page. Fittings are now listed under one catalogue number only which is usually the Atlas catalogue number, but the former Ekco and Mazda catalogue numbers are cross referenced back to the Atlas number in the Thorn Lighting Comprehensive Price List, copies of which may be obtained on request to any Thorn Lighting Regional Headquarters.

A complete range of lamps and tubes is offered in Mazda brand, but Atlas brand are also available for general service and projector lamps and the three brands for most ratings of fluorescent tubes. An indication of the brand availability is given in the introduction of each section which appears on the section inside the front cover.

The locations and addresses of Thorn Lighting order offices and regional headquarters are given overleaf.

Main Index & Introduction

Thorn Lighting Order Offices

SOUTHERN

Atlas Lamps and Lighting Division
Thorn Industrial Estate,
Homesdale Road,
Bromley, BR1 2QP,
Kent.
Tel: 01-460 9966
Telex: Thorn Bromley 25823

Atlas and Mazda Lamps and Lighting Division
Angel Road Works,
402 Angel Road,
Edmonton,
London, N18.
Tel: 01-807 3050
Telex: Thorn Edmonton 23157

Ekco Lamps and Lighting Division
Fawe Street,
Morris Road,
Poplar,
London, E14.
Tel: 01-987 2090

Mazda Lamps and Lighting Division
Victoria Trading Estate,
Victoria Way,
Charlton, S.E.7.
Tel: 01-858 3281

Drury Lane,
St. Leonards-on-Sea,
Hastings,
Sussex.
Tel: Hastings 2734

5 Richfield Avenue,
Reading,
Berks.
Tel: Reading 53257

West Quay Trading Estate,
West Quay Road,
Southampton, SO9 1FF.
Tel: Southampton 27401

SOUTH WEST, SOUTH WALES

Atlas and Ekco Lamps and Lighting Division
Thorn House,
Penarth Road,
Cardiff, CF1 7YP,
Wales.
Tel: Cardiff 31491
Telex: Thorn Cardiff 49334

Mazda Lamps and Lighting Division
6 Gwennyth Street,
Cardiff, CF2 4XY,
Wales.
Tel: Cardiff 27495

1/5 Trinity Street,
Bristol 2,
Somerset.
Tel: Bristol 51494

MIDLANDS

Atlas, Mazda and Ekco Lamps and Lighting Division
Thorn House,
Aston Church Road,
Saltley,
Birmingham 8.
Tel: 021-327 1535
Telex: Thorn Birmingham 33235

Ashforth Street,
Nottingham, NG3 4BJ.
Tel: Nottingham 51115

NORTH WEST, NORTH WALES

Atlas, Mazda and Ekco Lamps and Lighting Division
2 Claytonbrook Road,
Clayton,
Manchester 11.
Tel: 061-223 1322
Telex: BLI Manchester 668642

NORTH EAST

Atlas, Mazda and Ekco Lamps and Lighting Division
Thorn House,
3 Ring Road,
Lower Wortley,
Leeds 12.
Tel: Leeds 636321
Telex: Thorn Leeds 55110

Earlsway,
Team Valley Estate,
Gateshead, NE11 0RX.
Co. Durham.
Tel: Low Fell 879211
Telex: BLI Gateshead 53429

SCOTLAND

Atlas, Mazda and Ekco Lamps and Lighting Division
Thorn House,
Lawmoor Street,
Glasgow C.5,
Scotland.
Tel: South 5151
Telex: Thorn Glasgow 77630

NORTHERN IRELAND

Atlas, Mazda and Ekco Lamps and Lighting Division
10 Severn Street,
Belfast, BT4 1FB,
Northern Ireland.
Tel: Belfast 56004/5 and 51477
Telex: Thorn Belfast 74695

Show Rooms.

THORNHILLS

UPPER ST. MARTINS LANE

01-836-2444

FLUORESCENT FITTINGS

Introduction

Almost every major advance in the field of fluorescent lighting has been a direct result of our research.

Thorn Lighting's leading position has been maintained by their rigorous standards of production and technical design. Thorn Lighting fluorescent lighting fittings cover a wide range.

There is at least one Thorn Lighting design to meet precise requirements, in light produced, efficiency and in appearance of the fitting, for almost every type of installation.



Fluorescent Lighting Fittings Index

Page no.	Atlantic 4	Page no.	Minipack
6-7	Introduction and Features	85	LJ Batten Fittings
8-9	Basic Spine A4A, A4B	86	LJA, LJJ Attachments
10	Prismatic Controller A4C		
11	Opal Diffuser A4D		Nomad
12	Two-tone Diffuser A4E	87	NOM Transistorised Fittings
13	"Millionaire" Fitting A4FM		
14	Aluminium Frame Fitting A4FA		Domestic
15	"Hide" Frame Fitting A4FH	88	SKZZO Au-pair Homelight
16	"Timber" Frame Fitting A4FT	89	1UP One-up-diffuser Light
17	Low Brightness Fitting A4L	90	LS/LST Viewpoint Shaver Unit
18	Prismatic Controller A46C	91	4NLI Netaline Batten Fittings
19	Opal Diffuser A46D	92	4MLB Litepak Batten Fittings
20	Wide Opal Diffuser A40		
21	Wide Prismatic Controller A4P		Circular Fittings Circline
22	Plastic Reflector A4U	93	CFA 40, 6F64 Circline Fittings
23	Vitreous Enamelled Reflector A4V	94	CF/LSB CF/SPG Circline Fittings
24	Wall-washer A4W	95	CF/WHG CF/WBG CF/ITG Circline Fittings
25	Closed End Metal Reflector A4X	96	CF OPCI 2 Twin Circline Fitting
26	Angle Reflector A4Y	97	Domestic Range Replacement Gear
27	Open End Metal Reflector A4Z		
28	Wide Channel Cover and Reflector A4ZB		Trunking Systems
29	Components	98	Introduction
30	Replacement Gear	99-100	Trakline Components
		101	Spotlights and Pendants (Introduction)
		102	Spotlights on Trakline
		103	Pendants on Trakline
		105-106	AA Atlantic Trunking
		107-108	Lightline Trunking
		109-110	New Lightweight Trunking
		111	Suspension Sets
31	Format		
32-33	Introduction and Features		
34-35	1.SM/2.SM Surface Fittings		
36-37	3.SM/4.SM Surface Fittings		
38-39	5.SM/Q.SM/OSM Surface Fittings		
40-41	1.FM Frameless Module Fittings		
42-43	2.FM Frameless Module Fittings		
44-45	1.TM Trimmed Module Fittings		
46	2.TM Trimmed Module Fittings		
	Replacement Gear		
47	Airlume		
48	Introduction		
49	LB (Low-Brightness) Surface Fitting		
50	LB (Low-Brightness) Recessed Fitting		
51	AH (Air-Handling) Recessed Fitting		
52	Assymetrical Fitting		
	OF (Hospital Ward) Fitting		
53	Invincible Range		
54	Introduction		
55	LV Corrosion-Resistant Fitting		
56	LW Corrosion-Resistant Fitting		
57	FP (Flameproof) Fittings		
58	FP (Flameproof) Fittings		
59	Dust Tight Fitting		
60	Food Factory Fitting		
61	Angled Floodlight		
62	Canopy Fitting		
63-64	Airlume and Invincible Replacement Gear		
65-66	New Popular Pack		
67	Introduction		
68	PP Batten Fittings		
69	PPA Angle Reflector Fittings		
70	PPC Prismatic Controller		
71	New P.P. Attachment		
72	PPD Diffuser Fitting		
73	PPO Plastic Trough Reflector		
74	PPR Metal Reflector		
75	PPTO Twindustrial Reflector Fitting		
76	PPU Sentinel Dust-proof Fitting		
77	PP "Double Twin" Arrangement		
78	One-plus-one Attachment		
79	Clipluve' Sectional Louvers		
80	PP Accessories		
	PP Circuit and Replacement Gear		
81	Arrow-Slim		
82	LX Batten Fittings		
83	LXA Raffia and LXB Lustre Metal Baffle Fittings		
84	LXC Plastic Angle Diffuser Fittings		
	LXE Metal Trough Reflector and		
	LXF Two-tone Diffuser		

atlas

New Atlantic range

The New Atlantic range introduces a completely new and extensive range of fluorescent lighting fittings for almost every conceivable indoor environment. There are attachments especially designed to cater for the exclusive taste of a luxuriously decorated director's suite right down to the most general purpose and practical interior.

For the more specialised commercial application there is an attractive low brightness baffle where the I.E.S. Glare Code has to be met in its more stringent form, and a special wall washer capable of highlighting an exquisite mural in an entrance hall.

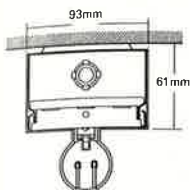
Even the spine itself when supplied with a channel cover makes a very functional bare tube fitting and is admirable when installed in an illuminated ceiling.

The versatility of the New Atlantic range extends into industry with reflectors which have either closed or open ends and are obtainable with a vitreous enamel finish for conditions which are a little more onerous yet probably do not justify the expense of special proof fittings from our Invincible range.

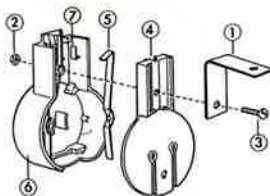
FEATURES

1. Spines – the cross section gives an exceptionally strong spine with very clean lines. The 5mm ceiling stand-off reduces the effect of ceiling unevenness against the straight spine edge. The impact resistant dark blue plastic end plates are attached at the factory to give a smart modern appearance to the fitting.
2. Circuits – the latest polyester resin filled ballast units are employed in switch-less start circuits (no starter switch – reduces maintenance). Capacitors are of standard high quality. Wiring is of the latest metric solid conductor, single core, type, insulated with high temperature PVC connected to the components by either push-in connector or pin connectors. The side entry fuse is accessible without touching any part of the fitting or most attachments.
3. Lampholders – spring loaded lampholders enable either-end relamping of the fitting. They are mounted on bridge pieces which can be secured to the spine without the use of tools.
4. Installation – fittings are suitable for conduit, rod, chain or conduit box mounting (unless detailed otherwise) at normal suspension centres. Alternative mains entry is provided in the centre back of the spines or by a knock out in each end plate. A heavy duty, large capacity, terminal block is capable of accepting loop 2.5mm² cables. (2 x 7/029")
5. Finish – High quality acrylic enamel "stark white" finish is applied to all spines and reflectors. All diffusers and prismatic controllers are of top quality light stabilised polystyrene.
6. Attachments – Two screws operating in sliding cage nuts secure the channel covers and reflectors to the spine through key hole slots. Most commercial attachments then simply hook or spring on to channel covers or special brackets.
7. Standards – all fittings in this range comply with BS3820: 1964 – class 1, ordinary, indoor, normal atmospheres.

New Atlantic Features and accessories

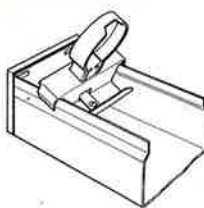


Cross section

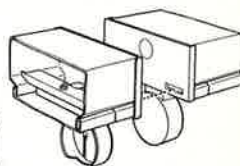


Lampholders

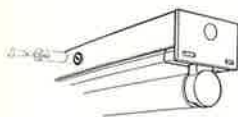
1. Spring bracket
2. Full nut
3. Panhead fixing screw
4. Cover moulding
5. Terminal contact
6. Body moulding
7. Contact backing plate



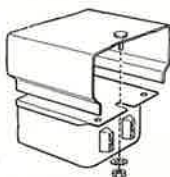
Lampholder assembly



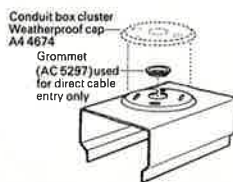
Interlocking plastic end caps



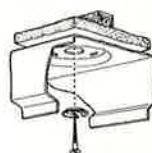
Side entry fuse



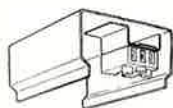
Welded-in screw studs



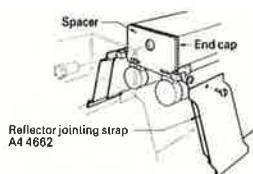
Conduit suspension



Slotted washers

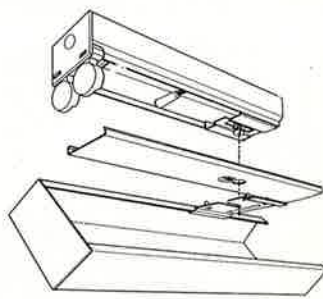


Mains terminal block



Jointing strap assembly

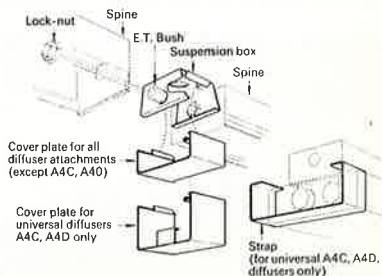
A4.4662—Reflector jointing strap—this attachment is for use when open ended metal reflectors are being continuously mounted and closes the gap between adjacent reflectors and ensures perfect alignment when spines are rigidly mounted.



Fast positive attachment fixing

A4.4660—Spacer (fixed end diffusers)—this spacer assembly is available when fixed end diffuser fittings are required to be mounted continuously. This item is provided with a suspension hole, and small conduit box cluster to help minimise the number of suspension points required.

A4.4661—Spacer (for detachable end diffusers and closed end reflectors) this spacer is available when continuous mounting of diffusers having removable ends or closed end reflectors is required. The spacer is provided with suspension hole, and small conduit box cluster to help minimise the number of suspension points required but has no facility for the alignment of adjacent attachment which should be carried out by a manual operation on installation.



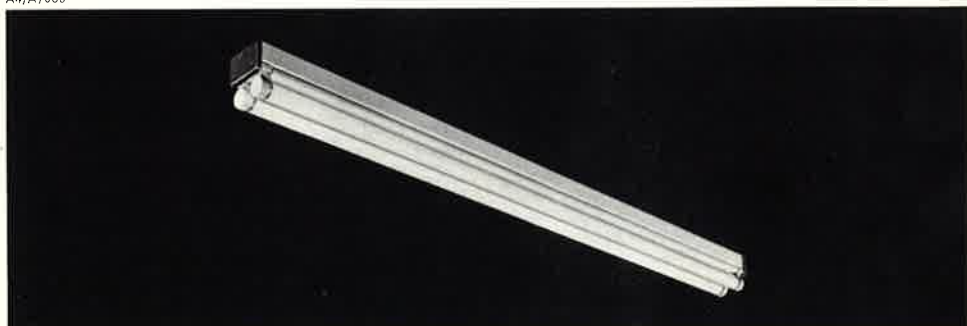
Continuous mounting. Jointing piece

atlas

New Atlantic basic spine



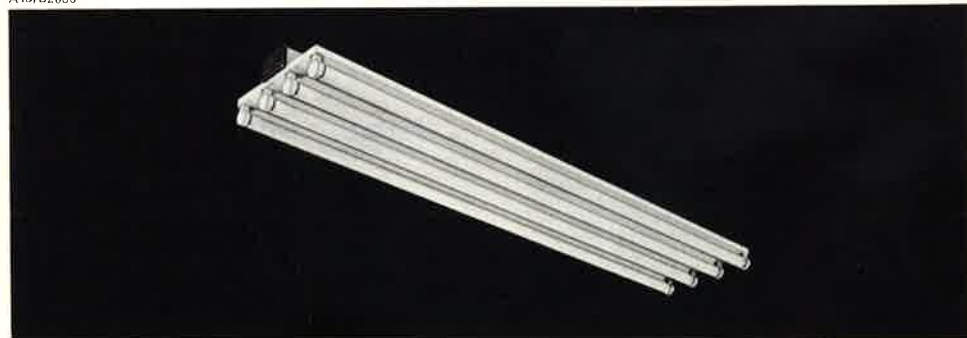
A47A / 685



A4A / A / 2685



A4B / B2685



A4B / 4685

atlas

New Atlantic basic spine

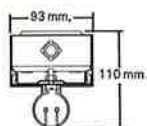
The basic spine plus the series "A" channel cover produces a range of single and twin tube batten fittings in 8ft, 6ft, 5ft, and 4ft lengths.

The "B" and 4-tube spines plus the series "B" channel cover produces a range of twin and 4-tube batten fittings which are eminently suitable for use with suspended luminous ceilings.

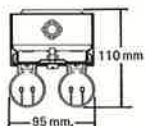
These general-purpose fittings can be used anywhere where an unshielded fluorescent tube is acceptable. All fittings are suitable for use on 240V 50Hz supplies. Other voltages on application.

These fittings comply fully with BS3820: 1964 for class 1, ordinary, indoor, normal atmospheres.

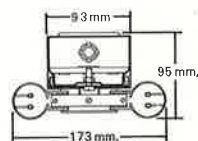
The 'A' channel cover may also be used with the twin 'B' spine



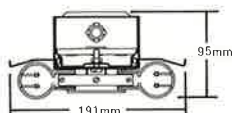
A4A (Single)



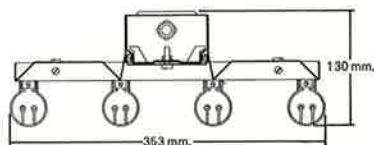
A4A (Twin)



A4 (Wide Twin)



A4B/B

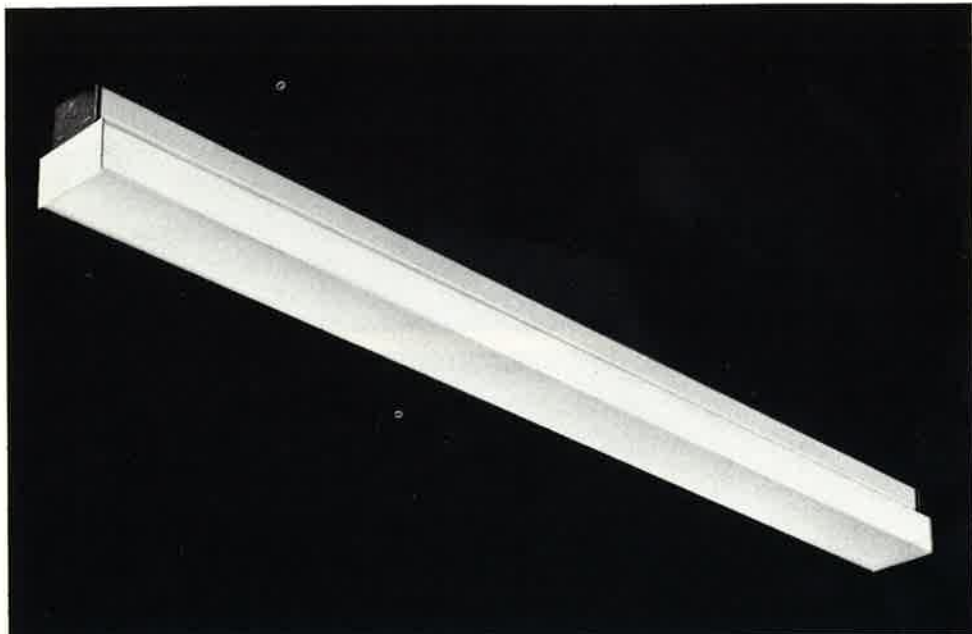


A4B (4-tube side cover reflectors)

Nominal Tube Length	Rating	Circuit	Fitting Cat. No.	Component Cat. No.			o/a Length mm	Length & Weight		
				1st Attachment Cat. No.	2nd Attachment Cat. No.	Spine Cat. No.		in	kg	lb
4ft	40W	SRS	A4A/40	—	A4A.24	A4.40	1241	48-8	4-4	9-7
4ft	2 x 40W	SRS	A4A/240	—	A4A.24	A4.240	1241	48-8	6-2	13-7
5ft	65W	SRS	A4A/65	—	A4A.25	A4.65	1541	60-7	5-3	11-8
5ft	2 x 65W	SRS	A4A/265	—	A4A.25	A4.265	1541	60-7	7-5	16-5
5ft	2 x 65W	SRS	A4A/B265	—	A4A.25	A4.B265	1541	60-7	7-7	17-1
5ft	2 x 65W	SRS	A4B/B265	—	A4B.25	A4.B265	1541	60-7	8-5	18-7
6ft	85W	SRS	A4A/685	—	A4A.26	A4.685	1805	71-1	5-6	12-4
6ft	2 x 85W	SRS	A4A/2685	—	A4A.26	A4.2685	1805	71-1	7-9	17-9
6ft	2 x 85W	SRS	A4A/B2685	—	A4A.26	A4.B2685	1805	71-1	8-2	18-0
6ft	2 x 85W	SRS	A4B/B2685	—	A4B.26	A4.B2685	1805	71-1	8-7	19-2
6ft	4 x 85W	SRS	A4B/4685	—	A4B.46	A4.4685	1805	71-1	20-4	45
8ft	85W	QS	A4A/885	—	A4A.28	A4.885	2416	95-1	8-5	18-7
8ft	2 x 85W	QS	A4A/2885	—	A4A.28	A4.2885	2416	95-1	13-6	29
8ft	2 x 85W	QS	A4A/B2885	—	A4A.28	A4.B2885	2416	95-1	13-7	29-5
8ft	2 x 85W	QS	A4B/B2885	—	A4B.28	A4.B2885	2416	95-1	13-8	30-1
8ft	2 x 85W	TS	A4A/T2885	—	A4A.28	A4.T2885	2416	95-1	15-4	34-1
8ft	4 x 85W	TS	A4B/4885	—	A4B.48	A4.4885	2416	95-1	24-9	55-0
8ft	1 x 125W	QS	A4A/125	—	A4A.28	A4.125	2416	95-1	9-7	21-4
8ft	2 x 125W	QS	A4A/2125	—	A4A.28	A4.2125	2416	95-1	14-2	31-1

atlas

New Atlantic A4C prismatic controller



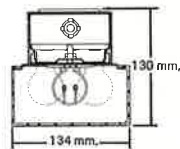
A4C/A/2685

A general purpose prismatic controller is extruded from clear polystyrene. It has clear glare controlling linear prisms on each side and a fine prismatic pattern embossed in the base. Injection moulded white end plates are permanently attached and the controller is suitable for use with either single or twin (close space) tubes.

Brackets are supplied with the controller to attach it to the batten, these are secured to the channel cover fixing screws on the batten.

All fittings are suitable for use on 240V 50Hz supplies. Other voltages on application.

These fittings comply fully with BS3820: 1964 for class 1, ordinary, indoor, normal atmospheres.

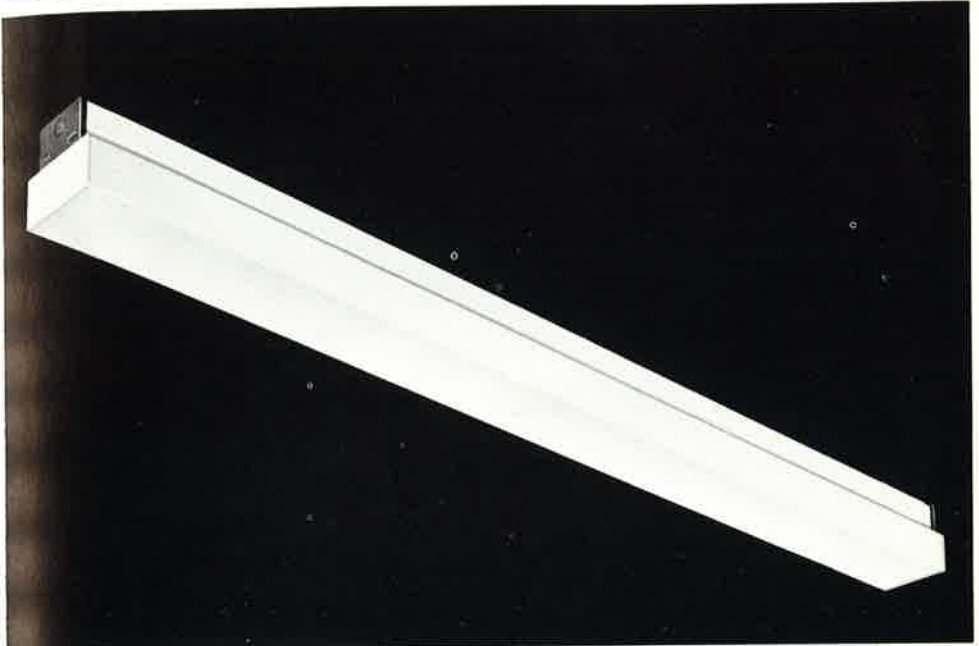


A4C (Single/Twin)
Universal prismatic controller

Nominal Tube Length	Rating	Circuit	Fitting Cat. No.	Component Cat. No.			o/s Length		Length & Weight	
				1st Attachment Cat. No.	2nd Attachment Cat. No.	Spine Cat. No.	mm	in	Approx. Weight (incl. Tubes)	
4ft	40W	SRS	A4C/A/40	A4C.24	A4A.24	A4.40	1254	49.4	5.3	11.6
4ft	2 x 40W	SRS	A4C/A/240	A4C.24	A4A.24	A4.240	1254	49.4	7.1	15.6
5ft	65W	SRS	A4C/A/65	A4C.25	A4A.25	A4.65	1554	61.2	6.4	14.1
5ft	2 x 65W	SRS	A4C/A/265	A4C.25	A4A.25	A4.265	1554	61.2	8.5	18.8
6ft	85W	SRS	A4C/A/685	A4C.26	A4A.26	A4.685	1817	71.5	6.9	15.1
6ft	2 x 85W	SRS	A4C/A/2685	A4C.26	A4A.26	A4.2685	1817	71.5	9.1	20.0
8ft	85W	QS	A4C/A/885	A4C.28	A4A.28	A4.885	2429	95.6	10.1	22.3
8ft	2 x 85W	QS	A4C/A/288	A4C.28	A4A.28	A4.2885	2429	95.6	15.2	33.7
8ft	2 x 85W	TS	A4C/A/T288	A4C.28	A4A.28	A4.T2885	2429	95.6	17.1	37.7
8ft	125W	QS	A4C/A/125	A4C.28	A4A.28	A4.125	2429	95.6	11.4	25.0
8ft	2 x 125W	QS	A4C/A/2125	A4C.28	A4A.28	A4.2125	2429	95.6	15.7	34.7

atlas

New Atlantic A4D opal diffuser

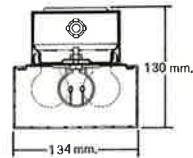


A4D/A/2685

This series of diffusers has been produced to provide an economic but attractive lighting fitting for general commercial lighting applications. The diffuser is extruded in plain opal polystyrene and has injection moulded end plates permanently fixed in position. The diffuser is attached to the spine by brackets, supplied with it, which secure to the channel cover fixing screws on the batten. The attachment is suitable for use with either single or twin (close spaced) tubes.

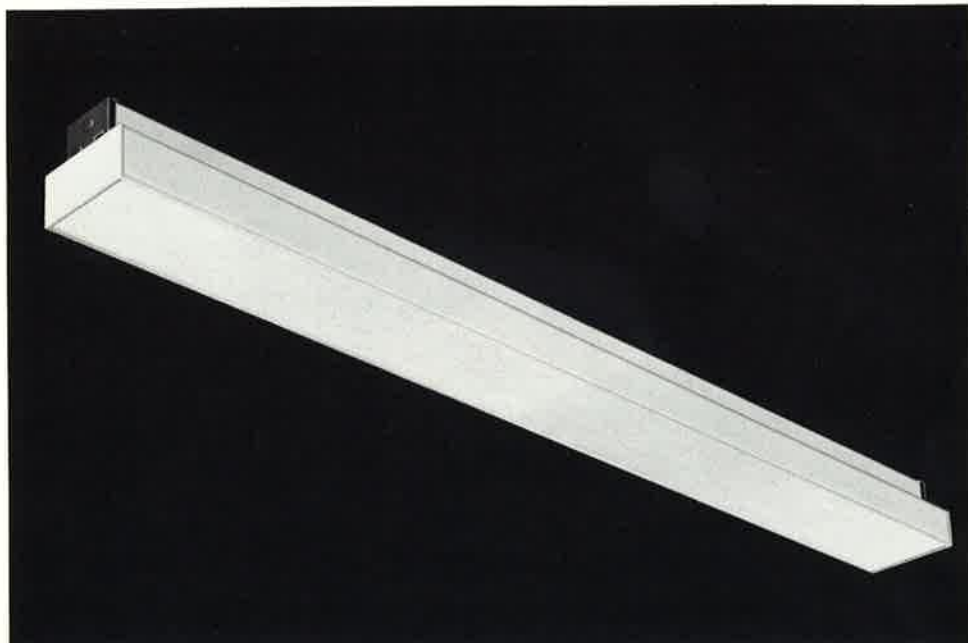
All fittings are suitable for use on 240V 50Hz supplies. Other voltages on application.

These fittings comply fully with BS3820: 1964 for class 1, ordinary, indoor, normal atmospheres.



A4D (Single/Twin) Universal opal diffuser

Nominal Tube Length	Rating	Circuit	Fitting Cat. No.	Component Cat. No.			Length & Weight			
				1st Attachment	2nd Attachment	Spine	o/a Length		Approx. Weight (incl. Tubes)	
				Cat. No.	Cat. No.	Cat. No.	mm	in	kg	lb
4ft	40W	SRS	A4D/A/40	A4D.24	A4A.24	A4.40	1254	49.4	5.3	11.6
4ft	2 x 40W	SRS	A4D/A/240	A4D.24	A4A.24	A4.240	1254	49.4	7.1	15.6
5ft	65W	SRS	A4D/A/65	A4D.25	A4A.25	A4.65	1554	61.2	6.4	14.1
5ft	2 x 65W	SRS	A4D/A/265	A4D.25	A4A.25	A4.265	1554	61.2	8.5	18.8
6ft	85W	SRS	A4D/A/685	A4D.26	A4A.26	A4.685	1817	71.5	6.9	15.1
6ft	2 x 85W	SRS	A4D/A/2685	A4D.26	A4A.26	A4.2685	1817	71.5	9.1	20.0
8ft	85W	QS	A4D/A/885	A4D.28	A4A.28	A4.885	2429	95.6	10.1	22.3
8ft	2 x 85W	QS	A4D/A/2885	A4D.28	A4A.28	A4.2885	2429	95.6	15.2	33.7
8ft	2 x 85W	TS	A4D/A/T2885	A4D.28	A4A.28	A4.T2885	2429	95.6	17.1	37.7
8ft	125W	QS	A4D/A/125	A4D.28	A4A.28	A4.125	2429	95.6	11.4	25.0
8ft	2 x 125W	QS	A4D/A/2125	A4D.28	A4A.28	A4.2125	2429	95.6	15.7	34.7



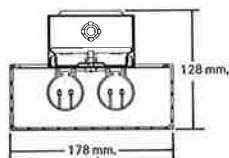
A4E/A/2685

This compact two-tone extruded polystyrene controller gives good light control. The sides are in opal to give adequate shielding and freedom from glare, whilst the base is embossed with a clear prismatic pattern for high efficiency.

The controller has permanently attached injection moulded ends supported by brackets, supplied with it, and is secured to the channel cover by fixing brackets attached to the batten. For use with either single or twin (close spaced) tubes

All fittings are suitable for use on 240V 50Hz supplies. Other voltages on application.

These fittings comply fully with BS3820: 1964 for class 1, ordinary, indoor, normal atmospheres.

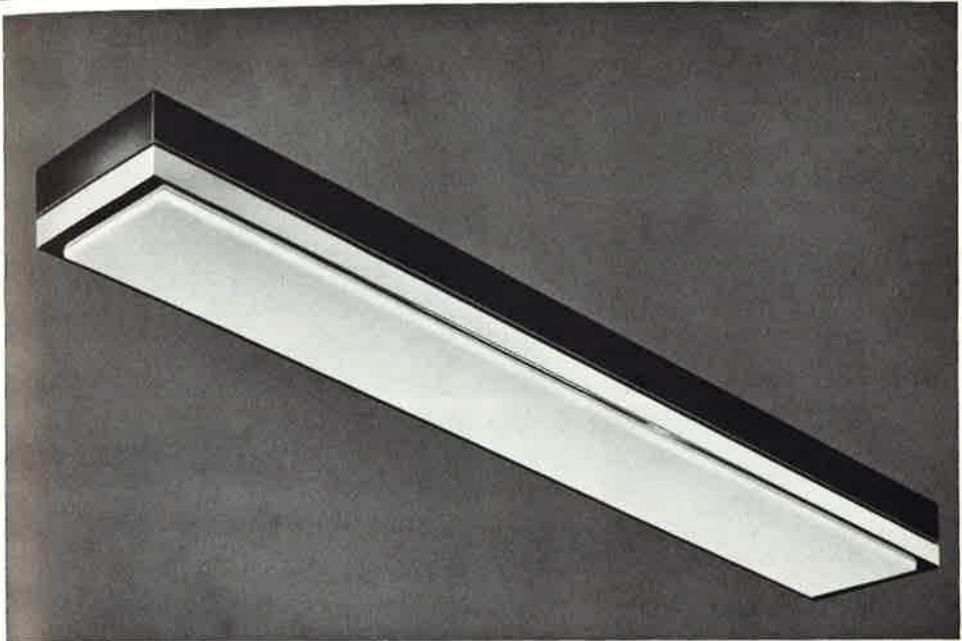


A4E (Two-tone diffuser)

Nominal Tube Length	Rating	Circuit	Fitting Cat. No.	Component Cat. No.			Length & Weight		Approx. Weight (incl. Tubes)	
				1st Attachment Cat. No.	2nd Attachment Cat. No.	Spine Cat. No.	o/a Length			
							mm	in	kg	lb
4ft	2 x 40W	SRS	A4E/A/240	A4E.24	A4A.24	A4.240	1265	49.8	7.7	16.2
5ft	2 x 65W	SRS	A4E/A/265	A4E.25	A4A.25	A4.265	1565	61.6	8.9	19.6
6ft	2 x 85W	SRS	A4E/A/2685	A4E.26	A4A.26	A4.2685	1828	72.0	9.4	20.7
8ft	2 x 85W	QS	A4E/A/2885	A4E.28	A4A.28	A4.2885	2440	96.0	15.6	34.4
8ft	2 x 85W	TS	A4E/A/T2885	A4E.28	A4A.28	A4.T2885	2440	96.0	17.4	38.4
8ft	2 x 125W	QS	A4E/A/2125	A4E.28	A4A.28	A4.2125	2440	96.0	16.0	35.4

atlas

New Atlantic A4FM 'Millionaire' fitting



A4FMD/A/B2685

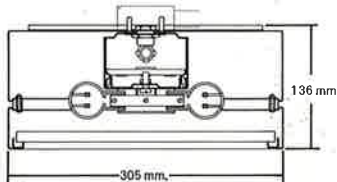
A luxury attachment which can be used on a standard range of spines. The special area may now be lit without the need to resort to alternative ranges of equipment.

The attachment consists of a surface mounted black box supported by a bright finish trim with an inset of translucent blue panelling between the contrasting top and bottom sections.

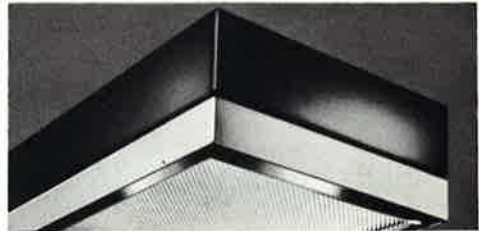
A metalised louver, a prismatic panel or a diffusing dish can be used to provide high intensity with low glare light control and a bit of sparkle or softly diffused light with good appearance, respectively.

All fittings are suitable for the use on a 240V 50Hz supplies. Other voltages on application.

These fittings comply fully with BS3820: 1964, for class 1, ordinary, indoor, normal atmospheres.



A4FM (Millionaire fitting).



A4FMC/A/B2685



A4FML/A/B2685

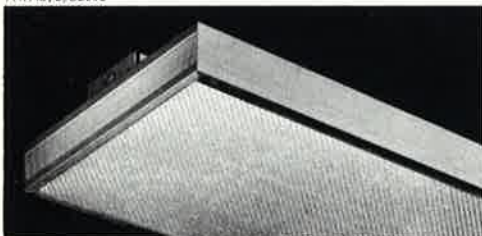
							Length & Weight			
Nominal Tube Length	Rating	Circuit	Fitting Cat. No.	Component Cat. No. 1st Attachment Cat. No.	2nd Attachment Cat. No.	Spine Cat. No.	o/a Length		Approx. Weight (incl. Tubes)	
							mm	in	kg	lb
6ft	2 x 85W	SRS	A4FMC/A/B2685	A4FMC.26	A4A.26	A4.B2685	1850	72-8	16-8	37-0
6ft	2 x 85W	SRS	A4FMD/A/B2685	A4FMD.26	A4A.26	A4.B2685	1850	72-8	16-6	36-5
6ft	2 x 85W	SRS	A4FML/A/B2685	A4FML.26	A4A.26	A4.B2685	1850	72-8	17-4	38-3

atlas

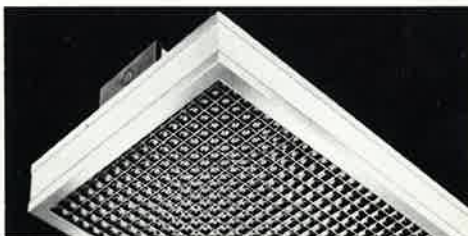
New Atlantic A4FA aluminium frame



A4FAD/B/B2685



A4FAC/B/B2685



A4FAL/B/B2685

The satin anodised extruded aluminium frame surrounding the fitting provides precise detailing and a crisp appearance to the fitting.

Into the base of this aluminium frame can be fitted either a metalised louver, opal dish or prismatic controller to provide the required appearance or light control required.

The attachment hooks onto a standard wide channel cover, using special clips provided and allows a small percentage of upward light.

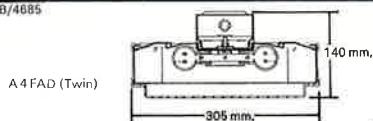
A larger version of this aluminium frame attachment is available for use with four tube versions with a dropped prismatic panel framed in opal Z section extruded polystyrene.

All fittings are suitable for use on 240V 50Hz supplies. Other voltages on application.

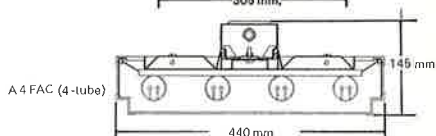
These fittings comply fully with BS3820: 1964 for class 1, ordinary, indoor, normal atmospheres.



A4FAC/B/4685



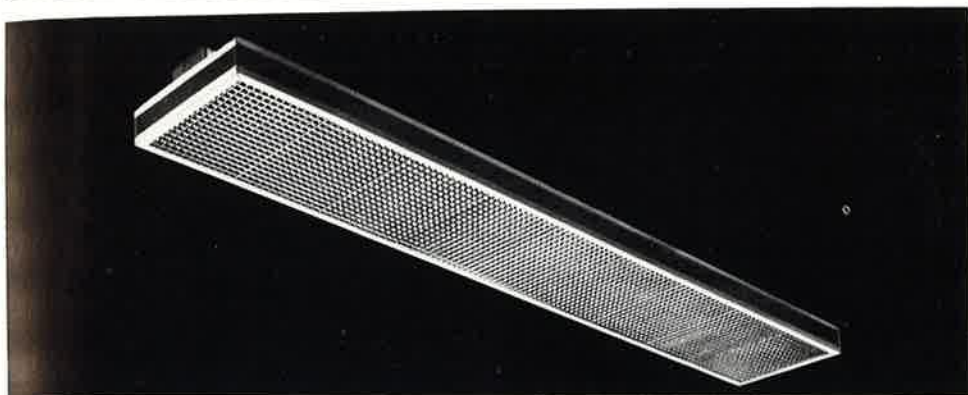
A4FAD (Twin)



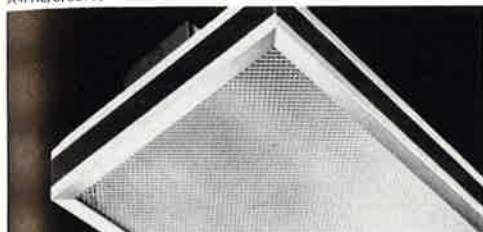
A4FAC (4-tube)

Nominal Tube Length	Rating	Circuit	Fitting Cat. No.	Component Cat. No.			o/a Length		Length & Weight	
				1st Attachment Cat. No.	2nd Attachment Cat. No.	Spine Cat. No.	mm	in	Approx. Weight (incl. Tubes)	
6ft	2 x 85W	SRS	A4FAC/B/B2685	A4FAC.26	A4B.26	A4.B2685	1829	72-0	12.6	27.9
6ft	4 x 85W	SRS	A4FAC/B/4685	A4FAC.46	A4B.46	A4.4685	1845	72-6	26.3	58.0
8ft	2 x 85W	QS	A4FAC/B/B2885	A4FAC.28	A4B.28	A4.B2885	2439	96-0	19.3	42.5
8ft	4 x 85W	TS	A4FAC/B/4885	A4FAC.48	A4B.48	A4.4885	2457	96-7	31.7	70.0
6ft	2 x 85W	SRS	A4FAD/B/B2685	A4FAD.26	A4B.26	A4.B2685	1829	72-0	12.8	28.1
8ft	2 x 85W	QS	A4FAD/B/B2885	A4FAD.28	A4B.28	A4.B2885	2439	96-0	19.4	42.8
6ft	2 x 85W	SRS	A4FAL/B/B2685	A4FAL.26	A4B.26	A4.B2685	1829	72-0	13.2	29.2
8ft	2 x 85W	QS	A4FAL/B/B2885	A4FAL.28	A4B.28	A4.B2885	2439	96-0	20.0	44.2

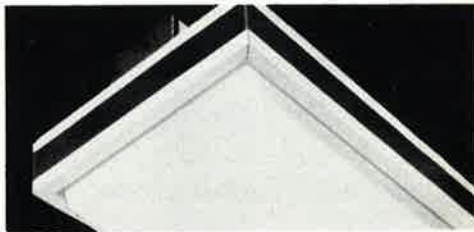
New Atlantic A4FH aluminium frame, black leather insert



A4FHL/B/B2685



A4FHC/B/B2685



A4FHD/B/B2685



A4FHC/B/4685

The satin anodised extruded aluminium frame surrounding the fitting has a simulated black leather insert and provides precise detailing and a crisp appearance to the fitting.

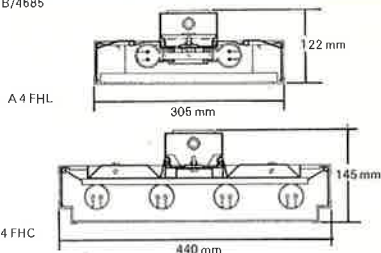
Into the base of the aluminium frame can be fitted either a metallised louver, opal dish or prismatic controller as required.

The attachment hooks onto a standard wide channel cover, using special clips provided and allows a small percentage of upward light.

A larger version of this aluminium frame attachment is available for use with 4 tube versions with a dropped prismatic panel framed in opal Z section extruded polystyrene.

All fittings are suitable for use on 240V 50Hz supplies. Other voltages on application.

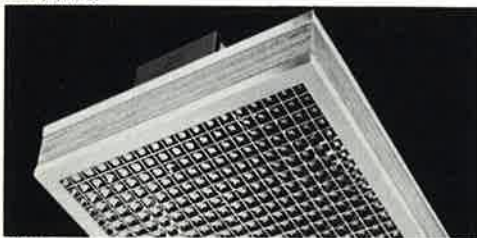
These fittings comply fully with BS3820 : 1964 for class 1, ordinary indoor, normal atmosphere.



Nominal Tube Length	Rating	Circuit	Fitting Cat. No.	Component Cat. No.		Spine Cat. No.	n/a Length mm	Length & Weight	
				1st Attachment Cat. No.	2nd Attachment Cat. No.			In	Approx. Weight (incl. Tubes) kg
6ft	2 x 85W	SRS	A4FHC/B/B2685	A4FHC.26	A4B.26	A4.B2685	1829	72-0	12-6 27-9
6ft	4 x 85W	SRS	A4FHC/B/4685	A4FHC.46	A4B.46	A4.4685	1845	72-6	26-3 58-0
8ft	2 x 85W	OS	A4FHC/B/B2885	A4FHC.28	A4B.28	A4.B2885	2439	96-0	19-3 42-5
8ft	4 x 85W	TS	A4FHC/B/4885	A4FHC.48	A4B.48	A4.4885	2457	96-7	31-7 70-0
6ft	2 x 85W	SRS	A4FHD/B/B2685	A4FHD.26	A4B.26	A4.B2685	1829	72-0	12-7 28-1
8ft	2 x 85W	OS	A4FHD/B/B2885	A4FHD.28	A4B.28	A4.B2885	2439	96-0	19-4 42-8
6ft	2 x 85W	SRS	A4FHL/B/B2685	A4FHL.26	A4B.26	A4.B2685	1829	72-0	13-2 29-2
8ft	2 x 85W	OS	A4FHL/B/B2885	A4FHL.28	A4B.28	A4.B2885	2439	96-0	20-0 44-2



A4FTC/B/B2685



A4FTL/B/B2685



A4FTD/B/B2685

The anodised extruded aluminium frame surrounding the fitting has a simulated wood insert. A metalised louver, opal dish or prismatic controller can be fitted to provide the final appearance or light control required.

The attachment hooks onto a standard wide channel cover, using special clips provided and allows a small percentage of upward light.

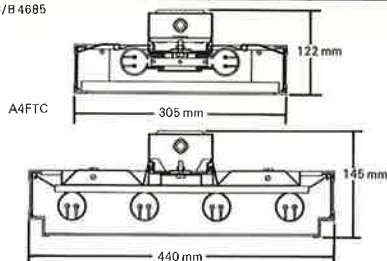
A larger version of this aluminium frame attachment is available for use with four tube versions with a dropped prismatic panel framed in opal Z section extruded polystyrene.

All fittings are suitable for use on 240V 50Hz supplies. Other voltages on application.

These fittings comply fully with BS3820: 1964 for class 1, ordinary indoor, normal atmospheres.



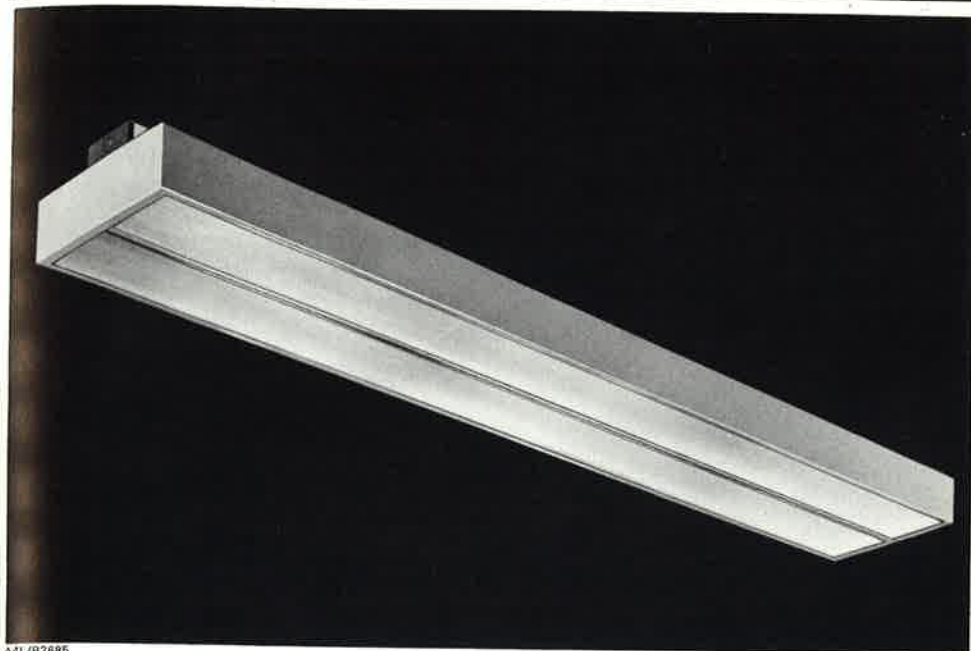
A4FTC/B/B 4685



							Length & Weight				
Nominal Tube Length	Rating	Circuit	Fitting Cat. No.	Component Cat. 1st Attachment Cat. No.	2nd Attachment Cat. No.	Spine Cat. No.	o/a Length		Approx. Weight (Incl. Tubes)		
							mm	in	kg	lb	
6ft	2 x 85W	SRS	A4FTC/B/B2685	A4FTC.26	A4B.26	A4.B2685	1829	72-0	12-6	27-9	
6ft	4 x 85W	SRS	A4FTC/B/4685	A4FTC.46	A4B.46	A4.4685	1845	72-6	26-3	58-0	
8ft	2 x 85W	QS	A4FTC/B/B2885	A4FTC.28	A4B.28	A4.B2885	2439	96-0	19-3	42-5	
8ft	4 x 85W	TS	A4FTC/B/4885	A4FTC.48	A4B.48	A4.4885	2457	96-7	31-7	70-0	
6ft	2 x 85W	SRS	A4FTD/B/B2685	A4FTD.26	A4B.26	A4.B2685	1829	72-0	12-8	28-1	
8ft	2 x 85W	QS	A4FTD/B/B2885	A4FTD.28	A4B.28	A4.B2885	2439	96-0	19-4	42-8	
6ft	2 x 85W	SRS	A4FTL/B/B2685	A4FTL.26	A4B.26	A4.B2685	1829	72-0	13-2	29-2	
8ft	2 x 85W	QS	A4FTL/B/B2885	A4FTL.28	A4B.28	A4.B2885	2439	96-0	20-0	44-2	

atlas

New Atlantic A4L low brightness



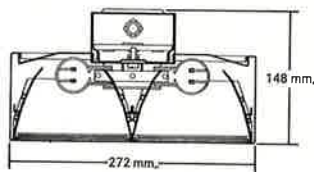
A4L/B2685

This attachment is a completely new approach developed to meet the demand for lighting fittings that can provide high values of illumination with a low degree of discomfort glare, while providing a clean attractive appearance. This is achieved using a clear plastic panel in the base, with moulded transverse prisms, to diffuse the light from the tubes when viewed length ways and to provide a sufficient degree of brightness to the fitting when switched on to avoid the dull effect that can occasionally be produced.

The high light output ratio of the fitting is produced essentially by optically designed extruded aluminium reflectors.

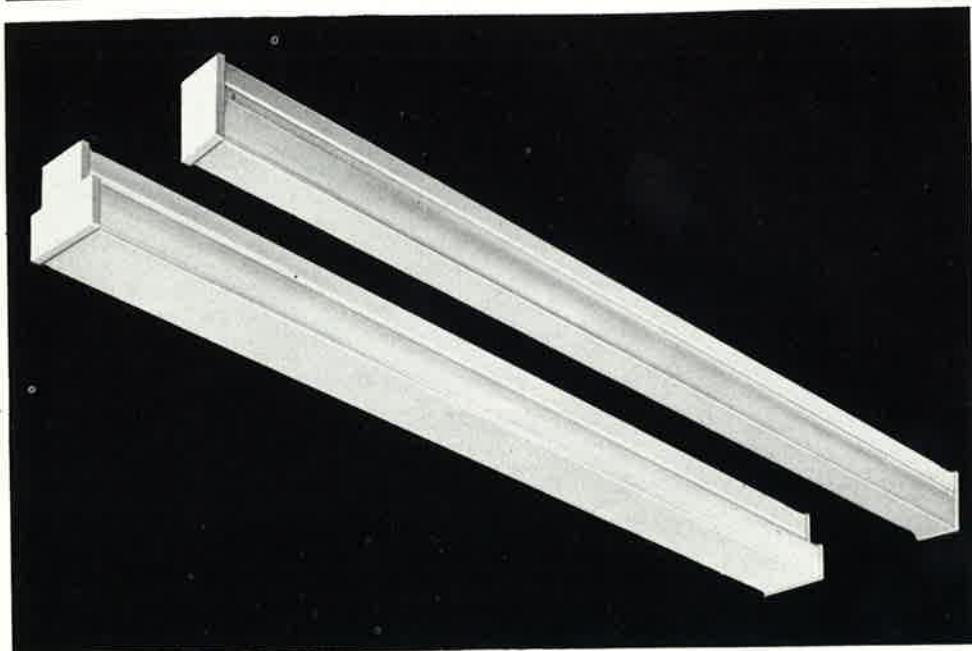
All fittings are suitable for use on 240V 50Hz supplies. Other voltages on application.

These fittings comply fully with BS3820: 1964 Class 1, ordinary, indoor, normal atmospheres.



A4L (Low brightness)

Nominal Tube Length	Rating	Circuit	Fitting Cat. No.	Component Cat. No.			Length & Weight			
				1st Attachment Cat. No.	2nd Attachment Cat. No.	Spine Cat. No.	o/s Length		Approx. Weight (Incl. Tubes)	
							mm	in	kg	lb
6ft	2 x 85W	SRS	A4L/B2685	A4L.26	—	A4.B2685	1829	72.0	13.8	30.4



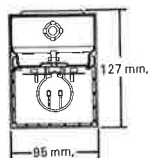
A4GC/2685 A4GC/A/685

Prismatic 'Unicap' controllers in either single or twin (close spaced) tube sizes, are extruded in clear polystyrene. The sides have linear prisms to re-direct the light away from the glare zone and a fine prismatic pattern embossed into the base. They are attached to the basic batten by injection moulded end pieces which provide a unified appearance to the complete batten and attachment.

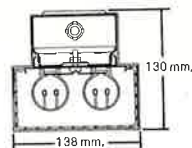
The single tube size has virtually the same cross section as the basic batten. The twin tube size is supplied complete with a special channel cover which is wider than standard to close the mouth of the controller thereby reducing possible dust entry points to a minimum.

All fittings are suitable for use on 240V 50Hz supplies. Other voltages on application.

These fittings comply fully with BS3820: 1964 for class 1, ordinary, indoor, normal atmospheres.



A4GC (Single) Prismatic diffuser

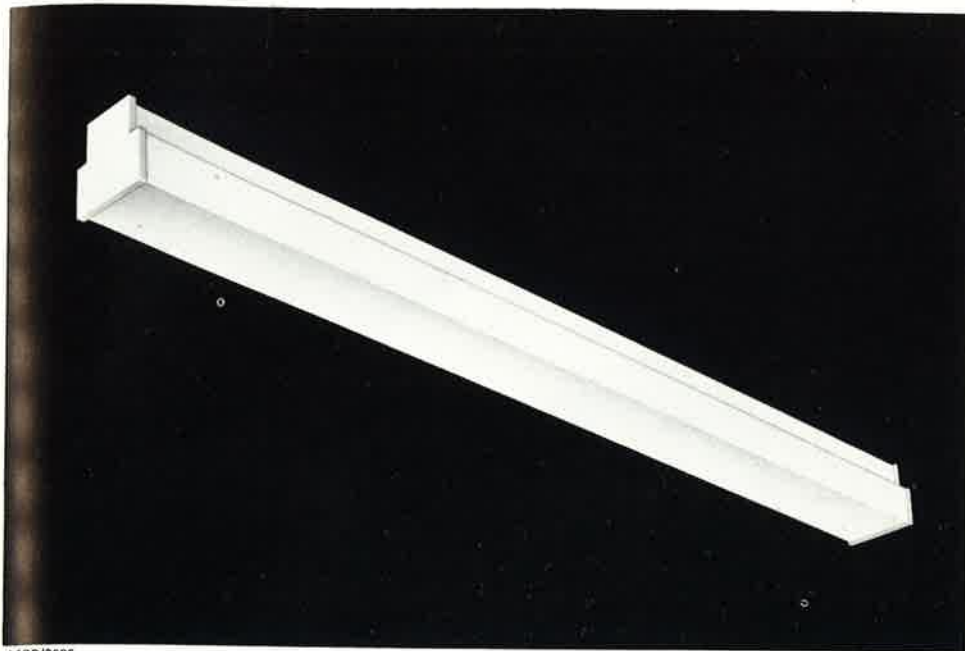


A4GC (Twin) Prismatic diffuser

Nominal Tube Length	Rating	Circuit	Fitting Cat. No.	Component Cat. No.			Length & Weight		Approx. Weight	
				1st Attachment Cat. No.	2nd Attachment Cat. No.	Spine Cat. No.	o/a Length		(incl. Tubes)	
							mm	in	kg	lb
6ft	85W	SRS	A4GC/A/685	A4GC.16	A4A.26	A4.685	1808	71.2	6.9	15.1
6ft	2 x 85W	SRS	A4GC/2685	A4GC.26	---	A4.2685	1808	71.2	9.1	20.1

atlas

New Atlantic A4GD'Unicap'closed opal diffuser

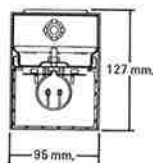


A4GD/2685

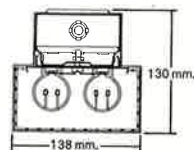
These 'Unicap' diffusers are for single tube or twin (close spaced) tubes and are extruded in smooth opal polystyrene. They are ideal for individually mounted fittings since the injection moulded end plates are secured to the battens by springs and are designed to give a unified appearance to the batten diffuser combination.

All fittings are suitable for use on 240V 50Hz supplies. Other voltages on application.

These fittings comply fully with BS3820: 1964 for class 1, ordinary, indoor, normal atmospheres.



A4GD (Single) Opal diffuser

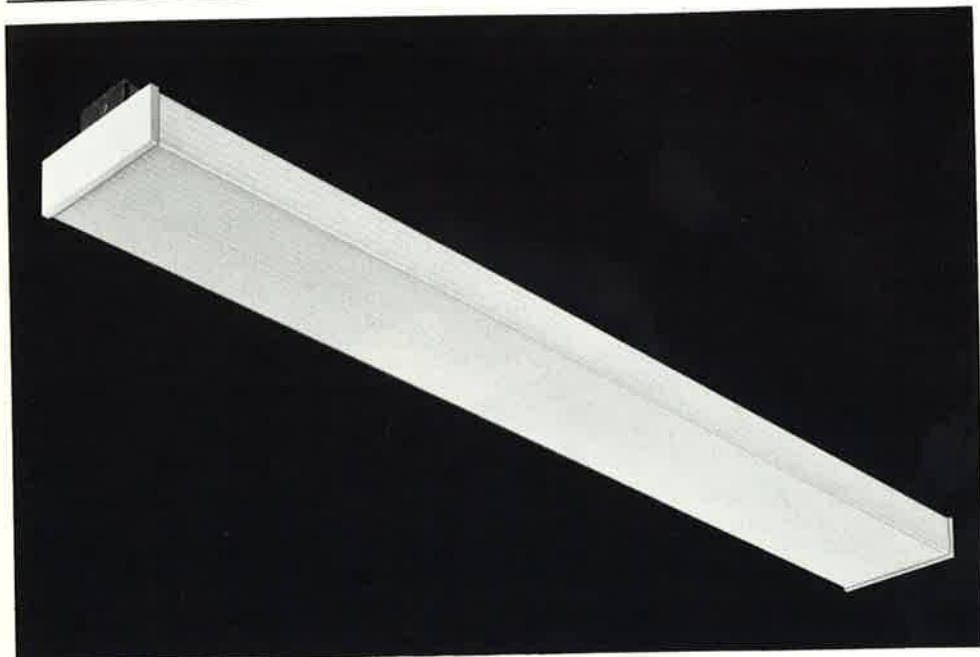


(Twin) Opal diffuser

Nominal Tube Length	Rating	Circuit	Fitting Cat. No.	Component Cat. No.			Length & Weight		Approx. Weight (incl. Tubes)	
				1st Attachment Cat. No.	2nd Attachment Cat. No.	Spine Cat. No.	o/a Length			
6ft	85W	SRS	A4GD/A/685	A4GD.16	A4A.26	A4.685	1808	71.2	8.9	15.1
6ft	2 x 85W	SRS	A4GD/2685	A4GD.26	—	A4.2685	1808	71.2	9.1	20.1

atlas

New Atlantic A40 wide opal diffuser



A40/B/B2665

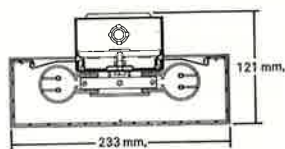
A wide diffuser in extruded opal polystyrene with side and base reeding.

Designed for use with twin (wide spaced) tubes the visual effect is of shallow projection from the ceiling. The diffuser has a closed top since it seats along it's full length on a wide channel cover.

All fittings are suitable for use on 240V 50Hz supplies.

Other voltages on application.

These fittings comply fully with BS3820: 1964 for class 1, ordinary, indoor, normal atmosphere.

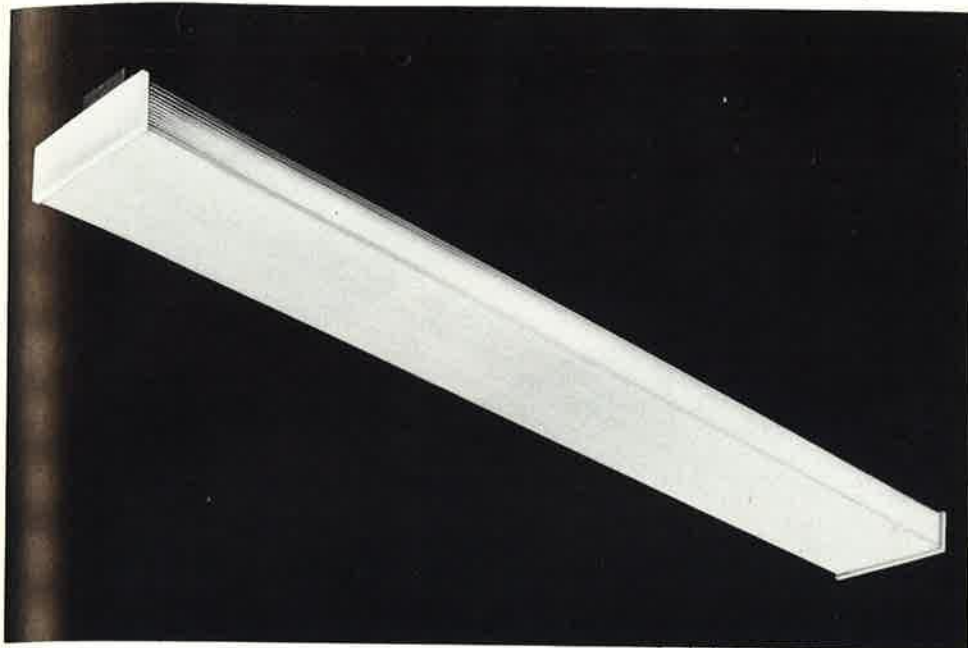


A40 (Wide opal diffuser)

Nominal Tube Length	Rating	Circuit	Fitting Cat. No.	Component Cat. No.			Length & Weight		Approx. Weight	
				1st Attachment Cat. No.	2nd Attachment Cat. No.	Spine Cat. No.	o/s Length mm	in	(incl. Tubes) kg	lb
5ft	2 x 65W	SRS	A40/B/B2665	A40.25	A4B.25	A4.B2665	1576	62.0	9.9	21.7
6ft	2 x 85W	SRS	A40/B/B2685	A40.26	A4B.26	A4.B2685	1839	72.4	10.1	23.3
8ft	2 x 85W	QS	A40/B/B2885	A40.28	A4B.28	A4.B2885	2451	96.5	15.8	35.0

atlas

New Atlantic A4P wide prismatic controller



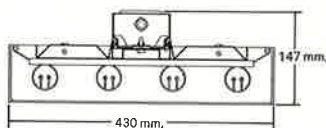
This wide prismatic controller has been specifically designed for use with twin (wide spaced) tubes and the configuration of batten, lamp position and prismatic controller allows a crisp, modern rectangular shape to be used.

The controller is extruded in clear polystyrene with linear side prisms and pyramidal base prisms. The function of these is to re-direct light from the tubes either above the horizontal or up to 30° below it, thus ensuring the least amount of light being emitted in the zone most likely to give rise to discomfort glare. A wider version of this prismatic controller has been designed for use on 4 tube battens.

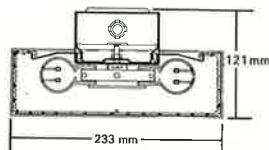
Injection moulded white end caps are supplied with the attachment and are simply attached by locating 2 pips at the top and one at the bottom of each end-cap with corresponding holes in the ends of the attachment.

All fittings are suitable for use on 240V 50Hz supplies. Other voltages on application.

The fittings comply fully with BS3820: 1964 for class 1, ordinary, indoor, normal atmosphere.



A4P (4-tube Wide prismatic controller)

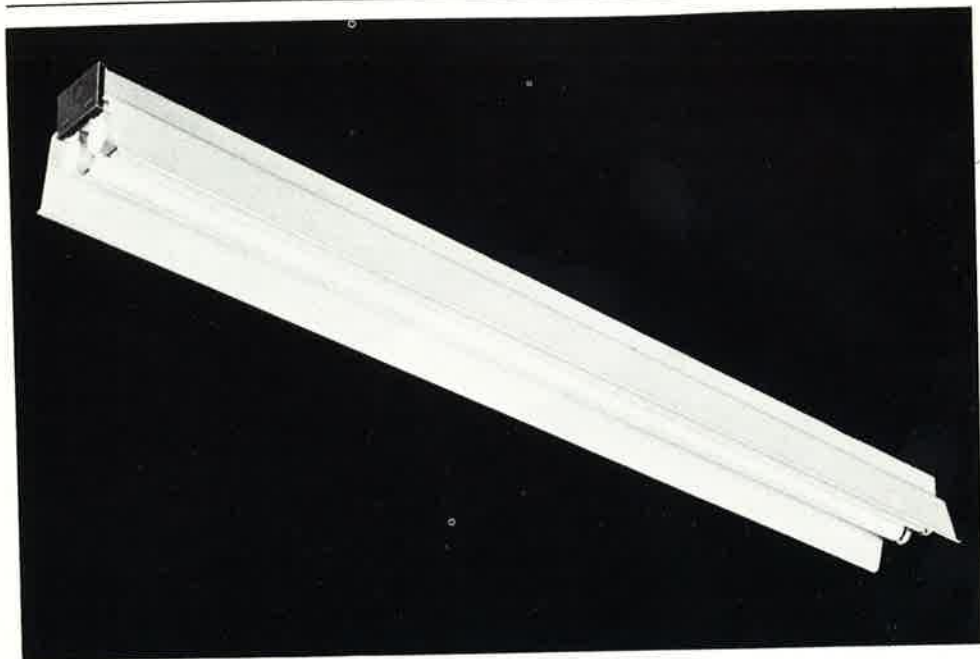


A4P (Twin)

				Length & Weight						
Nominal Tube Length	Rating	Circuit	Fitting Cat. No.	Component Cat. No. 1st Attachment Cat. No.	Component Cat. No. 2nd Attachment Cat. No.	Spine Cat. No.	o/s Length		Approx. Weight (incl. Tubes)	
							mm	in	kg	lb
5ft	2 x 65W	SRS	A4P/B/B265	A4P.25	A4B.25	A4.B265	1576	62-0	9-9	21-7
6ft	2 x 85W	SRS	A4P/B/B2685	A4P.26	A4B.26	A4.B2685	1839	72-4	10-1	23-3
6ft	4 x 85W	SRS	A4P/B/4685	A4P.46	A4B.46	A4.4685	1839	72-4	22-6	50-0
8ft	2 x 85W	QS	A4P/B/B2885	A4P.28	A4B.28	A4.B2885	2452	96-6	15-8	35-0
8ft	4 x 85W	TS	A4P/B/4885	A4P.48	A4B.48	A4.4885	2452	96-6	28-1	62-0

atlas

New Atlantic A4U plastic reflector

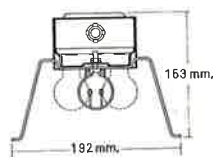


A4U/2685

This plastic reflector is extruded from translucent medium opal density polystyrene and is an ideal choice for those industrial processes carried out in any buildings with flat solid ceilings, where the diffusion of the upward light helps to give a reasonably uniform ceiling brightness. The same reflector is suitable for both single and twin lamps and is readily attached to the standard spines.

All fittings are suitable for use on 240V 50Hz supplies. Other voltages on application.

These fittings comply fully with BS3820: 1964 for class 1, ordinary, indoor, normal atmospheres.

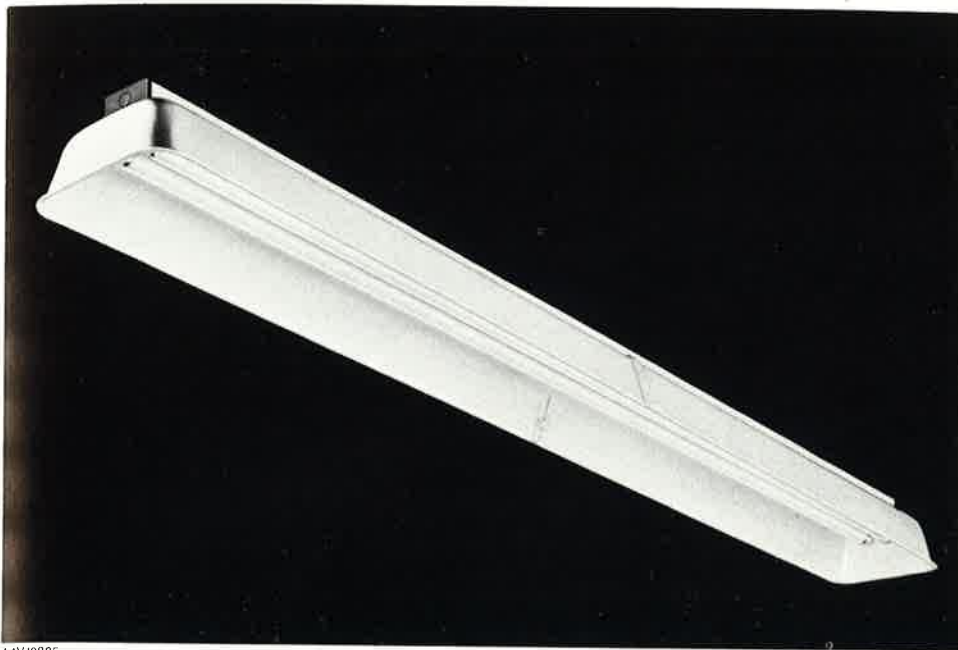


A4U (plastic reflector)

Nominal Tube Length	Rating	Circuit	Fitting Cat. No.	Component Cat. No.			o/a Length	Length & Weight	
				1st Attachment Cat. No.	2nd Attachment Cat. No.	Spine Cat. No.		mm	Approx. Weight (incl. Tubes) kg
5ft	65W	SRS	A4U/65	A4U.25	---	A4.65	1541	60.7	6.3
5ft	2 x 65W	SRS	A4U/265	A4U.25	---	A4.265	1541	60.7	8.4
6ft	85W	SRS	A4U/685	A4U.26	---	A4.685	1805	71.1	6.8
6ft	2 x 85W	SRS	A4U/2685	A4U.26	---	A4.2685	1805	71.1	9.2
8ft	85W	QS	A4U/885	A4U.28	---	A4.885	2416	95.1	10.6
8ft	2 x 85W	QS	A4U/2885	A4U.28	---	A4.2885	2416	95.1	14.9
8ft	2 x 85W	TS	A4U/T2885	A4U.28	---	A4.12885	2416	95.1	16.7
8ft	125W	QS	A4U/125	A4U.28	---	A4.125	2416	95.1	11.1
8ft	2 x 125W	QS	A4U/2125	A4U.28	---	A4.2125	2416	95.1	15.3

atlas

New Atlantic A4V vitreous enamel reflector



A4V/2885

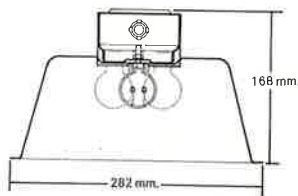
A vitreous enamel finished 8ft reflector with closed ends and slots in the upper surface of the reflector. These provide a generous proportion of upward lighting and reduce brightness contrasts. Convection currents through the slots assist in reducing dirt accumulation on the reflector surfaces.

For ease of assembly the reflector is supplied in 2 halves with a central jointing assembly.

The vitreous finish will withstand the vigorous cleaning necessary in certain dirty atmospheres.

All fittings are suitable for use on 240V 50Hz supplies. Other voltages on application.

These fittings comply fully with BS3820: 1964 for class 1, ordinary, indoor, normal atmospheres.

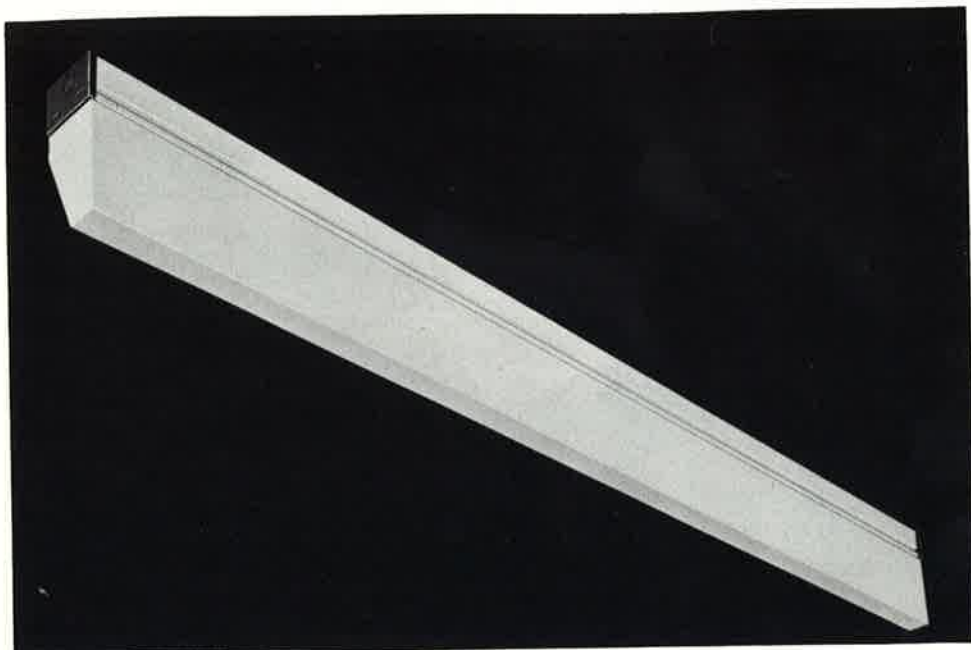


A4V (Vitreous reflector)

Nominal							Length & Weight			
Tube Length	Rating	Circuit	Fitting Cat. No.	Component Cat. No. 1st Attachment	Component Cat. No. 2nd Attachment	Spine Cat. No.	o/a Length		Approx. Weight (incl. Tubes)	
				Cat. No.	Cat. No.		mm	in	kg	lb
8ft	85W	QS	A4V/885	A4V.28	—	A4.885	2565	101-0	19-9	44-0
8ft	2 x 85W	QS	A4V/2885	A4V.28	—	A4.2885	2565	101-0	25-2	55-6
8ft	2 x 85W	TS	A4V/T2885	A4V.28	—	A4.T2885	2565	101-0	26-7	59-0
8ft	125W	QS	A4V/125	A4V.28	—	A4.125	2565	101-0	21-3	47-2
8ft	2 x 125W	QS	A4V/2125	A4V.28	—	A4.2125	2565	101-0	25-6	56-6

atlas

New Atlantic A4W wall washer

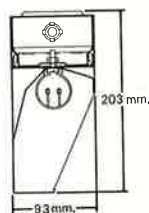


A4W/685

A specular reflector is designed to give an asymmetric distribution of light from this fitting. It is enclosed within a smart white enamelled framework. The combination of single tube plus wall washer attachment gives a very smart appearance and makes the fitting particularly suitable for the lighting of offices, noticeboards, entrance murals, wall sculptures and shop displays and other vertical surfaces. The designed mounting position for this fitting is on the ceiling, 2ft from the wall to be lit – this will then give an approximate 10:1 illumination ratio over a 10ft wall.

All fittings are suitable for use on 240V 50Hz supplies. Other voltages on application.

These fittings comply fully with BS3820: 1964 for class 1, ordinary, indoor, normal atmospheres.

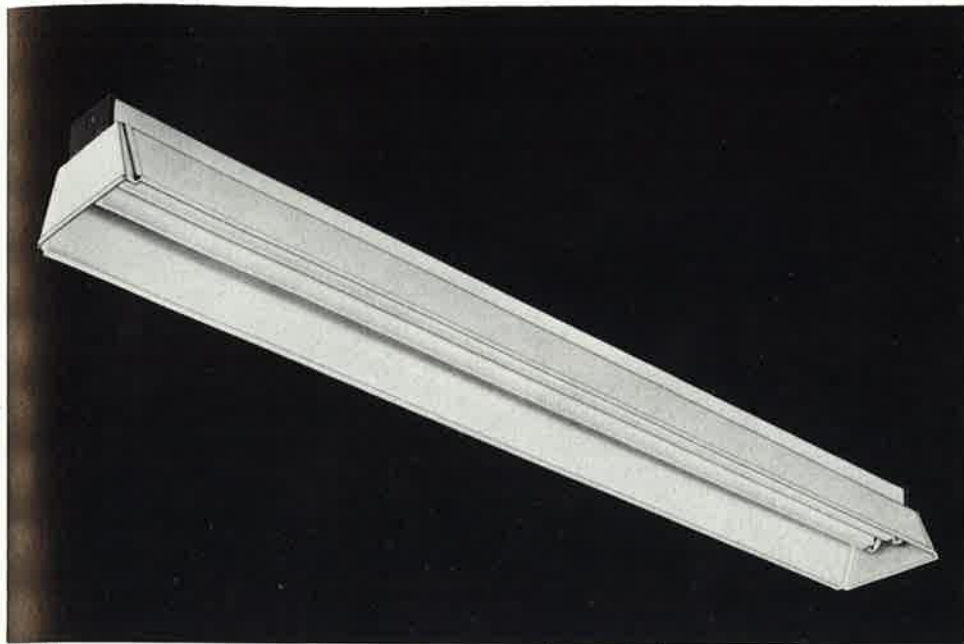


A4W (Wall-washer)

Nominal Tube Length	Rating	Circuit	Fitting Cat. No.	Component Cat. No. 1st Attachment Cat. No.	2nd Attachment Cat. No.	Spine Cat. No.	o/a Length		Length & Weight	
							mm	in	Approx. Weight (incl. Tubes)	Approx. Weight
									kg	lb
6ft	85W	SRS	A4W/685	A4W.16	—	A4.685	1805	71.1	7.7	17.0

atlas

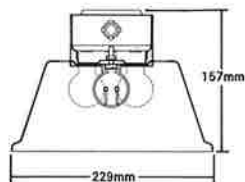
New Atlantic A4X closed-end reflector



A4X/2685

A closed-end metal reflector with large slots in it's upper surface to give a generous proportion of upward lighting and reducing brightness contrast. Convection currents through the slots assist in reducing dirt accumulation on the reflector surfaces, and help to maintain the efficiency of the installation. All fittings are suitable for use on 240V 50Hz supplies. Other voltages on application.

These fittings comply fully with BS3820: 1964 for class 1, ordinary, indoor, normal atmospheres.

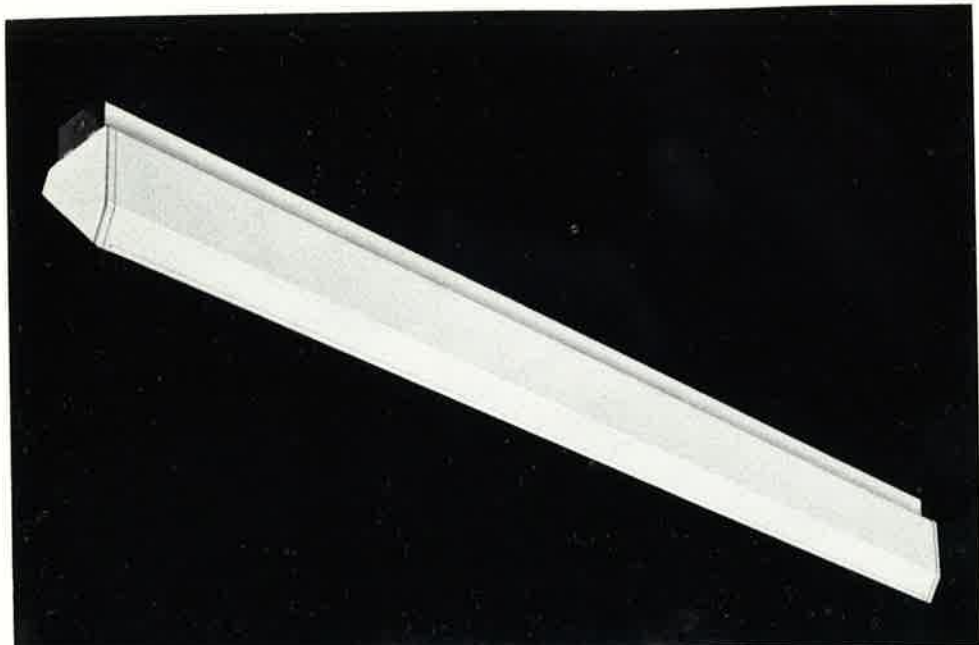


A4X (Single/Twin) Metal reflector (closed end)

Nominal Tube Length	Rating	Circuit	Fitting Cat. No.	Component Cat. No.		Spine Cat. No.	o/a Length		Length & Weight	
				1st Attachment Cat. No.	2nd Attachment Cat. No.		mm	in	Approx. Weight (incl. Tubes)	
6ft	85W	SRS	A4X/685	A4X.26	—	A4.685	1834	72.2	9.9	21.8
6ft	2 x 85W	SRS	A4X/2685	A4X.26	—	A4.2685	1834	72.2	11.9	26.4
8ft	85W	QS	A4X/885	A4X.28	—	A4.885	2445	96.3	13.8	30.5
8ft	2 x 85W	QS	A4X/2885	A4X.28	—	A4.2885	2445	96.3	19.1	42.1
8ft	2 x 85W	TS	A4X/T2885	A4X.28	—	A4.T2885	2445	96.3	20.9	46.1
8ft	125W	QS	A4X/125	A4X.28	—	A4.125	2445	96.3	15.3	33.7
8ft	2 x 125W	QS	A4X/2125	A4X.28	—	A4.2125	2445	96.3	19.5	43.1

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New Atlantic A4Y angle reflector

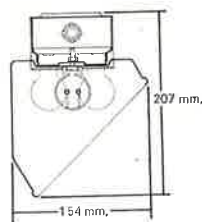


A4Y/2685

This angled reflector can be attached to either single or twin tube spines to provide a general "flow" of light in a required direction. It is particularly suitable for the lighting of chalk boards, work benches situated against vertical services, factory planning charts and for the general illumination of shop windows.

All fittings are suitable for use on 240V 50Hz supplies. Other voltages on application.

These fittings comply fully with BS3820: 1964 for class 1, ordinary, indoor, normal atmospheres.

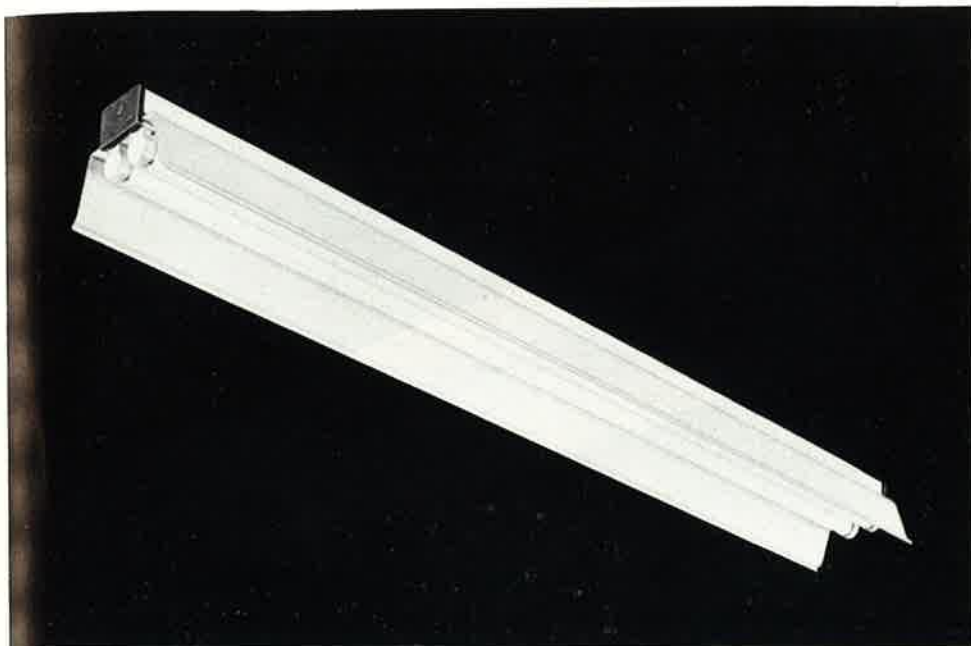


A4Y Angle reflector

Nominal Tube Length	Rating	Circuit	Fitting Cat. No.	Component Cat. No.			Length & Weight		Approx. Weight	
				1st Attachment Cat. No.	2nd Attachment Cat. No.	Spine Cat. No.	o/a Length mm	in	(incl. Tubes) kg	lb
5ft	65W	SRS	A4Y/65	A4Y.25	—	A4.65	1548	61.1	7.8	17.2
5ft	2 x 65W	SRS	A4Y/265	A4Y.25	—	A4.265	1548	61.1	10.0	22.0
6ft	85W	SRS	A4Y/685	A4Y.26	—	A4.685	1812	71.3	8.6	19.0
6ft	2 x 85W	SRS	A4Y/2685	A4Y.26	—	A4.2685	1812	71.3	10.7	23.6
8ft	85W	QS	A4Y/885	A4Y.28	—	A4.885	2423	95.4	12.0	26.5
8ft	2 x 85W	QS	A4Y/2885	A4Y.28	—	A4.2885	2423	95.4	17.3	38.1
8ft	2 x 85W	TS	A4Y/T2885	A4Y.28	—	A4.T2885	2423	95.4	19.1	42.1
8ft	125W	QS	A4Y/125	A4Y.28	—	A4.125	2423	95.4	13.4	29.7
8ft	2 x 125W	QS	A4Y/2125	A4Y.28	—	A4.2125	2423	95.4	17.7	39.1

atlas

New Atlantic A4Z open ended reflector



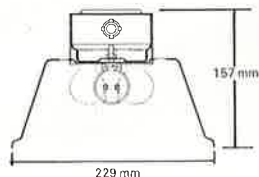
A4Z/2685

An open ended metal reflector with large slots in its upper surface to give a generous proportion of upward lighting and reduce brightness contrast. Convection currents through the slots assist in reducing dirt accumulation on the reflector surfaces, and help to maintain the efficiency of the installation.

An A4ZB version of this reflector is available for use on A4B type spines. A four-lamp version is also available and is shown with this type on page 28.

All fittings are suitable for use on 240V 50Hz supplies. Other voltages on application.

These fittings comply fully with BS3820: 1964 for class 1, ordinary, indoor, normal atmospheres.

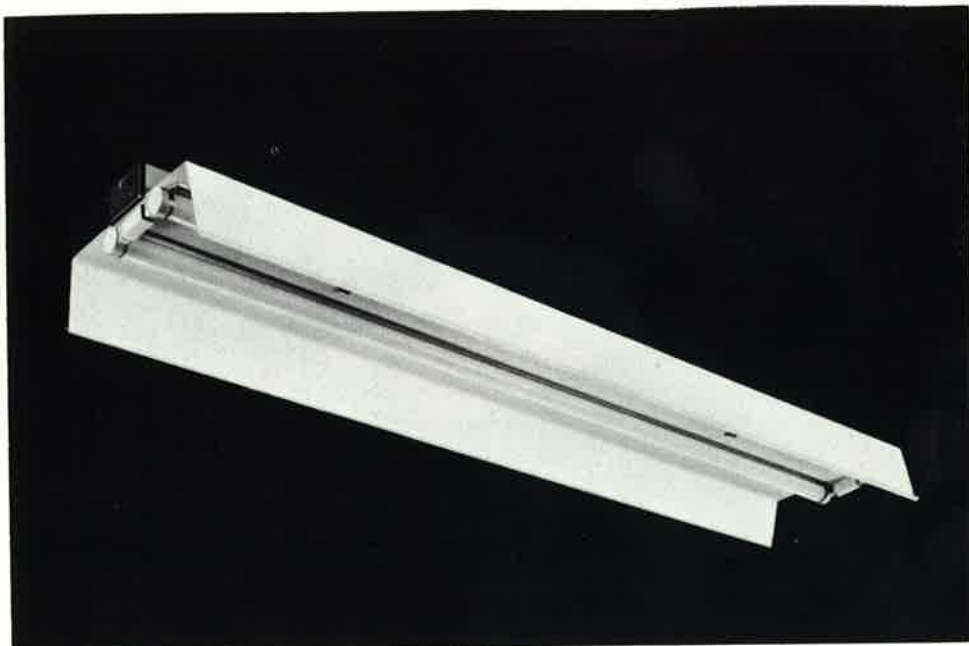


A 4Z

Nominal Tube Length	Rating	Circuit	Fitting Cat. No.	Component Cat. No.		Spine Cat. No.	Length & Weight c/s Length		Approx. Weight (incl. Tubes)	
				1st Attachment Cat. No.	2nd Attachment Cat. No.		mm	in	kg	lb
4ft	40W	SRS	A4Z/40	A4Z 24	—	A4.40	1241	48-8	7-1	15-6
4ft	2 x 40W	SRS	A4Z/240	A4Z 24	—	A4.240	1241	48-8	8-3	18-4
5ft	65W	SRS	A4Z/65	A4Z 25	—	A4.65	1541	60-7	8-7	19-1
5ft	2 x 65W	SRS	A4Z/265	A4Z 25	—	A4.265	1541	60-7	10-8	23-9
6ft	85W	SRS	A4Z/685	A4Z 26	—	A4.685	1805	71-1	9-7	21-3
6ft	2 x 85W	SRS	A4Z/2685	A4Z 26	—	A4.2685	1805	71-1	11-8	25-9
8ft	85W	QS	A4Z/885	A4Z 28	—	A4.885	2416	95-1	13-5	29-9
8ft	2 x 85W	QS	A4Z/2885	A4Z 28	—	A4.2885	2416	95-1	18-8	41-5
8ft	2 x 85W	TS	A4Z/T2885	A4Z 28	—	A4.T2885	2416	95-1	20-6	45-5
8ft	125W	QS	A4Z/125	A4Z 28	—	A4.125	2416	95-1	15-0	33-1
8ft	2 x 125W	QS	A4Z/2125	A4Z 28	—	A4.2125	2416	95-1	19-2	42-5

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New Atlantic A4ZB wide open reflector & A4Z 4-lamp reflector



A4ZB Wide twin channel cover and reflector

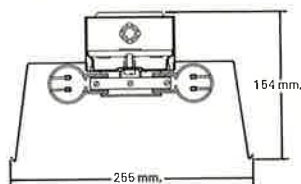


A4Z/4685

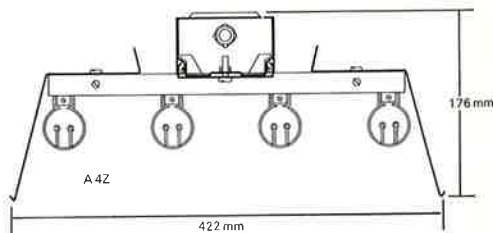
A wide version of the fitting shown on page 27. The A4ZB reflector fits on an A4B backspine to give a wider light distribution admirably suited to provide light above luminous ceilings where it is not feasible to paint the cavity white.

A four-lamp version of the A4Z fitting is also available as shown.

All fittings are suitable for use on 240V 50Hz supplies. These fittings comply fully with BS3820 : 1964 for class 1, ordinary, indoor, normal atmospheres.



A4ZB Wide twin and reflector



A4Z

Nominal Tube Length	Rating	Circuit	Fitting Cat. No.	Component Cat. No. 1st Attachment	Component Cat. No. 2nd Attachment	Spine Cat. No.	o/a Length		Length & Weight	
							mm	in	Approx. Weight (incl. Tubes)	Approx. Weight (incl. Tubes)
5ft	2 x 65W	SRS	A4ZB/B265	A4ZB.25	—	A4.B265	1541	60.7	12.7	28.0
6ft	2 x 85W	SRS	A4ZB/B2685	A4ZB.26	—	A4.B2685	1805	71.1	13.6	30.2
8ft	2 x 85W	QS	A4ZB/B2885	A4ZB.28	—	A4.B2885	2416	95.1	20.4	45.6
6ft	4 x 85W	SRS	A4Z/4685	A4Z.46	—	A4.4685	1805	71.1	25.4	54.0
8ft	4 x 85W	TS	A4Z/4885	A4Z.48	—	A4.4885	2416	95.1	29.5	65.0

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New Atlantic Accessories

BATTEN ACCESSORIES

Description	Cat. No.
Lampholder	AMEB.1580/A4
Lampholder plate	
single	A4.4663
twin	A4.4664
broad twin	A4.4663
4-tube	A4.4665
Terminal block	AMET.1338
Fuse-holder	AMET.1299
Capacitor clip	AMEY.5288
End-cap	A4.4666
Cage screw	AC.5768
Cage nut	AC.5656
Slotted suspension washer	AC.4861
Besa cluster cap	A4.4674

ATTACHMENT ACCESSORIES

Description	Cat. No.
End-cap for A4GC, A4GD attachments	
single	A4.4669
twin	A4.4670
Diffuser suspension bracket	
A4C, A4D attachments	A4.4667
Diffuser suspension bracket	
A4E attachment	A4.4673
4-tube diffuser suspension bracket	A4.4672
Cover-plate (Unicap twin)	A4.4668
Cover-plate (A4L)	A4.4675
Linear Prism Panel (A4L)	A4.4676

JOINTING PIECES ACCESSORIES

Description	Cat. No.
Spacer for A4C, A4D diffusers	A4.4660
Spacer for closed-end reflectors and all diffusers except A4C, A4D	A4.4661
Reflector jointing strap for A4Z	A4.4662

ALUMINIUM FRAMES ACCESSORIES

Description	Cat. No.
Frame support clips (2-tube)	A4.4671
Frame support clips (4-tube)	A4.4672

ELECTRICAL DATA for 240V 50Hz tube circuits. Average performance tested at 25°C to B.S.2818 specification.

Tube size	8ft	8ft	8ft	6ft	5ft	4ft
Diameter	1 1/2in	1 1/2in	1 1/2in	1 1/2in	1 1/2in	1 1/2in
Nominal tube watts	125	85	85	85	65	40
Lamp cap	Bi-pin	Bi-pin	Bi-pin	Bi-pin	Bi-pin	Bi-pin
Actual lamp watts	123	85	85	84	64	40
Average tube volts	150	184	184	120	110	104
Average tube amps	0.94	0.55	0.55	0.8	0.67	0.42
Rated life (hours)	7,500	7,500	7,500	7,500	7,500	7,500
Circuit type	Q.S.	Q.S.	T.S.	S.R.S.	S.R.S.	S.R.S.
Total circuit watts	154*	100*	207	96*	79*	55*
Mains current amps	0.66	0.42	0.91	0.46	0.36	0.24
Total volt amps	158	100	218	110	87	57.5
Lagging power factor	0.98	0.99	0.95	0.86	0.91	0.95
Minimum starting temperature	+5°C	+5°C	+5°C	-5°C	-5°C	-5°C
% Harmonics per phase	8%	7%	17%	25%	25%	19%

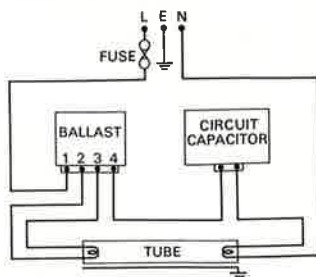
* The above circuit watts for control gear tested in accordance with B.S.2818 may be reduced by up to 5% when operating in some fittings i.e. the circuit watts reduce as the lamp operating temperature increases.

REPLACEMENT CONTROL GEAR

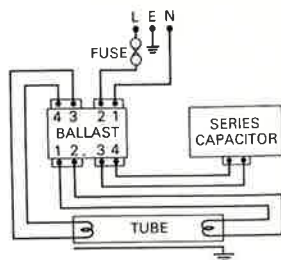
These items are chosen from the extensive range of control gear stocked in, and readily available from regional stores in the U.K. The reference numbers quoted differ from those marked on the control gear in the fitting, but the units are equally applicable to A4 fittings.

		Choke(s) or ballast(s)	Quickstart Units	Capacitor(s)	Fuse
40W 4ft	single	1 x BU/40	—	1 x AMEC2273	1 x AMET1332
	twin	2 x BU/40	—	1 x AMEC2273	1 x AMET1332
65W 5ft	single	1 x BI/65	—	1 x AMEC2220	1 x AMET1342
	twin	2 x BI/65	—	2 x AMEC2220	1 x AMET1342
85W 6ft	single	1 x BI/685	—	1 x AMEC2220	1 x AMET1342
	twin	2 x BI/685	—	2 x AMEC2220	1 x AMET1342
	broad twin	4 x BI/685	—	4 x AMEC2220	2 x AMET1342
85W 8ft	single	1 x BOI/85	—	1 x AMEC2226	1 x AMET1299
	twin	2 x BOI/85	—	2 x AMEC2226	1 x AMET1299
	broad twin	4 x BOI/85	—	4 x AMEC2226	2 x AMET1299
	4-tube	1 x BV/285	—	—	1 x AMET1299
	twinstart	2 x BV/285	—	—	2 x AMET1299
125W 8ft	single	1 x COI/125	1 x QS/125	1 x AMEC2228	1 x AMET1299
	twin	2 x COI/125	2 x QS/125	2 x AMEC2228	1 x AMET1299

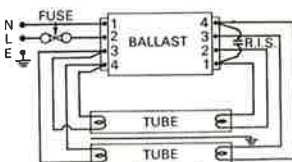
CIRCUIT DIAGRAMS



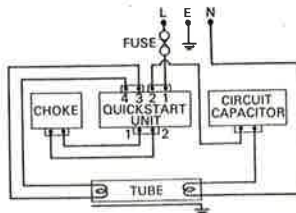
7. Semi-resonant start circuit with essential circuit capacitor for 4ft 40W, 5ft 65W, 6ft 85W.



4. Single 8ft 85W Quickstart circuit. Combined choke and transformer with essential series capacitor.



6. 8ft 85W Twinstart circuit.



5. Quickstart circuit with separate choke and essential circuit capacitor for 8ft 125W.

a comprehensive range of
modular fittings
for fluorescent lighting

Take a look at our 'Format' range and you will see that we have combined art and science to present you with an attractively designed and infinitely adaptable range of modular fluorescent fittings.

'Format' blends functional efficiency with distinction of styling. The design is based on information obtained from a survey of architects. We asked them which features would be most acceptable to them in this field of lighting.

We took note of the various requirements of strength, elegance, adaptability, ease of installation and servicing and, not least, continuously reliable performance.

Then we went away and designed 'Format', a versatile range comprising 88 different fittings in Surface, Trimmed Module and Frameless Module versions. Here is the basis for every possible layout, a specification for every fluorescent lighting application.

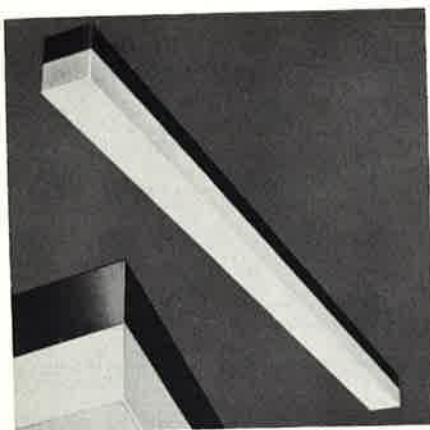
'Format' also looks ahead to the metric future of 1971. The Surface (SM) types are in metric dimensions, and the recessed fittings (TM & FM) types can be ordered in a metric module if required.

In producing 'Format' we have set out to meet as closely as possible the real needs of the architect, now and in the future. It is for you to judge how well we have succeeded.

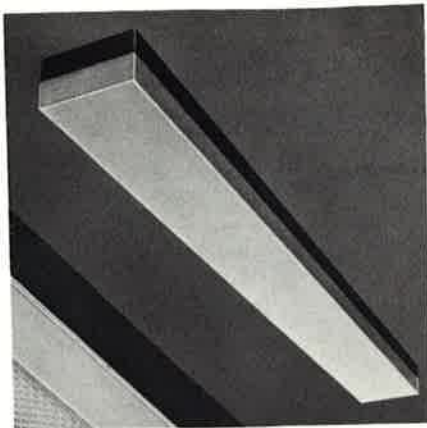
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Format 1SM & 2SM fittings

D= OPAL DIFFUSER O= OPAL SIDES, PRISMATIC BASE P= PRISMATIC CONTROLLER



1.SMD/1685



2.SMP/2685

An attractive surface mounted fitting having a black metal body with a choice of attractive attachments. With modern building methods in mind the overall depth of the fitting has been kept to a shallow 115mm. Sizes to meet most requirements are available. The body of the fitting is of welded construction to form a rigid unit and is manufactured from sheet metal which is bonderized and stove enamelled, semi-matt black outside and gloss white inside, with a hard alkyl paint.

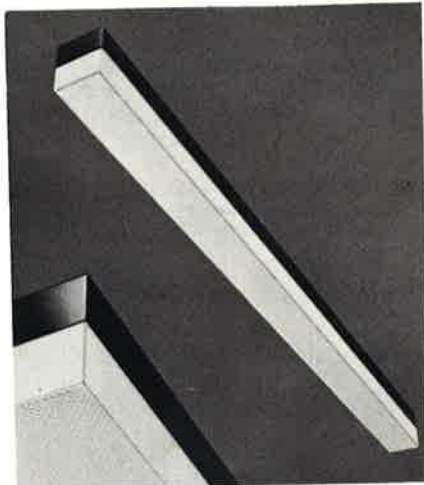
Attachments seat against foam gaskets secured to the housing to make the fittings dust-excluding. They consist of fabricated re-entrant opal diffusers, prismatic controllers or opal sides with prismatic base types.

Control gear is prewired and fixed in the housing and tubes are held by spring loaded bi-pin lampholders to facilitate either end relamping. All fitting wiring is to a 3-way fused terminal block for customers' incoming mains connections. All circuits are of the switchless start type.

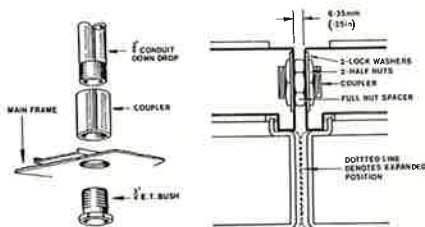
The main cable entry is at the centre (the 2.SMB.2685 has additional entries at 305mm (12in) each side of the centre) or by knockouts in each vertical end of the fitting. All cable entry holes are 19.8mm dia. ($\frac{3}{4}$ in) and a plastic grommet is provided to give a fair lead to the incoming wires.

Close ceiling mounting is recommended although suspension by 4- $\frac{1}{2}$ in diameter conduit (2- $\frac{1}{2}$ in diameter on 100mm wide fittings) can be used. (As illustrated.) Allowance has been made in the design for continuous mounting of fittings by the use of standard contractors' items through 19.8mm knockouts in the ends of the housings. (As illustrated.)

These fittings comply with B.S. 3820: 1964 for Class 1, ordinary, indoor, normal atmospheres. The complete fitting (excluding tubes) is guaranteed for three years provided that it is correctly installed and maintained and is not subject to mis-use from any cause. Tubes are not fitted as standard. Ambient temperature at fitting level should not exceed 25°C. *Fittings suitable for use on 240V 50Hz supplies. Other supplies on application.*



1.SMO/1685



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Format 1SM & 2SM fittings

D=OPAL DIFFUSER O=OPAL SIDES, PRISMATIC BASE P=PRISMATIC CONTROLLER

RANGE

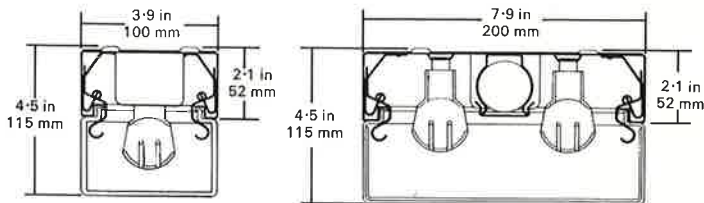
Complete fitting

Nom. length	Rating	No. of tubes	Circuit	Cat. no.	Diffuser Cat. no.	Spine Cat. no.
4ft	40W	One	Quickstart	1.SMD/1040	1.SMD.4	1.SMB.1040
4ft	40W	One	Quickstart	1.SMO/1040	1.SMO.4	1.SMB.1040
4ft	40W	One	Quickstart	1.SMP/1040	1.SMP.4	1.SMB.1040
6ft	85W	One	Resonant Start	1.SMD/1685	1.SMD.6	1.SMB.1685
6ft	85W	One	Resonant Start	1.SMO/1685	1.SMO.6	1.SMB.1685
6ft	85W	One	Resonant Start	1.SMP/1685	1.SMP.6	1.SMB.1685
4ft	40W	Two	Quickstart	2.SMD/2040	2.SMD.4	2.SMB.2040
4ft	40W	Two	Quickstart	2.SMO/2040	2.SMO.4	2.SMB.2040
4ft	40W	Two	Quickstart	2.SMP/2040	2.SMP.4	2.SMB.2040
6ft	85W	Two	Resonant Start	2.SMD/2685	2.SMD.6	2.SMB.2685
6ft	85W	Two	Resonant Start	2.SMO/2685	2.SMO.6	2.SMB.2685
6ft	85W	Two	Resonant Start	2.SMP/2685	2.SMP.6	2.SMB.2685

DIMENSIONS

Cat. no.	Fitting size length mm	width mm	length in	width in	Approx. weight (inc. tubes)		Fixing centres length mm	width mm	length in	width in
					kg	lb				
1.SMD/1040	1300	100	51.2	3.9	5.1	11.2	610	*CL	24.0	*CL
1.SMO/1040	1300	100	51.2	3.9	5.1	11.2	610	*CL	24.0	*CL
1.SMP/1040	1300	100	51.2	3.9	5.1	11.2	610	*CL	24.0	*CL
1.SMD/1685	1850	100	72.8	3.9	6.6	14.7	900	*CL	35.4	*CL
1.SMO/1685	1850	100	72.8	3.9	6.6	14.7	900	*CL	35.4	*CL
1.SMP/1685	1850	100	72.8	3.9	6.6	14.7	900	*CL	35.4	*CL
2.SMD/2040	1300	200	51.2	7.9	8.4	18.5	610	100	24.0	3.9
2.SMO/2040	1300	200	51.2	7.9	8.4	18.5	610	100	24.0	3.9
2.SMP/2040	1300	200	51.2	7.9	8.4	18.5	610	100	24.0	3.9
2.SMD/2685	1850	200	72.8	7.9	10.9	24.0	900	100	35.4	3.9
2.SMO/2685	1850	200	72.8	7.9	10.9	24.0	900	100	35.4	3.9
2.SMP/2685	1850	200	72.8	7.9	10.9	24.0	900	100	35.4	3.9

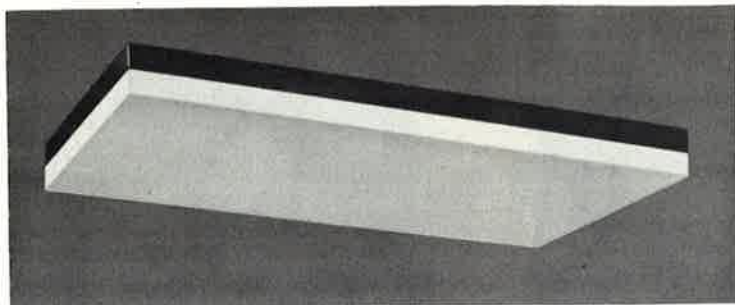
*CL - centre line



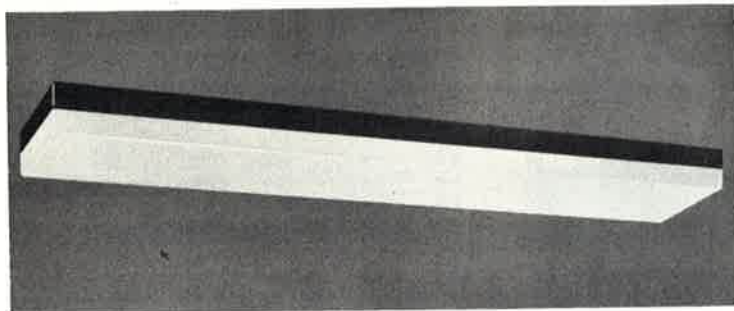
atlas

Format 3SM & 4SM fittings

D=OPAL DIFFUSER O=OPAL SIDES, PRISMATIC BASE



4.SMO/3685



3.SMD/2685

An attractive surface mounted fitting having a black metal body with a choice of attractive attachments.

With modern building methods in mind the overall depth of the fitting has been kept to a shallow 115mm. Sizes to meet most requirements are available.

The body of the fitting is of welded construction to form a rigid unit and is manufactured from sheet metal which is bonderized and stove enamelled, semi-matt black outside and gloss white inside, with a hard alkyd paint.

Attachments seat against polyurethane foam gaskets secured to the housing to make the fittings dust-excluding. They consist of one-piece re-entrant opal diffusers or fabricated opal sides with prismatic base types.

Control gear is prewired and fixed in the housing and tubes are held by spring loaded bi-pin lampholders to facilitate either end relamping. All fitting wiring is to a 3-way fused terminal block for customers' incoming mains connections. All circuits are of the switchless start type.

The main cable entry is at the centre but alternative entries are provided (except on 4SMB3040) at 305mm (12in) each side of the centre or by knockouts in each vertical end of the fitting.

All cable entry holes are 19.8mm dia. ($\frac{3}{4}$ in) and a plastic grommet is provided to give a fair lead to the incoming wires.

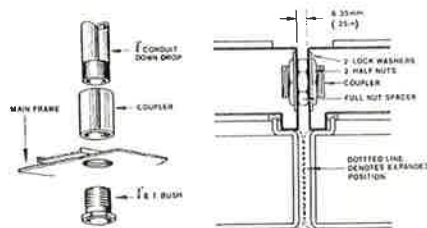
Close ceiling mounting is recommended although suspension by $\frac{1}{4}$ in diameter conduit can be used. (As illustrated.)

Allowance has been made in the design for continuous mounting of fittings by the use of standard contractors' items through 19.8mm knockouts in the ends of the housings. (As illustrated.)

These fittings comply with B.S. 3820: 1964 for Class 1, ordinary, indoor, normal atmospheres.

The complete fitting (excluding tubes) is guaranteed for three years provided that it is correctly installed and maintained and is not subject to mis-use from any cause. Tubes are not fitted as standard. Ambient temperature at fitting level should not exceed 25°C.

*Fittings suitable for use on 240V50Hz supplies.
Other supplies on application.*



Format 3SM & 4SM fittings

D = OPAL DIFFUSER O = OPAL SIDES, PRISMATIC BASE

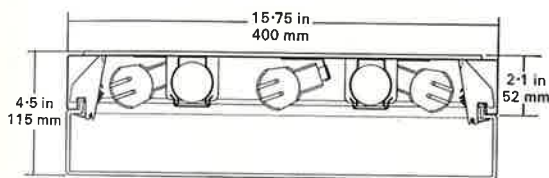
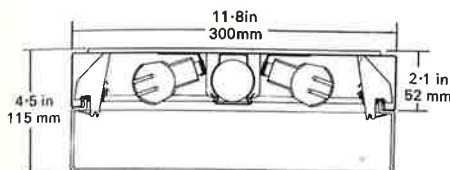
RANGE AND PRICES (applicable to UK only)

Complete fitting

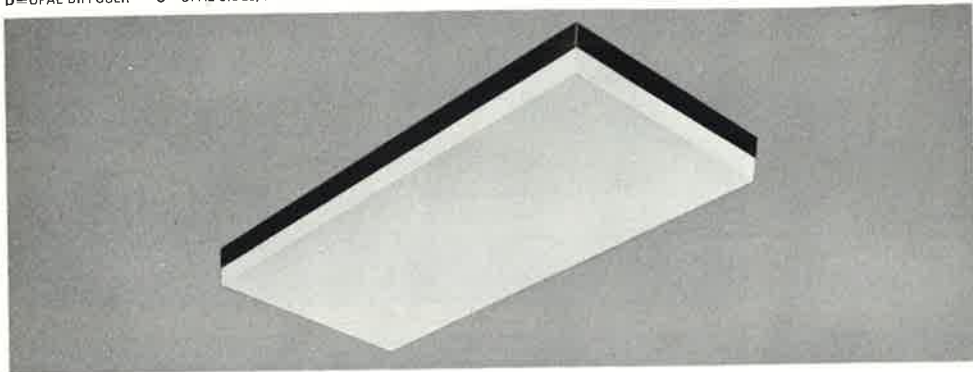
Nom. length	Rating	No. of tubes	Circuit	Cat. no.	Diffuser Cat. no.	Spine Cat. no.
6ft	85W	Two	Resonant Start	3.SMD/2685	3.SMD.6	3.SMB.2685
6ft	85W	Two	Resonant Start	3.SMO/2685	3.SMO.6	3.SMB.2685
4ft	40W	Three	Quickstart	4.SMD/3040	4.SMD.4	4.SMB.3040
6ft	85W	Three	Resonant Start	4.SMD/3685	4.SMD.6	4.SMB.3685
6ft	85W	Three	Resonant Start	4.SMO/3685	4.SMO.6	4.SMB.3685

DIMENSIONS

Cat. no.	Fitting size length mm	width mm	length in	width in	Approx. weight (inc. tubes)		Fixing centres length mm		length in	width in
					kg	lb				
3.SMD/2685	1850	300	72.8	11.8	13.4	29.5	900	100	35.4	3.9
3.SMO/2685	1850	300	72.8	11.8	13.4	29.5	900	100	35.4	3.9
4.SMD/3040	1300	400	51.2	15.75	13.7	30.2	610	200	24.0	7.9
4.SMD/3685	1850	400	72.8	15.75	17.9	39.5	900	200	35.4	7.9
4.SMO/3685	1850	400	72.8	15.75	17.9	39.5	900	200	35.4	7.9



D=OPAL DIFFUSER O=OPAL SIDES, PRISMATIC BASE



An attractive surface mounted fitting having a black metal body with a choice of attractive attachments. With modern building methods in mind the overall depth of the fitting has been kept to a shallow 115mm. Sizes to meet most requirements are available. The body of the fitting is of welded construction to form a rigid unit and is manufactured from sheet metal which is bonderized and stove enamelled, semi-matt black outside and gloss white inside, with a hard alkylid paint. Fittings are supplied with snap action toggles for attachments fixing.

Attachments seat against polyurethane foam gaskets secured to the housing to make the fittings dust-excluding. They consist of one-piece re-entrant opal diffusers or fabricated opal sides with prismatic base types. Control gear is prewired and fixed in the housing and linear tubes are held by spring loaded bi-pin lampholders to facilitate either end relamping. All fitting wiring is to a 3-way fused terminal block for customers' incoming mains connections. All circuits are of the switchless start type, except for the circular fitting which is switchstart.

On the circular fitting a cable entry is provided centrally together with slotted holes to suit a small conduit box. Cable entry on the square fitting is offset on the centre line of the fitting by 203mm (8in). On linear fittings the main cable entry is at the centre (the 5.SMB.4685 has additional entries at 305mm (12in) each side of the centre) or by knockouts in each vertical end of the fitting. All cable entry holes are 19.8mm dia. (3/4in) and a plastic grommet is provided to give a fair lead to the incoming wires.

Close ceiling mounting is recommended although suspension by 4-1/2in diameter conduit can be used. (As illustrated.) The circular fitting is only for surface mounting.

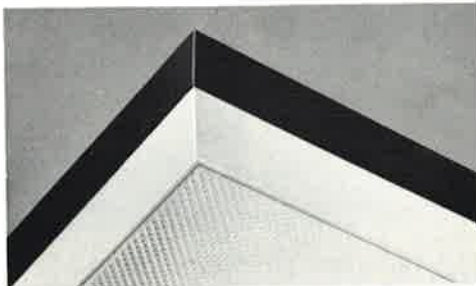
Allowance has been made in the design for continuous mounting of linear fittings by the use of standard contractors' items through 19.8mm knockouts in the ends of the housings. (As illustrated.)

These fittings comply with B.S. 3820: 1964 for Class 1, ordinary, indoor, normal atmospheres. The complete fitting (excluding tubes) is guaranteed for three years provided that it is correctly installed and maintained and is not subject to mis-use from any cause. Ambient temperature at fitting level should not exceed 25°C.

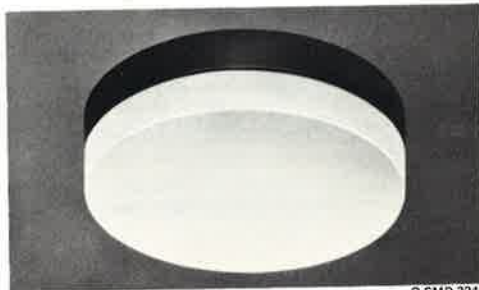
Tubes are not fitted as standard except on the circular fitting which is supplied complete with 32w and 40w Warm White tubes.

Fittings suitable for use on 240v 50Hz supplies. Other supplies on application.

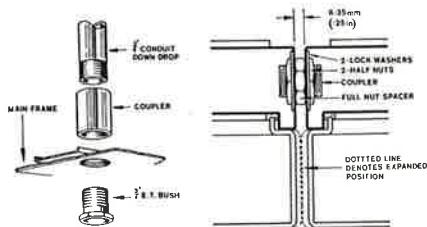
5.SMD/4040



Q.SMD/4020



O.SMD.3240



atlas

Format 5SM, QSM & OSM fittings

D=OPAL DIFFUSER O=OPAL SIDES, PRISMATIC BASE

RANGE

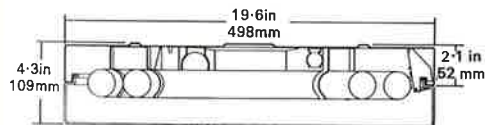
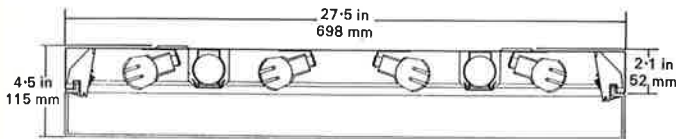
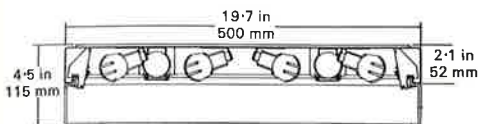
Complete fitting

Nom. length	Rating	No. of tubes	Circuit	Cat. no.	Diffuser Cat. no.	Spino Cat. no.
4ft	40W	Four	Quickstart	5.SMD/4040	5.SMD.4	5.SMB.4040
4ft	40W	Four	Quickstart	5.SMO/4040	5.SMO.4	5.SMB.4040
6ft	85W	Four	Resonant Start	5.SMD/4685	5.SMD.6	5.SMB.4685
6ft	85W	Four	Resonant Start	5.SMO/4685	5.SMO.6	5.SMB.4685
2ft	20W	Four	Quickstart	Q.SMD/4020	Q.SMD.2	Q.SMB.4020
2ft	20W	Four	Quickstart	Q.SMO/4020	Q.SMO.2	Q.SMB.4020
Circ.	32W+40W	Two	Switchstart	*O.SMD/3240	O.SMD. Circ.	O.SMB.3240

*This fitting is packed complete with warm white tubes

DIMENSIONS

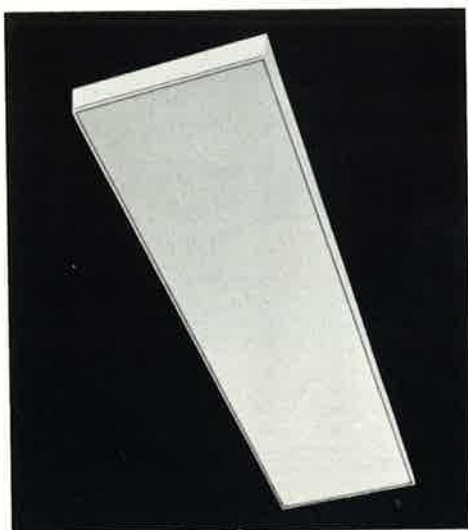
Cat. no.	Fitting size length mm	width mm	length in	width in	Approx. weight (inc. tubes) kg	lb	Fixing centres length mm	width mm	length in	width in
5.SMD/4040	1300	500	51.2	19.7	17.9	39.5	610	200	24.0	7.9
5.SMO/4040	1300	500	51.2	19.7	17.9	39.5	610	200	24.0	7.9
5.SMD/4685	1850	500	72.8	19.7	23.3	51.4	900	200	35.4	7.9
5.SMO/4685	1850	500	72.8	19.7	23.3	51.4	900	200	35.4	7.9
Q.SMD/4020	698	698	27.5	27.5	13.3	29.3	406	406	16	16
Q.SMO/4020	698	698	27.5	27.5	13.3	29.3	406	406	16	16
O.SMD.3240	498	dia	19.6	dia	7.2	15.8	4 x 4-8 dia on 305 PCD		4 x $\frac{1}{8}$ dia on 12 PCD	



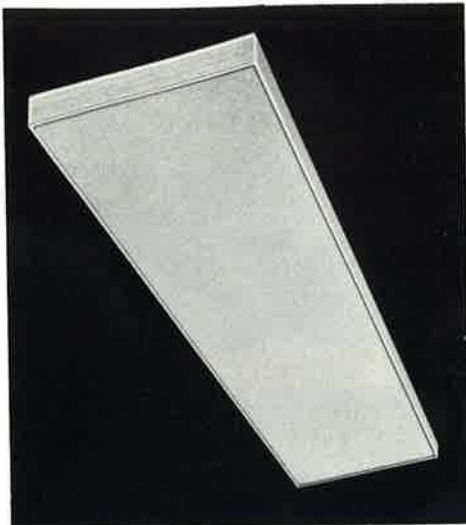
atlas

Format 1FM fittings

D = OPAL DIFFUSER P = PRISMATIC CONTROLLER



1.FMD/2040



1.FMP/2040

An attractive recessed modular fitting, designed for use in a wide range of suspended ceilings. It can be fitted with either an opal diffusing dish or clear prismatic controller and when these are in place, no metalwork is visible. With modern building methods in mind the overall depth of the recessed housing has been kept as shallow as possible. Sizes to meet panel layouts of 1ft x 4ft and 6ft are available.

The body and invisible trim are welded to form a rigid unit which can be installed in the aperture of a false ceiling in minimum time. The control gear is prewired and fixed to the inside of the housing.

The diffuser or controller attachments are simply offered straight up to the housing and are securely held by snap action toggle catches.

Three standard methods of suspension have been allowed for in the design of these fittings, as follows:

- Normal $\frac{3}{4}$ in diameter conduit through $\frac{1}{2}$ in diameter holes, or
- Side suspension arms (TM 4600), fully adjustable for levelling, engage on the ceiling structure. This method allows the suspended ceiling to be fully installed before the lighting fittings are added.
- Side suspension by wood screws into suitable wooden battens located each side of the fitting.

Housings are constructed in sheet metal which is bonderized and stove enamelled white with a hard alkyd paint. Diffusers are fabricated from opal extrusion sections and controllers from clear prismatic sections. Tubes just project through the ends of the fitting and allowance must be made during installation for up to 3in clear void space at one end of the fitting to allow for tube replacement. If required there are available, as optional extras, end box assemblies for closing the opening in the ends of the housings.

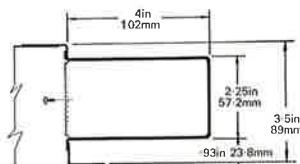
All control gear is of the switchless start type wired back to a 3-way fused terminal block for customers' incoming mains connections. Tubes are held by clip-in spring clips and lampholders are of the shrouded bi-pin push-on pattern.

This FM Range is offered based on British Modular dimensions at the present time but can be supplied, on application, to Metric Modular dimensions of 300mm x 1200mm and 1800mm.

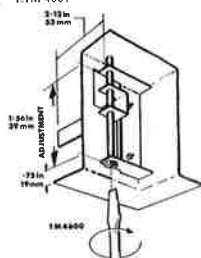
These fittings comply with B.S. 3820:1964 for Class 1, ordinary, indoor, normal atmospheres.

The complete fitting (excluding tubes) is guaranteed for three years provided that it is correctly installed and maintained and not subject to mis-use from any cause. Ambient temperature at fitting level should not exceed 25°C. It is suggested that advice be sought from your nearest Thorn office on the use of these fittings.

*Fittings suitable for use on 240v 50Hz supplies.
Other supplies on application.*



OPTIONAL END BOX
1.TM 4601



atlas

Format 1FM fittings

D= OPAL DIFFUSER P= PRISMATIC CONTROLLER

Information given in these tables is for the 'D' (Diffuser) version.

The 'P' (Prismatic) version is identical and data/price is obtained by substituting 'P' for 'D' in the catalogue numbers.

RANGE

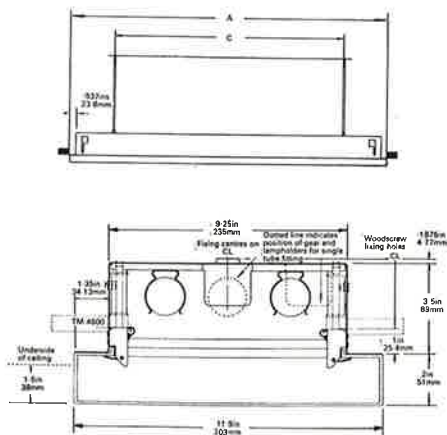
Complete fitting

Nom. length	Rating	No. of tubes	Circuit	Cat. no.	Diffuser Cat. no.	Housing Cat. no.
4ft	40W	One	Quickstart	1.FMD/1040	1.FMD.4	1.FMB.1040
4ft	40W	Two	Quickstart	1.FMD/2040	1.FMD.4	1.FMB.2040
6ft	85W	One	Resonant Start	1.FMD/1685	1.FMD.6	1.FMB.1685
6ft	85W	Two	Resonant Start	1.FMD/2685	1.FMD.6	1.FMB.2685

DIMENSIONS

Cat. no.	Fitting size length mm Dim. 'A'	width mm	length in Dim. 'A'	width in	Approx. weight (inc. tubes) kg	lb	Fixing centres length mm Dim. 'C'	width mm	length in Dim. 'C'	width in
1.FMD/1040	1217	303	47.9	11.9	9.4	20.7	914	*CL	36	*CL
1.FMD/2040	1217	303	47.9	11.9	11.7	25.4	914	*CL	36	*CL
1.FMD/1685	1827	303	71.9	11.9	15.8	34.8	1372	*CL	54	*CL
1.FMD/2685	1827	303	71.9	11.9	18.7	41.9	1372	*CL	54	*CL

* CL—centre line.



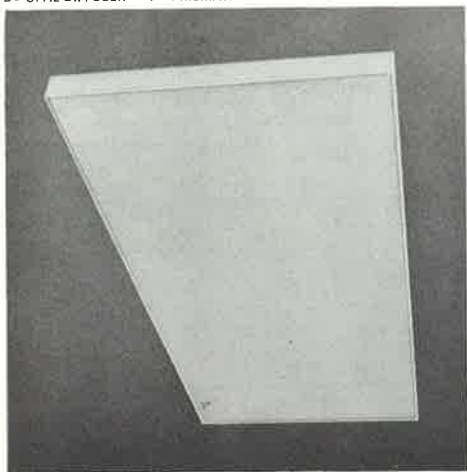
ACCESSORIES

Cat. no.	Description
TM.4600	Side suspension arm set (4 per set)
1.TM.4601	End box set

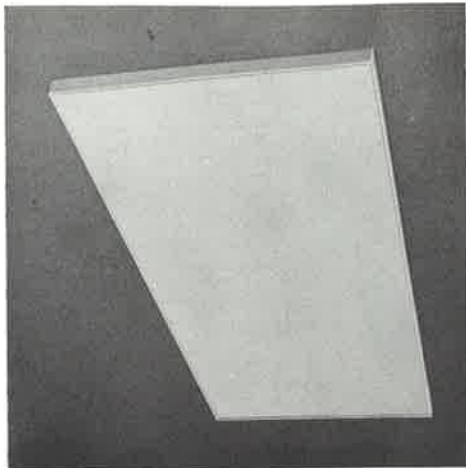
atlas

Format 2FM fittings

D = OPAL DIFFUSER P = PRISMATIC CONTROLLER



2.FM/P/4040



2.FM/D/4040

An attractive recessed modular fitting, designed for use in a wide range of suspended ceilings, having no visible metalwork when installed with either an opal diffusing dish or a clear prismatic controller. With modern building methods in mind the overall depth of the recessed housing has been kept as shallow as possible. Sizes to meet panel layouts of 2ft x 2ft, 4ft, 6ft and 8ft are available.

The body and invisible trim are welded to form a rigid unit which can be installed in the aperture of a false ceiling in minimum time. The control gear is prewired and fixed to gear trays which are simply hooked into the housing and hinged into position – this arrangement facilitates servicing from below the unit or trays may be completely removed, if desired, for workshop servicing away from the fitting. The diffuser or controller attachments are simply offered straight up to the housing and are securely held by snap action toggle catches.

Four standard methods of suspension have been allowed for in the design of these fittings, as follows:

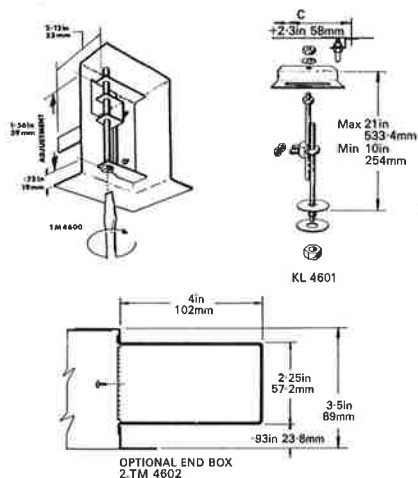
- Normal $\frac{1}{2}$ in diameter conduit through $\frac{1}{2}$ in diameter holes, or
- Side suspension arms (TM4600) onto the suspended ceiling structure (this method allows the suspended ceiling to be fully installed before the lighting and is fully adjustable for levelling of the fitting relative to the ceiling), or
- Adjustable suspension (KL4601) for use where a top fixing is required but conduit is not suitable, or
- Side suspension by wood screws into suitable wooden battens located each side of the fitting.

Housings are constructed in sheet metal which is bonderized and stove enamelled white with a hard alkyd paint. Diffusers are fabricated from opal extrusion sections and controllers from clear prismatic sections. Tubes just project through the ends of the fitting and allowance must be made during installation for up to 3in clear void space at one end of the fitting to allow for tube replacement. If required there are available, as optional extras, end box assemblies for closing the opening in the ends of the housings.

All control gear is of the switchless start type, wired back to a 3-way fused terminal block for customers' incoming mains connections. Tubes are held by clip-in spring clips and lampholders are of the shrouded bi-pin push-on pattern.

This FM Range is offered based on British Modular dimensions at the present time but can be supplied, on application, to Metric Modular dimensions of 600mm x 600mm, 1200mm, 1800mm and 2400mm.

These fittings comply with B.S. 3820:1964 for Class 1, ordinary, indoor, normal atmospheres. The complete fitting (excluding tubes) is guaranteed for three years provided that it is correctly installed and maintained and not subject to mis-use from any cause. Ambient temperature of fitting level should not exceed 25°C. It is suggested that advice be sought from your nearest Thorn office on the use of these fittings. Fittings suitable for use on 240v 50Hz supplies. Other supplies on application.



atlas

Format 2FM fittings

D = OPAL DIFFUSER

P = PRISMATIC CONTROLLER

Information given in these tables is for the 'D' (Diffuser) version.

The 'P' (Prismatic) version is identical and date/price is obtained by substituting 'P' for 'D' in the catalogue numbers.

RANGE

Complete fitting

Nom. length	Rating	No. of tubes	Circuit	Cat. no.	Diffuser Cat. no.	Gear Tray Cat. no.	Housing Cat. no.
2ft	20w	Two	Quickstart	2.FM/D/2020	2.FMD.2	2.TM.2020	2.FMB.2
2ft	20w	Four	Quickstart	2.FM/D/4020	2.FMD.2	2.TM.4020†	2.FMB.2
4ft	40w	Two	Quickstart	2.FM/D/2040	2.FMD.4	2.TM.2040	2.FMB.4
4ft	40w	Three	Quickstart	2.FM/D/3040	2.FMD.4	2.TM.3040*	2.FMB.4
4ft	40w	Four	Quickstart	2.FM/D/4040	2.FMD.4	2.TM.4040††	2.FMB.4
6ft	85w	Two	Resonant Start	2.FM/D/2685	2.FMD.6	2.TM.2685	2.FMB.6
6ft	85w	Three	Resonant Start	2.FM/D/3685	2.FMD.6	2.TM.3685**	2.FMB.6
6ft	85w	Four	Resonant Start	2.FM/D/4685	2.FMD.6	2.TM.4685†††	2.FMB.6
8ft	85w	Two	Quickstart	2.FM/D/2085	2.FMD.8‡	2.TM.2085	2.FMB.8
8ft	85w	Three	Quickstart	2.FM/D/3085	2.FMD.8‡	2.TM.3085***	2.FMB.8
8ft	85w	Four	Quickstart	2.FM/D/4085	2.FMD.8‡	2.TM.4085††††	2.FMB.8

*2.TM.3040 = 2.TM.1040 + 2.TM.2040

**2.TM.3685 = 2.TM.1685 + 2.TM.2085

***2.TM.3085 = 2.TM.1085 + 2.TM.2085

‡2.FMD.8 = 2 x 2.FMD.4

†2.TM.4020 = 2 x 2.TM.2020

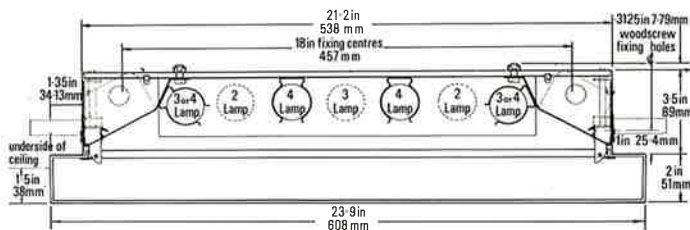
††2.TM.4040 = 2 x 2.TM.2040

†††2.TM.4685 = 2 x 2.TM.2085

††††2.TM.4085 = 2 x 2.TM.2085

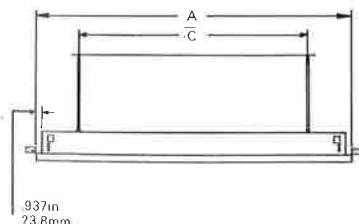
DIMENSIONS

Cat. no.	Fitting size length mm Dim 'A'	width mm	length in Dim 'A'	width in	Approx. weight (inc. tubes) kg	lb	Fixing centres length mm Dim 'C'	width mm	length in Dim 'C'	width in
2.FM/D/2020	608	608	23.9	23.9	9.5	20.9	457	457	18	18
2.FM/D/4020	608	608	23.9	23.9	12.5	27.6	457	457	18	18
2.FM/D/2040	1217	608	47.9	23.9	16.9	37.3	914	457	36	18
2.FM/D/3040	1217	608	47.9	23.9	19.0	41.9	914	457	36	18
2.FM/D/4040	1217	608	47.9	23.9	21.2	46.8	914	457	36	18
2.FM/D/2685	1827	608	71.9	23.9	27.1	59.8	1372	457	54	18
2.FM/D/3685	1827	608	71.9	23.9	30.3	66.8	1372	457	54	18
2.FM/D/4685	1827	608	71.9	23.9	34.5	76.1	1372	457	54	18
2.FM/D/2085	2436	608	95.9	23.9	41.2	90.8	1372	457	54	18
2.FM/D/3085	2436	608	95.9	23.9	45.4	100.0	1372	457	54	18
2.FM/D/4085	2436	608	95.9	23.9	50.7	111.8	1372	457	54	18



ACCESSORIES

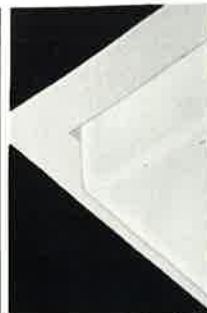
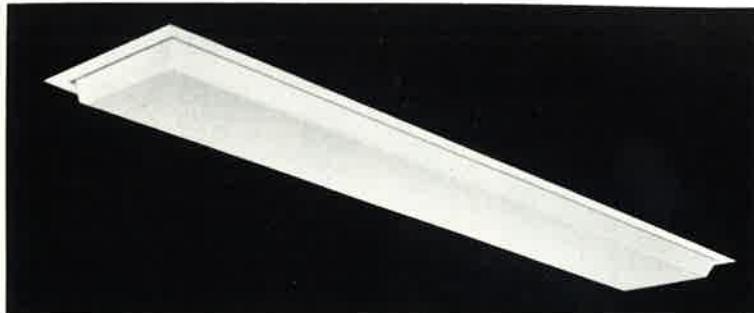
Cat. no.	Description
KL 4601	Adjustable suspension set (4 per set)
TM 4600	Side suspension arm set (4 per set)
2.TM 4602	End box set



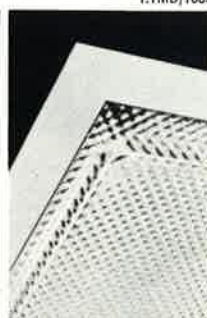
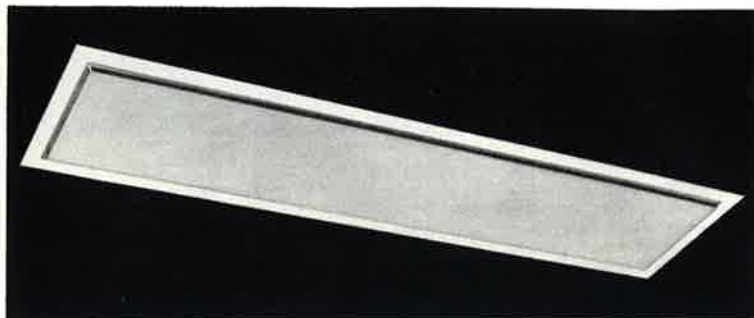
atlas

Format 1TM fittings

D = OPAL DIFFUSER P = PRISMATIC CONTROLLER



1.TMD/1685



1.TMP/1685

An attractive recessed modular fitting, designed for use in a wide range of suspended ceilings, having a slender, visible metal trim surrounding either an opal diffusing dish or a clear prismatic controller.

With modern building methods in mind the overall depth of the recessed housing has been kept as shallow as possible. Sizes to meet panel layouts of 1ft x 4ft, 6ft or 8ft are available.

The body and trim are welded to form a rigid unit which can be installed in the aperture of a false ceiling in minimum time. The control gear is prewired and fixed to the inside of the housing.

The diffuser or controller attachments are simply inserted into the trim where they should be centralized and are then retained by concealed springs and stops.

Three standard methods of suspension have been allowed for in the design of these fittings, as follows:

- Normal $\frac{3}{8}$ in diameter conduit through $\frac{3}{8}$ in diameter holes, or
- Side suspension arms (TM.4600) onto the suspended ceiling structure (this method allows the suspended ceiling to be fully installed before the lighting and is fully adjustable for levelling of the fitting relative to the ceiling), or
- Side suspension by wood screws into suitable wooden battens located each side of the fitting.

Housings are constructed in sheet metal which is bonderized and stove enamelled white with a hard alkyd paint. Diffusers are moulded from opal sheet and controllers from clear sheet.

Tubes just project through the ends of the fitting and allowance must be made during installation for up to 3in clear void space at one end of the fitting to allow for tube replacement. If required there are available, as optional extras, end box assemblies for closing the openings in the ends of the housings.

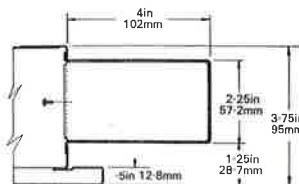
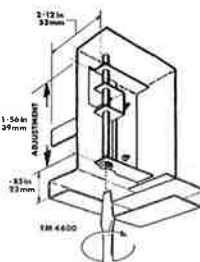
All control gear is of the switchless start type wired back to a 3-way fused terminal block for customers' incoming mains connections. Tubes are held by clip-on spring clips and lampholders are of the shrouded bi-pin push-on pattern.

This TM Range is offered based on British Modular dimensions at the present time but can be supplied, on application, to Metric Modular dimensions of 300mm x 1200mm, 1800mm and 2400mm.

These fittings comply with B.S. 3820: 1964 for Class 1, ordinary, indoor, normal atmospheres.

The complete fitting (excluding tubes) is guaranteed for three years provided that it is correctly installed and maintained and not subject to mis-use from any cause. Ambient temperature at fitting level should not exceed 25°C. It is suggested that advice be sought from your nearest Thorn office on the use of these fittings.

*Fittings suitable for use on 240V 50Hz supplies.
Other supplies on application.*



atlas

Format 1TM fittings

D = OPAL DIFFUSER P = PRISMATIC CONTROLLER

Information given in these tables is for the 'D' (Diffuser) version.

The 'P' (Prismatic) version is identical and data/price is obtained by substituting 'P' for 'D' in the catalogue numbers.

RANGE

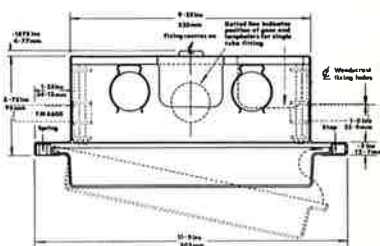
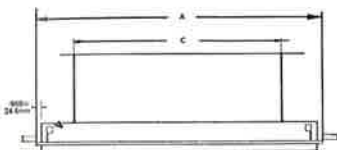
Complete fitting

Nom. length	Rating	tubes	No. of Circuit	Cat. no.	Diffuser Cat. no.	Housing Cat. no.
4ft	40W	One	Quickstart	1.TMD/1040	1.TMD.4	1.TMB.1040
4ft	40W	Two	Quickstart	1.TMD/2040	1.TMD.4	1.TMB.2040
6ft	85W	One	Resonant Start	1.TMD/1685	1.TMD.6	1.TMB.1685
6ft	85W	Two	Resonant Start	1.TMD/2685	1.TMD.6	1.TMB.2685
8ft	85W	One	Quickstart	1.TMD/1085	1.TMD.8	1.TMB.1085
8ft	85W	Two	Quickstart	1.TMD/2085	1.TMD.8	1.TMB.2085

DIMENSIONS

Cat. no.	Fitting size length mm Dim. 'A'	width mm	length in Dim. 'A'	width in	Approx. weight (inc. tubes) kg	lb	Fixing centres length mm Dim. 'C'	width mm	length in Dim. 'C'	width in
1.TMD/1040	1217	303	47-9	11-9	9-4	20-7	914	*CL	36	*CL
1.TMD/2040	1217	303	47-9	11-9	11-5	25-4	914	*CL	36	*CL
1.TMD/1685	1827	303	71-9	11-9	15-8	34-8	1372	*CL	54	*CL
1.TMD/2685	1827	303	71-9	11-9	19-0	41-9	1372	*CL	54	*CL
1.TMD/1085	2436	303	95-9	11-9	24-2	53-4	1372	*CL	54	*CL
1.TMD/2085	2436	303	95-9	11-9	28-4	62-6	1372	*CL	54	*CL

*CL - centre line.



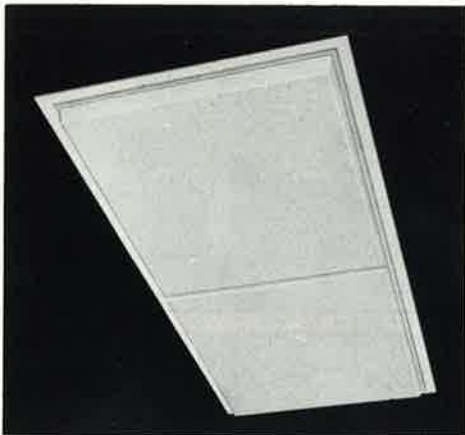
ACCESSORIES

Cat. no.	Description
TM.4600	Side suspension arm set (4 per set)
1.TM.4601	End box set

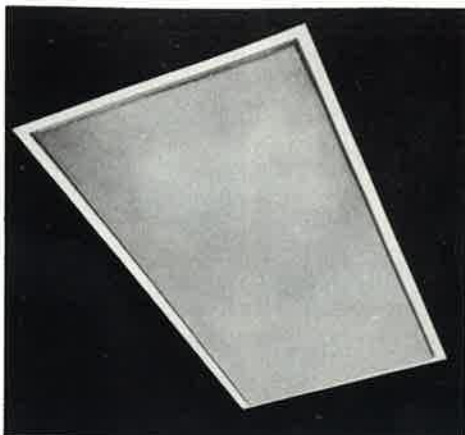
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Format 2TM fittings

D=OPAL DIFFUSER P=PRISMATIC CONTROLLER



2TM/D/4040



2TM/P/4040

An attractive recessed modular fitting, designed for use in a wide range of suspended ceilings, having a slender, visible metal trim surrounding either an opal diffusing dish or a clear prismatic controller.

With modern building methods in mind the overall depth of the recessed housing has been kept as shallow as possible. Sizes to meet panel layouts of 2ft x 2ft, 4ft, 6ft and 8ft are available.

The body and trim are welded to form a rigid unit which can be installed in the aperture of a false ceiling in minimum time.

The control gear is prewired and fixed to gear trays which are simply hooked into the housing and hinged into position – this arrangement facilitates servicing from below the unit or the trays may be completely removed, if desired, for workshop servicing away from the fitting.

The diffuser or controller attachments are simply inserted into the trim where they should be centralized and are then retained by concealed springs and buffers. Four standard methods of suspension have been allowed for in the design of these fittings, as follows:

- Normal $\frac{1}{2}$ in diameter conduit through $\frac{1}{4}$ in diameter holes, or
- Side suspension arms onto the suspended ceiling structure (this method allows the suspended ceiling to be fully installed before the lighting and is fully adjustable for levelling of the fitting relative to the ceiling), or
- Adjustable suspension for use where a top fixing is required, but conduit is not suitable, or
- Side suspension by wood screws into suitable wooden battens located each side of the fitting.

Housings are constructed in sheet metal which is bonderized and stove enamelled white with a hard alkyd paint. Diffusers are moulded from opal sheet and controllers from clear sheet. 2ft x 8ft diffusers and controllers are each supplied in two half panels.

Tubes just project through the ends of the fitting and allowance must be made during installation for up to 3in clear void space at one end of the fitting to allow for tube replacement. If required there are available, as optional extras, end box assemblies for closing the openings in the ends of the housings.

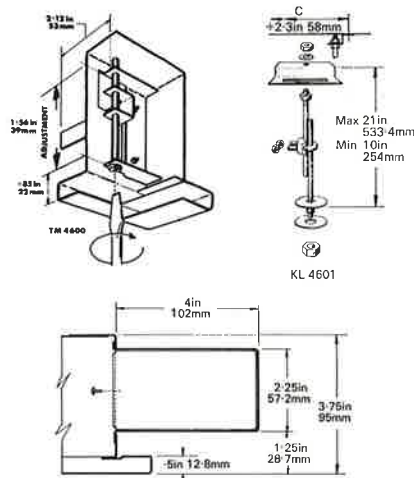
All control gear is of the switchless start type wired back to a 3-way fused terminal block for customers' incoming mains connections. Tubes are held by clip-in spring clips and lampholders are of the shrouded bi-pin push-on pattern.

This TM Range is offered based on British Modular dimensions at the present time but can be supplied, on application, to Metric Modular dimensions of 600mm x 600mm, 1200mm, 1800mm and 2400mm.

These fittings comply with B.S.3820:1964 for Class 1, ordinary, indoor, normal atmospheres.

The complete fitting (excluding tubes) is guaranteed for three years provided that it is correctly installed and maintained and not subject to mis-use from any cause. Ambient temperature at fitting level should not exceed 25°C. It is suggested that advice be sought from your nearest Thorn office on the use of these fittings.

Fittings suitable for use on 240V 50Hz supplies. Other supplies on application.



atlas

Format 2TM fittings

D=OPAL DIFFUSER P=PRISMATIC CONTROLLER

Information given in these tables is for the 'D' (Diffuser) version.
The 'P' (Prismatic) version is identical and data is obtained by substituting 'P' for 'D' in the catalogue numbers.

RANGE

Complete fitting		No. of tubes	Circuit	Cat. no.	Diffuser Cat. no.	Gear Tray Cat. no.	Housing Cat. no.
Nom. Length	Rating						
2ft	20W	Two	Quickstart	2.TM/D/2020	2.TMD.2	2.TM.2020	2.TMB.2
2ft	20W	Four	Quickstart	2.TM/D/4020	2.TMD.2	2.TM.4020†	2.TMB.2
4ft	40W	Two	Quickstart	2.TM/D/2040	2.TMD.4	2.TM.2040	2.TMB.4
4ft	40W	Three	Quickstart	2.TM/D/3040	2.TMD.4	2.TM.3040*	2.TMB.4
4ft	40W	Four	Quickstart	2.TM/D/4040	2.TMD.4	2.TM.4040††	2.TMB.4
6ft	85W	Two	Resonant Start	2.TM/D/2685	2.TMD.6	2.TM.2685	2.TMB.6
6ft	85W	Three	Resonant Start	2.TM/D/3685	2.TMD.6	2.TM.3685**	2.TMB.6
6ft	85W	Four	Resonant Start	2.TM/D/4685	2.TMD.6	2.TM.4685†††	2.TMB.6
8ft	85W	Two	Quickstart	2.TM/D/2085	2.TMD.8	2.TM.2085	2.TMB.8
8ft	85W	Three	Quickstart	2.TM/D/3085	2.TMD.8	2.TM.3085***	2.TMB.8
8ft	85W	Four	Quickstart	2.TM/D/4085	2.TMD.8	2.TM.4085†††	2.TMB.8

*2.TM.3040 = 2.TM.1040 + 2.TM.2040

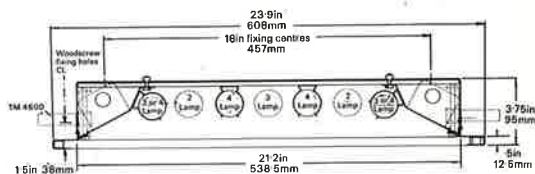
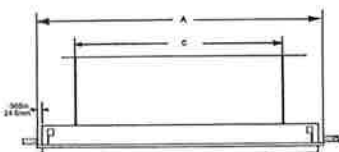
**2.TM.3685 = 2.TM.1685 + 2.TM.2685

***2.TM.3085 = 2.TM.1085 + 2.TM.2085

†2.TM.4020 = 2 x 2.TM.2020
††2.TM.4040 = 2 x 2.TM.2040
†††2.TM.4685 = 2 x 2.TM.2685
††††2.TM.4085 = 2 x 2.TM.2085

DIMENSIONS

Cat. no.	Fitting size		width in	length in	width in	Approx. weight		Fixing centres length mm	width mm	length in	width in
	length mm	Dim 'A'				(inc. tubes) kg	lb			Dim 'C'	
2.TM/D/2020	608	608	23.9	23.9	9.5	20.9	457	457	18	18	
2.TM/D/4020	608	608	23.9	23.9	12.5	27.6	457	457	18	18	
2.TM/D/2040	1217	608	47.9	23.9	16.9	37.3	914	457	36	18	
2.TM/D/3040	1217	608	47.9	23.9	19.0	41.9	914	457	36	18	
2.TM/D/4040	1217	608	47.9	23.9	21.2	46.8	914	457	36	18	
2.TM/D/2685	1827	608	71.9	23.9	27.1	59.8	1372	457	54	18	
2.TM/D/3685	1827	608	71.9	23.9	30.3	66.8	1372	457	54	18	
2.TM/D/4685	1827	608	71.9	23.9	34.5	76.1	1372	457	54	18	
2.TM/D/2085	2436	608	95.9	23.9	41.2	90.8	1372	457	54	18	
2.TM/D/3085	2436	608	95.9	23.9	45.4	100.0	1372	457	54	18	
2.TM/D/4085	2436	608	95.9	23.9	50.7	111.8	1372	457	54	18	



ACCESSORIES

Cat. no.	Description
KL.4601	Adjustable suspension set (4 per set)
TM.4600	Side suspension arm set (4 per set)
2.TM.4602	End box set

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Format-Accessories

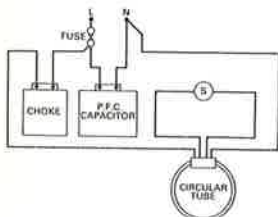
ACCESSORIES

Accessory	SM Accessory Cat. No. (excluding O.SMD.3240)	O.SMD.3240 Accessory Cat. No.	FM Accessory Cat. No.	TM Accessory Cat. No.
Lampholder	AMEB1548/K	AMEB1535/SM	AMEB1573	AMEB1573
Fused terminal block	AMET1265	AMET1265	AMET1265	AMET1265
Terminal block	—	—	AMET1281/1	AMET1281/1
Fuse	2ft 20W — AMET1299 4ft 40W — AMET1299 6ft 85W — AMET1342	4ft 40W — AMET1299	2ft 20W — AMET1299 4ft 40W — AMET1299 6ft 85W — AMET1342 8ft 85W — AMET1299	2ft 20W — AMET1299 4ft 40W — AMET1299 6ft 85W — AMET1342 8ft 85W — AMET1299
Capacitor clip	AMEY5244	AMEY5244	AMEY5244	AMEY5244
Capacitor safety clip	AMEY5245	AMEY5245	AMEY5245	AMEY5245
Starterswitch clip	—	AMEY5274	—	—
Loop starter socket	—	AMEM6064/12	—	—
Cable cleat	AC5363	AC5363	AC5363	AC5363
Lamp clip	—	AMEY5294	AMEY5213	AMEY5213
Wiring grommet	AC5297	AC5297	AC5297	AC5297
Blind grommet	AC5402	—	—	—
Gasket for sides/ mm length	SM.4600/—	—	—	—
Gasket for end/ mm length	SM.4601/—	—	—	—
Cage nut	—	—	AC4377	AC4377
Cage nut screw	—	—	AC4445	AC4445
Gear tray blanking grommet	—	—	AC5576	AC5576
TM diffuser stop and spring	—	—	—	TM4603
Side suspension arm set	—	—	TM4600	TM4600
End box assembly 1ft wide	—	—	1.TM4601	1.TM4601
End box assembly 2ft wide	—	—	2.TM4602	2.TM4602
Adjustable suspension set	—	—	KL4601	KL4601

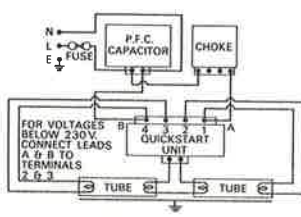
REPLACEMENT CONTROL GEAR

These items are selected from the extensive range of control gear for U.K. Regional stocking to give ready availability. The reference numbers quoted will be different from those marked on the control gear in the fitting, but the units are equally applicable to Format fittings.

		OS Unit	Choke(s) or Ballast	Capacitor(s)	Starter Switch
85W 8ft	Single Tube Circuit	—	1-B1/85	1-AMEC2226	—
	Twin Tube Circuit	—	2-B1/85	2-AMEC2226	—
85W 6ft	Single Tube Circuit	—	1-BU/685	1-AMEC2220	—
	Twin Tube Circuit	—	2-BU/685	2-AMEC2220	—
40W 4ft	Single Tube Circuit	1-QS/40	1-CU/40	1-AMEC2224	—
	Twin Tube Circuit	2-QS/40	2-CU/40	1-AMEC2222	—
20W 2ft	Twin Tube Circuit	-QS/220	1-CU/40	1-AMEC2224	—
O.SMD.3240					
40W Circular	Single Tube Circuit	—	1-CU/40	AMEC2222	155/400
32W Circular	Single Tube Circuit	—	1-CU/30		155/400

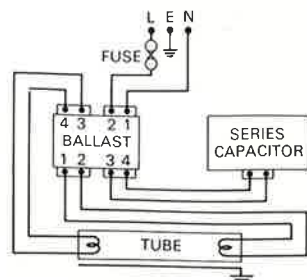


216 Starter switch circuit for 40W or 32W with PFC capacitor

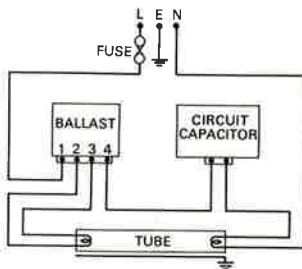


11 Twin tube Quickstart circuit with PFC capacitor for 2ft 20W

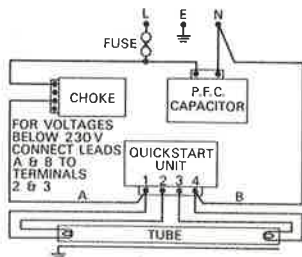
230/240V 50 Hz Circuit Diagrams



4 Single 8ft 85W Quickstart circuit Combined choke and transformer with essential series capacitor



7 Semi-resonant start circuit for 6ft 85W with essential circuit capacitor



8 Tapped quickstart transformer circuit with PFC capacitor for 4ft 40W

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Advantages of Airlume Fittings

When airlume fittings are used to extract room air a large proportion of the heat produced by the lighting equipment is removed before it can enter the occupied space. This results in a reduction of the air conditioning load on the room which means less air volume is required for temperature control and the air can be passed through the system with a higher temperature rise than normal, resulting in increased efficiency of the airhandling system. As less air volume is required the ductwork sizes and plenum depths can be reduced, giving economies in construction.

Because an airlume fitting can be used for both supply and return two types of services can use one distribution point in the ceiling thus helping to create a neat and tidy appearance of the ceiling.

In most recessed fittings the fluorescent tube is normally operating at a temperature above that of its optimum light output. If air is drawn through the fitting and around the lamps the tube wall is cooled to this optimum or very close to it resulting in a greatly increased light output depending on the design and type of fitting used.

The use of airlume fittings can require special knowledge for their construction and application. The Thorn-Benham Environmental Unit has been set up to assist clients in this work and also to provide help and information in other aspects of the planned environment, including ventilation and air conditioning.

ATLAS Low Brightness & Airlume Fittings

These fittings have been designed to meet the demand for lighting units that can provide high levels of illumination without glare discomfort and to meet the growing demand for integrated air handling and heat from light units.

It is possible that these fittings will not have the characteristics necessary to meet the needs of every design of installation and in this event the Atlas design team in conjunction with the Thorn-Benham Environmental Group can undertake the design and development of fittings to suit specific requirements.

All fittings can be supplied manufactured to metric modular dimension on application.

LBL.F. Fittings

Flush mounting recessed fittings with a highly efficient reflector louvre assembly, all sizes of fitting can be supplied with air extract slots in the back panel, the four tube 608mm wide versions can also be supplied with slotted trim face and mounting for air supply attachments. Construction of the optical system which is of one piece unit assembly per lampway is from figured aluminium sheet and extruded aluminium baffles, the form and profile of these assemblies which have a specular anodised finish have been designed to provide the efficiency necessary for the levels of illumination required for modern interiors with the comfort of a well designed optical system.

Housings are constructed in sheet metal which is bonderised and stove enamelled with a hard alkyd paint. Blue grey 9-098 to B.S. 2660, other finishes can be provided upon request.

Suspension of these fittings is by means of holes provided, from the true ceiling or by means of side suspension arms Cat. No. LB4601 supported from a suspended ceiling grid. These are available at extra cost on application.

These fittings have been designed for concealed 'T' ceiling systems but before the ceiling design is complete consultation with our engineers would be advisable to ensure suitability of the fitting to the ceiling. They are particularly suitable for continuous mounting and capping strip Cat. No. LB4600 is available on request to ensure neatness of runs.

LBL.C. Fittings

Ceiling mounted fittings which utilize the same highly efficient optical assembly as the recessed versions previously described.

Housings are constructed from sheet metal which is bonderised and stove enamelled with a hard alkyd paint in glossy white.

AHP. Fittings

Recessed mounting fittings with a dished prismatic controller designed and developed for Heat from Light installations.

This model of fitting is in service in installations where the sole source of heating for the premises is derived from the recirculated heat extracted from the lighting fittings.

These fittings are equally suitable for use in installations as a purely extract fitting for the disposal of air from the room and to assist in dispersing heat from the fittings.

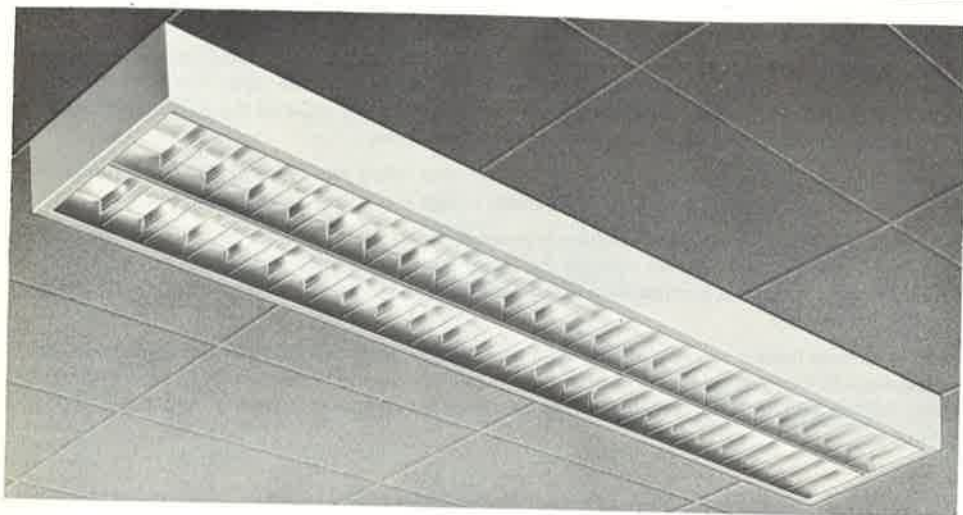
Housings are constructed from sheet metal which is bonderised and stove enamelled with a hard alkyd paint glossy white. Suspension is effected from holes provided in the back panel of the fittings.

Prices on APPLICATION

These fittings comply fully with B.S. 3820:1964 for Class 1 ordinary, indoor, normal atmospheres.

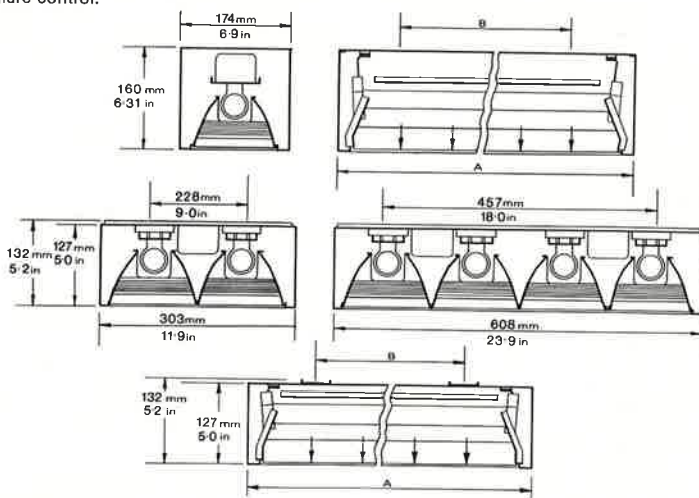
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LB Surface fittings



LBL.C. Fittings. Ceiling mounted low brightness fittings designed to provide high levels of illumination with effective glare control.

The metal work of these fittings is finished stove enamelled white.

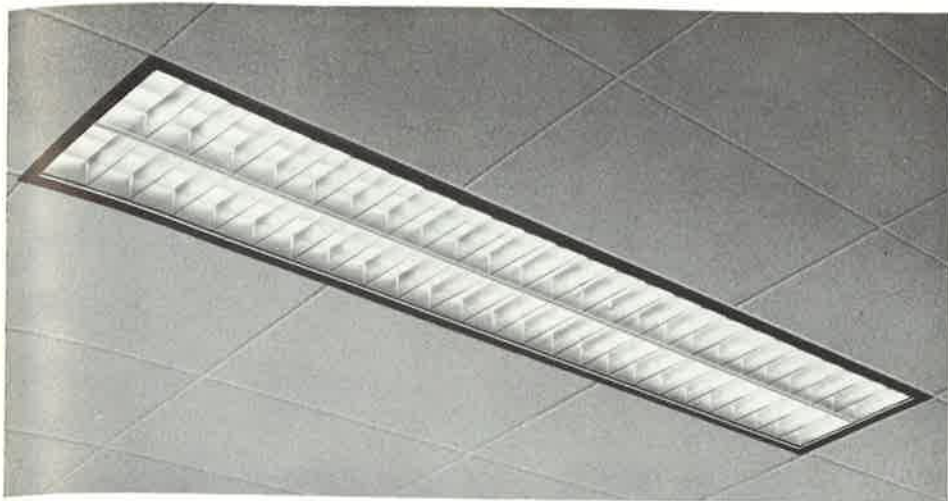


RANGE AND DIMENSIONS

Cat. No.	Rating	No. of Tubes	Circuit	Fitting size		A Length in	Width in	Fixing centres				B Length in	Width in
				A Length mm	Width mm			B Length mm	Width mm	*CL			
LBL.C/Q1040	40w	one	Quickstart	1245	174	49	6.9	914	*CL	36	*CL		
LBL.C/Q2040	40w	two	Quickstart	1245	303	49	11.9	914	228	36	9		
LBL.C/Q4040	40w	four	Quickstart	1245	608	49	23.9	914	457	36	18		
LBL.C/R1685	85w	one	Resonant Start	1827	174	71.9	6.9	1372	*CL	54	*CL		
LBL.C/R2685	85w	two	Resonant Start	1827	303	71.9	11.9	1372	228	54	9		
LBL.C/R4685	85w	four	Resonant Start	1827	608	71.9	23.9	1372	457	54	18		
LBL.C/Q1085	85w	one	Quickstart	2436	174	95.9	6.9	1372	*CL	54	*CL		
LBL.C/Q2085	85w	two	Quickstart	2436	303	95.9	11.9	1372	228	54	9		
LBL.C/Q4085	85w	four	Quickstart	2436	608	95.9	23.9	1372	457	54	18		

*CL — Centre Line

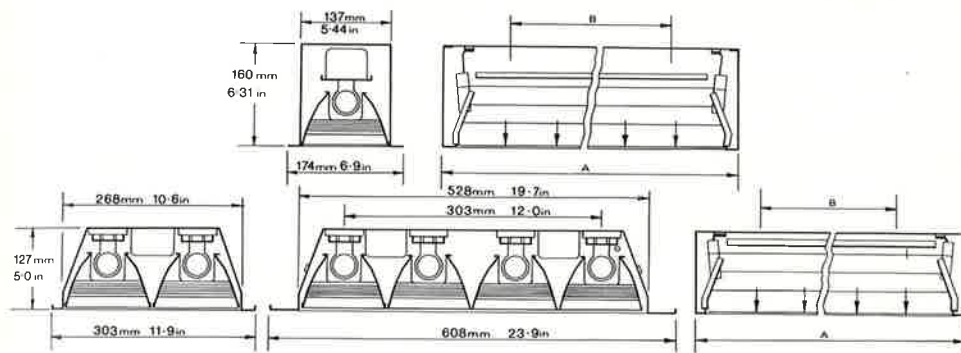
All the above fittings are available to special order, full price details available on request.



LBL.F. Fittings. Flush mounting recessed fittings designed to provide high levels of illumination with effective glare control, all sizes can be supplied with slots pierced in the back plate for air extraction through the fitting. The four tube 608mm wide version can also

be provided with slots in the trim face and fixing for air boots for the supply of air.

The metal work of these fittings is finished blue grey 9-098 to B.S. 2660. Other finishes can be provided upon request.



All single twin and four tube LBL.F. Fittings are suitable for the extraction of air. The four tube versions LBL.F./Q4040, LBL.F./R4685 and LBL.F./Q4085 are also available for the supply of air. Add the following suffixes to the end of catalogue numbers when air handling facilities are required: E at end of Cat. ref. denotes Extract fitting only. S at end of Cat. ref. denotes Supply fitting only. SE at end of Cat. ref. denotes Supply and Extract.

RANGE AND DIMENSIONS

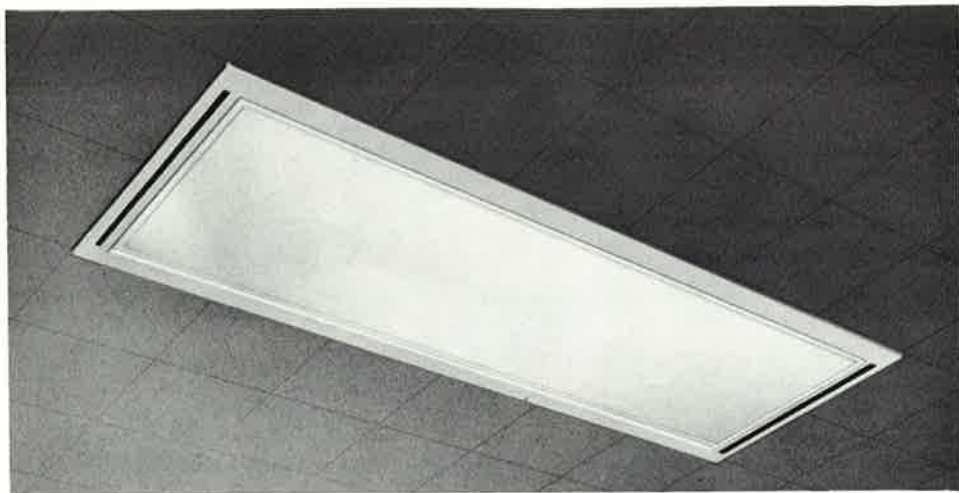
Cat.no.	Rating	No. of Tubes	Circuit	Fitting size		Minimum ceiling opening				Fixing centres			
				A Length mm	Width mm	A Length in	Width in	Length mm	Width mm	Length in	Width in	B Length mm	B Width mm
LBL.F./Q1040	40w	one	Quickstart	1217	174	47.9	6.9	1219	140	48	5.5	914	*CL
LBL.F./Q2040	40w	two	Quickstart	1217	303	47.9	11.9	1219	305	48	12	914	*CL
LBL.F./Q4040	40w	four	Quickstart	1217	608	47.9	23.9	1219	610	48	24	914	*CL
LBL.F./R1685	85w	one	Resonant Start	1827	174	71.9	6.9	1829	140	72	5.5	1372	*CL
LBL.F./R2685	85w	two	Resonant Start	1827	303	71.9	11.9	1829	305	72	12	1372	*CL
LBL.F./R4685	85w	four	Resonant Start	1827	608	71.9	23.9	1829	610	72	24	1372	*CL
LBL.F./Q1085	85w	one	Quickstart	2436	174	95.9	6.9	2438	140	96	5.5	1372	*CL
LBL.F./Q2085	85w	two	Quickstart	2436	303	95.9	11.9	2438	305	96	12	1372	*CL
LBL.F./Q4085	85w	four	Quickstart	2436	608	95.9	23.9	2438	610	96	24	1372	*CL

*CL = Centre Line

All the above fittings are available to special order, full price details available on request.

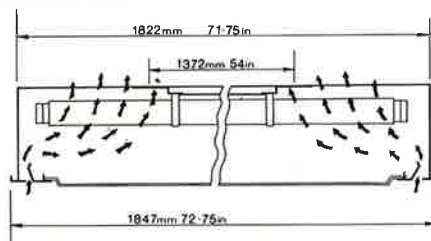
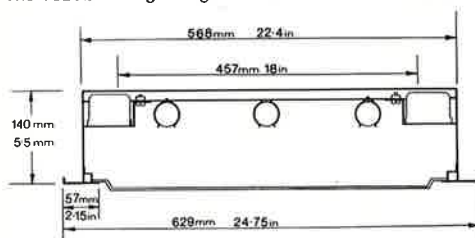
atlas

AH Recessed Air Handling fittings



AHP. Fittings. Recessed fittings with a prismatic controller, designed for the extraction of air through slots at the ends of the fitting incorporating dust traps. The 1829mm long fitting shown can be manufactured

to handle various volumes of air—other sizes of fittings can be manufactured to meet specific requirements. The metal work of these fittings is finished stove enamelled white.



RANGE AND DIMENSIONS

Cat. No.	Rating	No. of Tubes	Circuit	Fitting size				ceiling opening				Fixing centres			
				Length mm	Width mm	Length in	Width in	Length mm	Width mm	Length in	Width in	Length mm	Width mm	Length in	Width in
AHP/R2685	85w	two	Resonant Start	1847	629	72 3/4	24 3/4	1829	610	72	24	1372	457	54	18
AHP/R3685	85w	three	Resonant Start	1847	629	72 3/4	24 3/4	1829	610	72	24	1372	457	54	18
AHP/R4685	85w	four	Resonant Start	1847	629	72 3/4	24 3/4	1829	610	72	24	1372	457	54	18

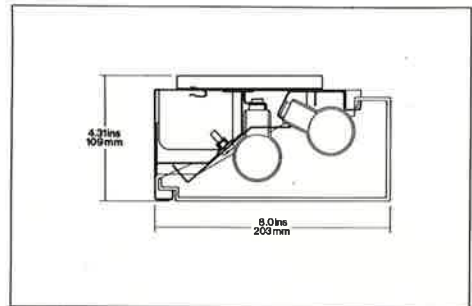
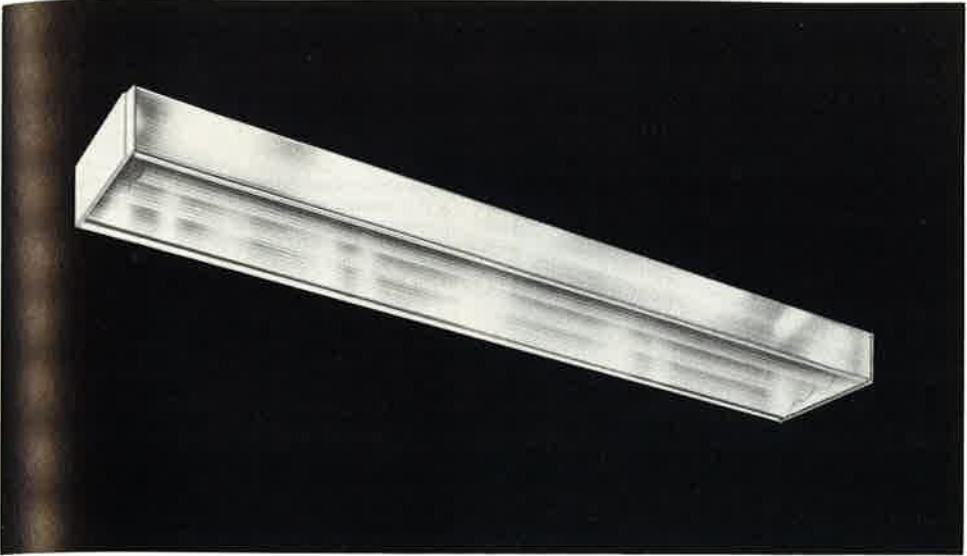
All the above fittings are available to special order, full price details available on request.

atlas

Asymmetrical fitting

This fitting has been developed for use in installations where extra quality is required in the lighting. A higher luminance is provided on the

walls and vertical surfaces than can be provided by fittings with conventional light distributions. Full details of the fitting performance are given in the main fittings catalogue.



RANGE AND DIMENSIONS

Nom. length	Rating	Circuit	Catalogue Numbers Complete Fitting	Spine	Controller	O/A length mm	ins	Weight Kg	lbs	Fixing centres mm	ins
5ft	65W Twin	Resonant Start	ASYC/2065	ASY.R2065	ASY.C25	1564	6 1/8	10.4	23.2	610 x 82	60 x 36 x 3 1/2
6ft	85W Twin	Resonant Start	ASYC/2685	ASY.R2685	ASY.C26	1830	72	11.8	26.0	1524 & 915 x 82	60 x 36 x 3 1/2
8ft	85W Twin	Quickstart	ASYC/2085	ASY.R2085	ASY.C28	2440	96	14.0	31.3	2134 & 1220 x 82	84 x 48 x 3 1/2

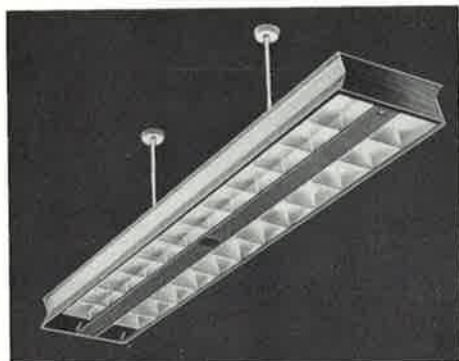
These fittings are made to special order—further details on application.

Installation

This fitting is not balanced about the centre and should be fixed at all four points. Spines can butt to form continuous rows.

atlas OF fittings

This fitting has been designed for various applications and is equally suitable for use in hospital wards or without the centrally mounted night light in commercial applications. Hospital lighting is a specialised subject and generally requires special consideration for each particular project. Thorn Lighting have designed and manufactured a considerable number of "special" fittings for various hospital installations. Further information and prices for all these fittings can be obtained on application to your local Thorn Lighting office.



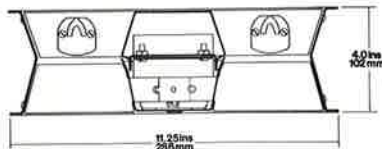
OFL/Q2080

Construction of the main spine, containing the Quickstart control gear, is in steel. The main reflector, attached to the underside of the spine is in satin etched and anodised aluminium, and incorporates steel baffles, painted BS.8-089 colour, the assembly being easily removable for cleaning. The side reflectors are also satin etched and anodised aluminium. If required, the reflector is available without cross baffles. Particular attention has been paid to minimising projections on all surfaces, in order that in situ cleaning can be easily and thoroughly carried out and horizontal surfaces have also been reduced to a minimum. The two fluorescent tubes can be simply removed without disturbing any part of the fitting. A centrally arranged night lighting fitting is incorporated into the spine projecting through the main reflector, and screening for the 25w night light is provided by a stove enamelled cylinder.

These fittings can be supplied with or without transverse louvers. If louvers are not required, delete L from catalogue number.

RANGE AND DIMENSIONS

Nominal Length	Rating	Circuit	Cat. No.	Length mm.	ins	Fixing centres mm	ins
5ft	65W Twin	Resonant Start	OFLR2065	1567	61.75	610	24



Invincible range is the name given to a selection of fittings each of which has been carefully designed to ensure satisfactory performance under certain arduous service conditions. The range comprises the following fittings:

LU series diffuser fitting is completely enclosed with a G.R.P. canopy and a plastic enclosure which is simply clipped into position. This fitting is resistant to numerous adverse conditions and suitable applications would be certain chemical laboratories, pickle factories and food factories.

LV series vapourproof fitting. Completely enclosed single or twin tube opal enclosure resistant to corrosion by water vapour, high humid conditions, certain chemicals, etc., and suitable for use in food factories (where the relamping features are of extreme importance), storage bays and general conditions where frequent washing is required. (This fitting is not jetproof.)

LW series G.R.P. batten. As well as corrosion resistance, this design has been fully tested to international specifications for rainproof and dustproof fittings. It is vapourproof and is suitable for use in hydrogen atmospheres where fittings need to be pressurised. When used in conjunction with the plastic cylinders a strong fitting is the result, resisting mechanical damage. These cylinders also enable the fitting (coupled) with the necessary low temperature control gear) to be used in temperatures down to -30°C (-22°F). Suitable applications for this fitting would be certain chemical laboratories, plating shops, pickle factories, food factories, cold stores and general indoor and outdoor applications. These fittings are also suitable for use in Division 2 areas, see below.

Dust-Tight. This fitting has been designed in accordance with the following requirements:

- (a) British Standard Specification No. 3820:1964 Class 1 construction for Outdoor Pendant use.
- (b) Jetproof to B.S.3820 Clause 18 (iii).
- (c) Dust-tight to B.S.3820 Clause 18 (iv).
- (d) Oil Companies Materials Association Specification No. ELEC. 7 for use in Division 2 areas.
- (e) Approved for Division 2 areas H.M.F.I. ref. 1009/9/60 - Division 2.

Suitable applications for these fittings would be flour mills, certain laboratories, food factories, Division 2 areas and areas which are frequently hosed down. It may also be pressurised.

Flameproof. In addition to being certified as suitable for use in all Division 1 areas having flammable atmospheres falling within the General Industrial Groups II and III the fitting is also dust-tight and rainproof so it may be used in areas containing explosive dusts or outside, e.g., an oil loading jetty.

Food Factory. This fitting is ideal for applications where hygiene is of the utmost importance. There are no crevices to harbour dirt or dust and the enclosing acrylic prevents any possible danger in the event of a lamp being broken.

The fitting is sealed by a neoprene gasket to prevent the ingress of steam or moisture and its easily wiped surfaces

make it most suitable for use in laundries. Often damp and sometimes humid atmospheres exist in paper mills and an enclosed protected type of fitting may be the only real solution. This fitting is ideal for such situations coupled with easy maintenance for those awkward, inaccessible, out of the way places. There are many suitable applications for an enclosed protected fitting of this type, such places as abattoirs and bottling plants, in fact anywhere where hygiene is of importance or where some protection is needed because of the damp or humid atmosphere.

Angled Floodlight. This is a versatile fluorescent floodlight for interior use or use in protected situations outside. It is available for single or twin tube operation with clear or opal laminated glass cover. The fitting is *not* flameproof but could be used for floodlighting garage workshop areas, greasing bays, canopied loading bays, etc.

Division 2. Two publications are currently used to ensure that fittings for use in these remotely dangerous areas are mechanically and electrically safe. These are:

British Standard Code of Practice CP.1003

Part 3:1967, defines a Division 2 area as:

'An area within which any flammable or explosive substance, whether gas, vapour or volatile liquid, although processed or stored, is so well under conditions of control that the production (or release) of an explosive or ignitable concentration in sufficient quantity to constitute a hazard is only likely under abnormal conditions.'

An area falling within this category is sometimes known as a 'Remotely Dangerous Area'.

B.S.4137: 1967. Guide to the selection of Electrical Equipment for use in Division 2 Areas.

B.S.4533: Part 2: Section 2.1: 1969. Specification for Electric Lighting Fittings, Metric Series. Part 2. Detail requirements. Section 2.1. Lighting fittings for Division 2 areas.

All fittings are suitable for use on 240V 50Hz supplies. Other voltages on application.

atlas

Invincible LU corrosion-resistant fittings

This corrosion-resistant G.R.P. fitting is suitable for any application where excessive humidity is present such as swimming baths, slaughter houses, breweries, or where corrosive elements are involved, such as some plating shops, dye works, chemical works, or where fittings are used outdoors.

The G.R.P. body has bushes moulded in the back to receive the gear tray. The tray carries the usual components and brackets are provided at each end to support the lampholders. These same brackets provide fixing for a metal reflector to enclose the gear. The lamps are enclosed with a vacuum-formed plastic cover which is supported from the G.R.P. canopy by means of injection moulded brackets secured against

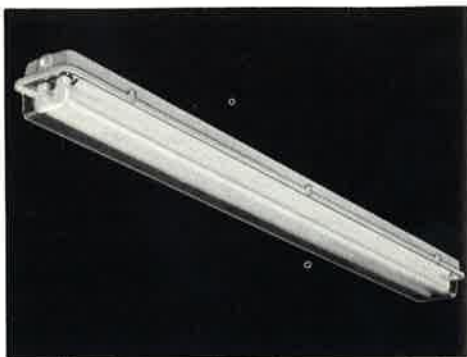
the edge of the canopy. A gasket is positioned between the canopy and cover to form an effective seal. The plastic cover is held firmly against the gasket by six plastic toggles (four on the 2ft) which engage under the lip of the plastic cover. These toggles are captive on the canopy.

All fittings are suitable for 240V 50Hz supplies. Other voltages on application.

These fittings comply with B.S.3820:1964. For categories – Class IIA, rainproof, dustproof, outdoors and chemically corrosive (except for 2ft which are not dustproof).



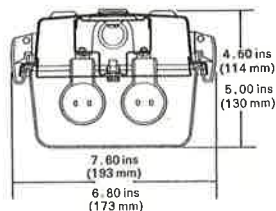
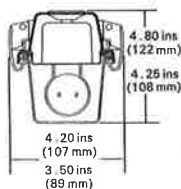
LUD.R1065



LUD.R2065

RANGE

Complete fitting					Components					Dimensions		
Nom. length	Rating	No. of tubes	Circuit	Cat. no.	Enclosure Cat. no.	Length in	mm	Weight lb	(inc. Tubes) kg	Fixing centres in	mm	
2ft	20W	One	Quickstart	LUD.Q1020	LUD.12	28.0	711	7.5	3.4	19.7	500	
2ft	20W	Two	Quickstart	LUD.Q2020	LUD.22	28.0	711	9.7	4.4	19.7	500	
5ft	65W	One	Resonant Start	LUD.R1065	LUD.15	62.8	1594	15.3	6.9	24	610	
5ft	65W	Two	Resonant Start	LUD.R2065	LUD.25	62.8	1594	21.7	9.8	24	610	



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Invincible LV corrosion-resistant fittings

This fitting has been designed for use in the many adverse atmospheric conditions where corrosive fumes and water vapour prevent the use of conventional lighting fittings.

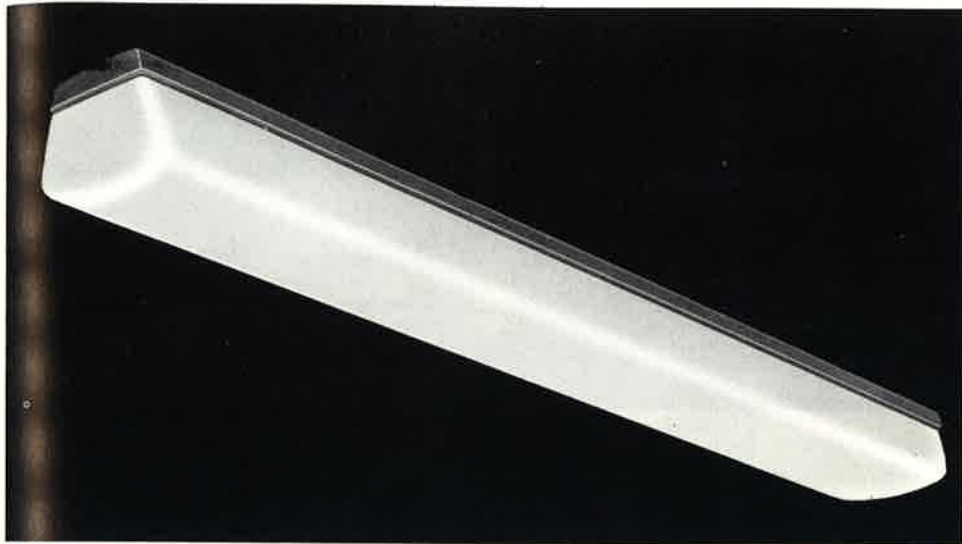
The fitting is sealed against these extraneous conditions by a wiper gasket between the plastic-coated steel canopy and opal plastic enclosure. A concealed quick release catch is used to attach the enclosure to the canopy, the wiper gasket eliminating any need to clamp these two items together thus relieving the enclosure of all strain. The lamps are fitted into the enclosure bowl, minimising any possibility of broken glass falling from the fitting in the event of lamps being broken during maintenance. All internal metal parts including the removable control gear tray, are specially coated to withstand these adverse conditions.

Eye bolts are provided on the back of the channel to receive a male hook attached to either a 3/4 in rod or chain with consumer hooks. Chain or rod suspension only is recommended for use with this fitting.

Mains entry is via a cable gland in back of fitting using three-core cable. Suspensions must be a minimum of 3 in long to obtain access to the enclosure release mechanism on the back of the fitting.

All fittings are suitable for use on 240v 50Hz supplies. Other voltages on application.

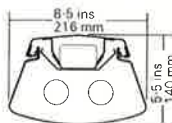
These fittings comply with B.S.3820:1964. For categories - Class I, drip-proof, dustproof, indoors, high humidity and chemically corrosive.



LVD/R2065

RANGE

Complete fitting				Components		Dimensions				Fixing centres in mm	
Nom. length	Rating	Circuit	Cat. no.	Enclosure Cat. no.	Spine Cat. no.	Length in	mm	Weight (inc. Tubes) lb	kg		
5ft	65w Single	Resonant Start	LVD/R1065	LVD.15	LV.R1065	62.5	1587	29.3	13.3	24	610
5ft	65w Twin	Resonant Start	LVD/R2065	LVD.25	LV.R2065	62.5	1587	37.6	16.6	24	610



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Invincible LW corrosion-resistant fittings

This range of fittings is designed to combat the most arduous atmospheres. Some fittings in this range are designed to withstand conditions of high humidity and temperatures down to -30°C (-22°F) (special low temperature control gear is used for operation at these temperatures, also a special double walled cylinder – LWD.15 is necessary). The body is moulded in two halves from glass reinforced fibre, each half screwed together against a neoprene gasket with four nylon screws to form a joint which is proof against most hostile atmospheres. The lamps are fitted into special sealed lampholders which either grip the glass of the fluorescent tube (LWM types) or grip the outside of a LWC.15 plastic cylinder to maintain a completely weatherproof fitting. Cable entry is achieved via grommets holes in the top or one end of the fitting.

The LWC.15 plastic cylinder attachment can be provided to give complete mechanical protection to the fluorescent tube. All internal metal parts including the removable control gear tray, are coated to withstand these adverse conditions during maintenance.

A plastic trough reflector – LWU.25 – is available to give added protection to the tube and to concentrate the light in the downward plane.

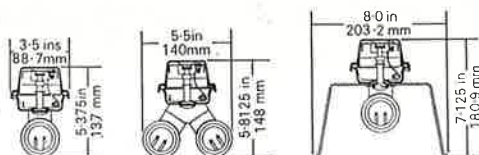
These fittings are suitable for use in Div. 2 areas without modification when used with a plastic cylinder.

All fittings are suitable for use on 240V 50Hz supplies. Other voltages on application.

These fittings comply with B.S.3820:1964, For categories – Class IIA, rainproof, dustproof, outdoors and chemically corrosive.



LWM/R2065 and LWC/R1065



RANGE

Complete fitting				Components		Dimensions					
Nom. length	Rating	Circuit	Cat. no.	Plastic Cylinder or Lampholder Ring Assembly Cat. no.	Batten (less Lampholder ring) Cat. no.	Length in	mm	Weight (inc. Tubes) lb	kg	Fixing centres in	mm
5ft	65W Single	Resonant Start	LWM/R1065	AME.M6116	LW.R1065	62.5	1587	17.8	8.1	24	610
5ft	65W Twin	Resonant Start	LWM/R2065	AME.M6116×2	LW.R2065	62.5	1587	23.7	10.8	24	610
5ft	65W Single	Resonant Start	LWC/R1065	LWC.15	LW.R1065	62.5	1587	19.8	9.0	24	610
5ft	65W Twin	Resonant Start	LWC/R2065	LWC.15×2	LW.R2065	62.5	1587	27.7	12.5	24	610
5ft	80W Single	Switchstart	LWM/S1080	AME.M6116	LW.S1080	62.5	1587	17.8	8.1	24	610
5ft	80W Single	Switchstart	*LWC/S1080	LWC.15	LW.S1080	62.5	1587	19.8	9.0	24	610
5ft	80W Single	Switchstart	†LWD/S1080	LWD.15	LW.S1080	62.5	1587	22.3	10.1	24	610

A plastic trough reflector, Cat. no. LWU.25 is available for above fittings. Single tube and twin tube.

† Suitable for temperatures ranging between 5°C (41°F) and -5°C (23°F) at 240v only. [15°C (59°F) for short periods].

‡ Suitable for temperatures ranging between 5°C (41°F) and -10°C (14°F) at 240v only. [15°C (59°F) for short periods].

† Suitable for temperatures ranging between 5°C (41°F) and -30°C (-22°F) at 240v only. [15°C (59°F) for short periods].

[Note: Standard 65W fittings may be used in an ambient temperature up to 40°C (104°F)].

MS (Metal Strip) grade tubes (MCFA/U) are recommended for use with these fittings.

All 65W fittings incorporating a plastic cylinder (LWC.15) have been approved by H.M. Factory Inspectorate for use in Division 2 areas.

atlas

Invincible Flameproof Range

MoP Certificate No. 6055, for Groups II, III

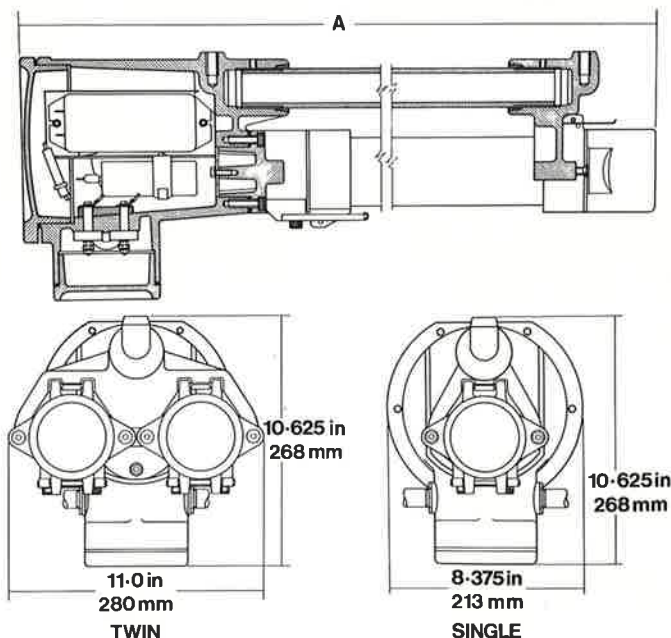
The design comprises cast aluminium end boxes rigidly supported by a steel connecting tube. The main casting incorporates switchless control gear, on a removable tray, for either single or twin tube operation and also an underslung mains cable entry to facilitate installation. The remote end casting is removable, yet fully captive, for relamping purposes. All visible joints are gasketed as necessary, to ensure that the fitting is dust-tight and weatherproof. All external screws are in stainless steel and have socket heads.

Maintenance of the fitting for relamping is either from one end or below and if required, the glass tube assembly or gear tray can be removed completely without disturbing the incoming mains supply. 2 x 3" ET entries are standard, but alternative entries can be supplied to special order.

An all white exterior finish is applied to the fitting after assembly. Reflectors with or without wire guards are available.

All fittings are suitable for use on 240V 50Hz supplies.

The fittings comply with B.S.229:1957; B.S. 889:1965 and B.S. 3820:1964 Class 1, rainproof, dust-tight, outdoors.



atlas

Invincible Flameproof Range

RANGE

Complete fitting

Nom. tube length	Rating	Circuit	Cat. no.
2ft	40w Single	Quickstart	FP1240
2ft	40w Twin	Quickstart	FP2240
4ft	40w Single	Resonant Start	FP1040
4ft	40w Twin	Resonant Start	FP2040
5ft	65w Single	Resonant Start	FP1065
5ft	65w Twin	Resonant Start	FP2065
6ft	85w Single	Resonant Start	FP1685
6ft	85w Twin	Resonant Start	FP2685

OPTIONAL EXTRAS AND SPARES

Cat. no.	Description
FP.12	2ft Glass tube assembly
FP.14	4ft Glass tube assembly
FP.15	5ft Glass tube assembly
FP.16	6ft Glass tube assembly
FPG.22	2ft wire guard
FPG.24	4ft wire guard
FPG.25	5ft wire guard
FPG.26	6ft wire guard
FPR.22	2ft reflector
FPR.24	4ft reflector
FPR.25	5ft reflector
FPR.26	6ft reflector
FP.4600	Adjustable suspension bracket
FP.4601	$\frac{3}{4}$ " ET Flameproof plug
FP.4602	$\frac{1}{2}$ " Whit. eye bolt
FP.4603	Gear cover gasket
FP.4604	Terminal cover gasket
FP.4605	Glass tube gasket
FP.4606	Adaptor gasket

DIMENSIONS

Cat. no.	Dim 'A' length		width		Approx. Wt.		Fixing Centres	
	mm	in	mm	in	kg	lbs	mm	in
FP.1240	971	38.2	212	8.4	17.0	37.5	690	27.2
FP.2240	971	38.2	278	10.9	22.7	50.0	690	27.2
FP.1040	1581	62.2	212	8.4	23.9	52.7	1300	51.2
FP.2040	1581	62.2	278	10.9	28.8	63.4	1300	51.2
FP.1065	1882	74.1	212	8.4	26.3	57.9	1601	63.0
FP.2065	1882	74.1	278	10.9	32.1	70.8	1601	63.0
FP.1685	2147	84.5	212	8.4	29.0	64.0	1866	73.5
FP.2685	2147	84.5	278	10.9	35.4	78.0	1866	73.5

With reflector width of all sizes becomes 303mm-11.9 ins.

With reflector and wire-guard width of all sizes becomes 328mm-12.9 ins.

Additional Reflector Weight

	kg	lbs
2ft	2.04	4.5
4ft	4.08	9.0
5ft	4.78	11.0
6ft	5.79	13.0

Additional Wire-Guard Weight

	kg	lbs
	0.45	1.0
	1.17	2.6
	1.5	3.3
	1.82	4.0

atlas

Invincible Dust-tight fittings

The housing, which is common to either one or two lamp fittings, consists of an inverted trough shape with sloping sides to discourage the collection of dust. Into the bottom surface is attached a clear plastic window by means of a special gasket to form a dust-tight, jetproof and vapourproof seal.

One end of the fitting is permanently sealed and the other end has a removable plate, normally held in position by six captive screws. This plate is suitably gasketed to maintain the 'proofness' of the fitting.

The housing is manufactured in sheet steel and following a thorough rustproofing process is finished with high quality white acrylic paint. External screws, etc. are in stainless steel.

The reflector/gear tray assembly for either one or two 5ft 65W lamps slides in from one end and is fitted with mains terminal block (clamping type), earth point and circuit fuse which are easily accessible when the end plate of the housing is removed.

Single and twin lamp reflector/gear assemblies are completely interchangeable.

Suspension is normally to the stainless steel hooks provided, at 1410mm (55½in) centres, but fittings can

be mounted to purpose made brackets by means of ½in Whit. screws at the same centres.

Provision is made in the fitting for mains wiring to be looped in and out if required through 2 x ¾" ET holes adjacent to one suspension point. Also the method of installation is such that for normal servicing it is not necessary to remove the mains wiring from the fitting.

This fitting has been designed in accordance with the following requirements:

(a) British Standard Specification No. 3820:1964 Class 1 construction for Outdoor Pendant use.

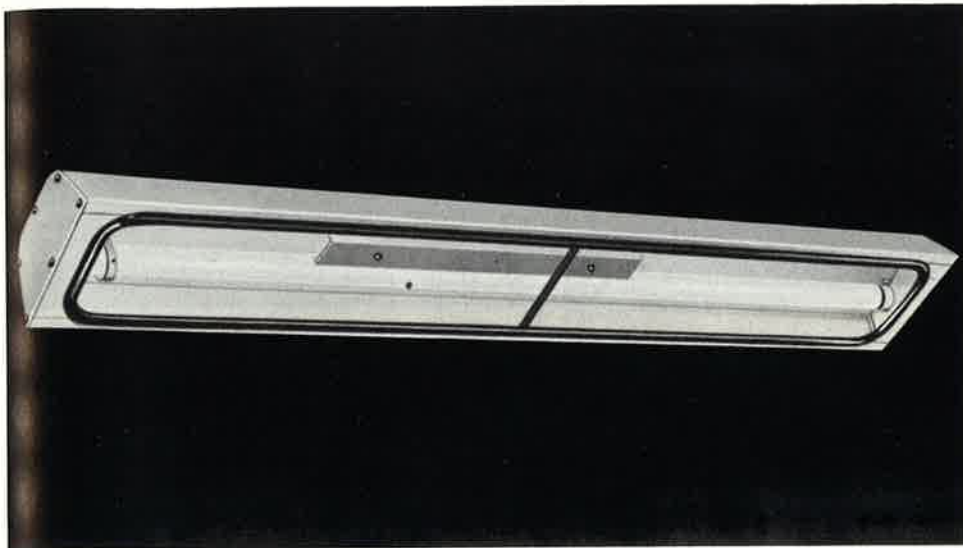
(b) Jetproof to B.S.3820 Clause 18 (iii).

(c) Dust-tight to B.S.3820 Clause 18 (vi).

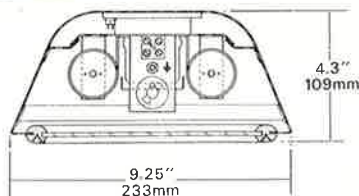
(d) Oil Companies Materials Association Specification No. ELEC 7 for use in Division 2 areas.

(e) Approved for Division 2 areas H.M.F.I. Ref. 1009/9/60 - Division 2.

It should be noted that a Dust-tight fitting is so designed that dust of a specified nature and fineness cannot enter the fitting whereas in a dustproof fitting dust may be allowed to enter the fitting to an extent agreed between manufacturer and user.



DTB/265



RANGE

Complete fitting

Nom. length	Rating	No. of tubes	Circuit	Cat. no.	Length in mm	Weight (inc. Tubes) lb kg	Fixing centres in mm
5ft	65W	One	Resonant Start	DTB/65	61.5 1562	34.8 15.7	55.5 1410
5ft	65W	Two	Resonant Start	DTB/265	61.5 1562	40.7 18.4	55.5 1410

[Note: Single tube version may be used up to an ambient temperature of 40°C (104°F) - Twin tube to 25°C (77°F)]

atlas

Invincible food factory fitting

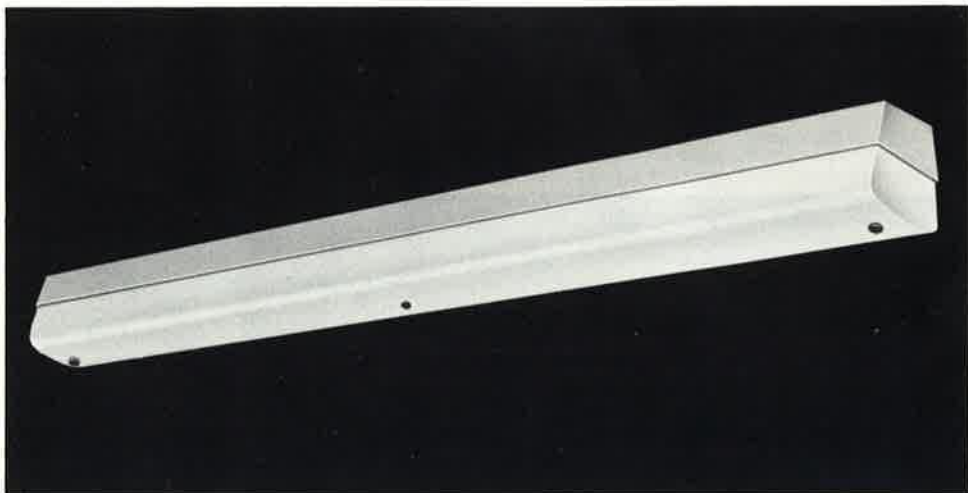
The fitting comprises a heavy gauge sheet steel housing, with flush seam welded ends, degreased and bonderised then given a high quality white acrylic finish. A $\frac{1}{2}$ in thick 040 opal acrylic closure with robustly constructed 068 white acrylic rebated ends encloses the tubes.

The housing, with closure in position, has a smooth exterior to minimise the collection of moisture or dirt. The acrylic closure follows the shape of the housing metal work which is designed to overlap the acrylic diffuser and act as a water-shed. The closure is held in position by three captive nylon screws, and seats firmly on to a neoprene gasket which is cemented to

an internal continuous channel inside the housing.

The control gear is mounted on the upper side of a reflector gear tray and spring loaded bi-pin lampholders are mounted to the under side of this tray. Wiring is PVC insulated, colour coded and terminates in a 3-way fused socket which fits a 3-pin plug earthed to the inside of the main fitting housing. The control gear tray complete with gear, wiring and lampholders is removable as a complete unit by loosening three fixing screws, removing the tray and unplugging.

This fitting is suitable for use on 240v 50Hz supplies. Other voltages on application.



FFD/265

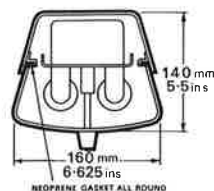
RANGE

Complete fitting

Components

Dimensions

Nom. length	Rating	No. of tubes	Circuit	Cat. no.	Enclosure Cat. no.	Length in mm	Weight (inc. Tubes) lb kg	Fixing centres in mm
5ft	65w	Two	Resonant Start	FFD/265	FFD25	63.5 1613	33.7 15.3	24 610



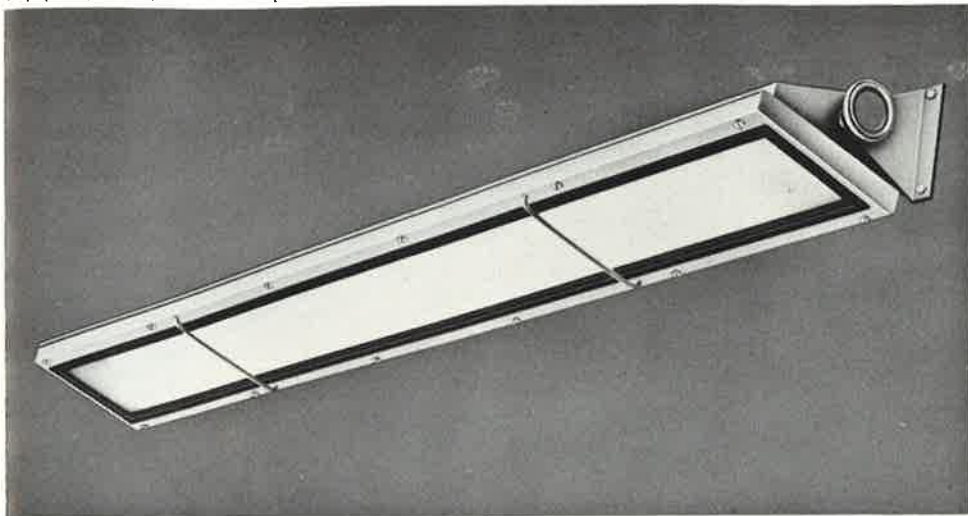
ekco

Invincible Angled floodlight fittings

For some floodlighting applications. Not suitable for certified flammable areas. Zinc-coated steel finished grey stoved enamel. Supplied with two fixing brackets, allowing 100° pivoting.

These fittings comply with B.S.3820: 1964 for Class 1, drip-proof, indoor, normal atmospheres.

These fittings are suitable for use on 240v 50Hz supplies. Other voltages on application.



FX61062/R

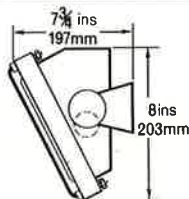
RANGE

Complete fitting						Components		Dimensions		Weight (inc. Tubes)	Fixing centres
Nom. length	Rating	No. of tubes	Circuit	Cat. no.	Enclosure Cat. no.	Length		In	mm		
5ft	65w	One	Resonant Start	FX61061/R*	NX6930*	69	1753	39.6	17.9	67.6±	1718
5ft	65w	Two	Resonant Start	FX62061/R*	NX6930*	69	1753	44.7	20.2	67.6±	1718
5ft	65w	One	Resonant Start	FX61062/R†	NX6931†	69	1753	39.6	17.9	67.6±	1718
5ft	65w	Two	Resonant Start	FX62062/R†	NX6931†	69	1753	44.7	20.2	67.6±	1718

* Clear laminated glass.

† Opal laminated glass.

± 2 holes at 4.25in (108mm) centres and 0.375in (9.5mm) diameter.

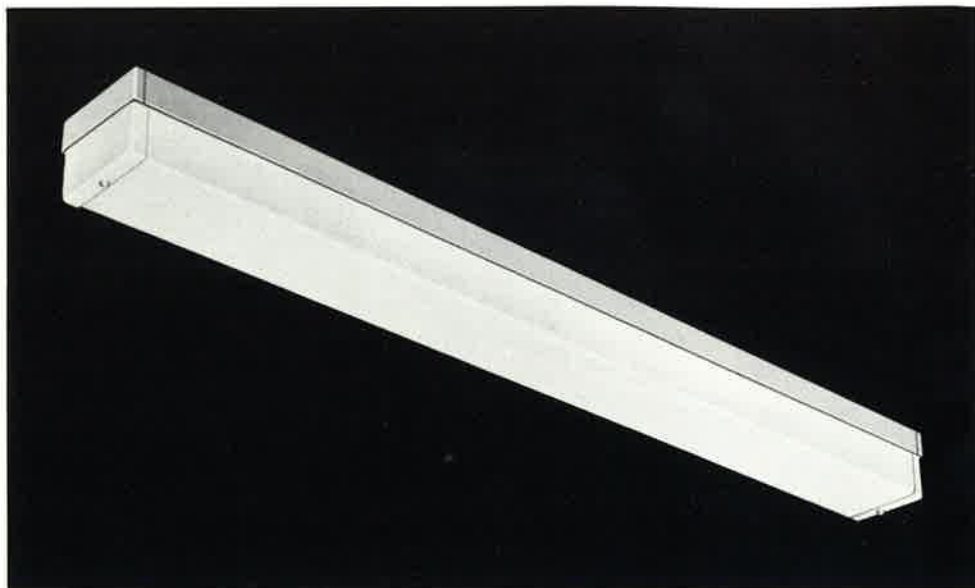


atlas

Canopy Fitting

A fitting designed primarily for multi-storey car parks and under canopy sheltered locations. The combination of visual appearance and design qualities makes this fitting ideal for various other environments, such as

loading bays, industrial kitchens and canteens. Maintenance is performed by virtue of an easily removable gear tray.



This fitting is primarily designed for under canopy, semi-sheltered locations, such as multi-storey car parks and loading bays, it is also suitable for industrial kitchens and canteens.

The spine is Zinc coated steel, finished in a Stove enamelled grey paint which gives additional protection to the metal work.

The closure and endcaps are manufactured from Opal

Polystyrene which gives an overall pleasing visual aspect. The total enclosure is achieved by simply tightening a fixing screw situated in each end cap.

Maintenance is facilitated by mounting all gear on an easily removable gear tray.

All fittings are suitable for 240V 50Hz supplies. Other voltages on application.

(This fitting is not designed for use in corrosive atmospheres, e.g. salt laden)

RANGE

Complete fitting					Components	Dimensions		Weight		Fixing centres	
Nom. length	Rating	No. of tubes	Circuit	Cat. No.	Diffuser Cat. no.	Length in.	mm.	(inc. Tubes) lb.	kg.	in.	mm.
5ft	65W	One	Resonant Start	UCD.65	UCD.15	62.4	1583	19.4	8.8	24	610
5ft	65W	Two	Resonant Start	UCD.265	UCD.25	62.4	1583	28.8	13.1	24	610

Popular Pack



8ft, 6ft, 5ft, 4ft and 2ft fluorescent fittings – single and twin tube

The Popular Pack is designed as a range of general purpose fittings – completely versatile which will be acceptable in innumerable situations. Unique in design and appearance it offers a wide variety of fittings from the basic spine to a whole range of new and well-proven attachments. Compact, robust and reliable, the Popular Pack represents excellent value for money.

Construction

All Popular Packs are completely wired and fully tested to ensure satisfactory and consistent performance. Components include dependable long-life ballasts and capacitors, spring-mounted lampholders and reliable starter switches.

Metal attachments described in the following pages are finished in white stoved enamel to give hard wear and maximum efficiency in use.

Diffusers and prismatic controllers are extruded in light stabilised polystyrene with white plastic spring-mounted end plates.

Fittings comply with BS.3820: 1964 for Class 1, ordinary indoor, normal atmospheres.

Appearance

Streamlined slim channel finished in attractive hard wearing dove grey stoved enamel (colour number 694, BS.381C) with white coverplate and white plastic integral lampholder and end plates.

The vertical grey sides minimise cleaning.

Performance

Maximum light at minimum cost is provided due to low watts loss control gear and high maintained light output from fluorescent tubes with a life of 7500 hours in the 8ft, 6ft, 5ft and 4ft sizes.

Ease of installation

Time and money is saved as a result of the fast fixing features of Popular Packs.

Best light investment

The superior design, built-in quality and finish of the Popular Pack combine to achieve and set a new, high standard in the lighting industry at prices which, throughout the entire range, are keenly competitive and represent truly outstanding fluorescent value.

Three year guarantee

The Popular Pack is guaranteed for a period of three years from date of purchase.

The guarantee includes the metal spine, control gear, internal wiring and accessories, but excludes the starter switch and fluorescent tube which are subject to separate guarantees. In the event of the fitting, or any components thereof becoming faulty after installation and during the period of guarantee, the fitting or component (with the exception of the starter switch and fluorescent tube) will be *repaired or replaced at the Company's discretion* at no charge, provided it has been used correctly and returned carriage paid and adequately packed to the nearest Company depot.

6ft 85W Popular Pack fittings

The increase in demand for this high efficiency fitting in the Popular Pack range has resulted from the growing awareness of the benefits inherent in the 6ft 85W rating.

The advantages to the user, compared to the 5ft 65W rating are
Up to 30% more light
Semi-resonant start instead of switchstart
Individually fused fitting
Lower temperature starting

With these advantages it is obvious why the 6ft Popular Pack fittings are proving more popular than ever, for the value represented by the 6ft fitting is the **best bargain** in lighting since 'new lamps for old'.

LATEST ADDITIONS TO THE RANGE

6ft Twindustrial Popular Pack

This addition to the Popular Pack range is a 6ft twin tube slotted metal reflector fitting packed complete (basic fitting, reflector and tubes) in one carton and marks a new method of marketing in this field.

Many applications call for this type of fitting and there is now provided the one-pack facility with its consequent advantages in transportation, stocking and general convenience.

Competitive in price and with SRS control gear the Twindustrial fitting now becomes the first choice for any industrial lighting scheme for this type of fitting.

See page 74 for full details.

6ft Sentinel Popular Packs

Popular Pack fittings can now be used under canopies outdoors and in many corrosive atmospheres in combination with the 'Sentinel' glass-fibre and acrylic enclosures specially designed for this use.

Available in single and twin types in the 6ft size the single tube version encloses a standard 6ft single tube batten fitting which is teamed with the enclosure on site by the installer.

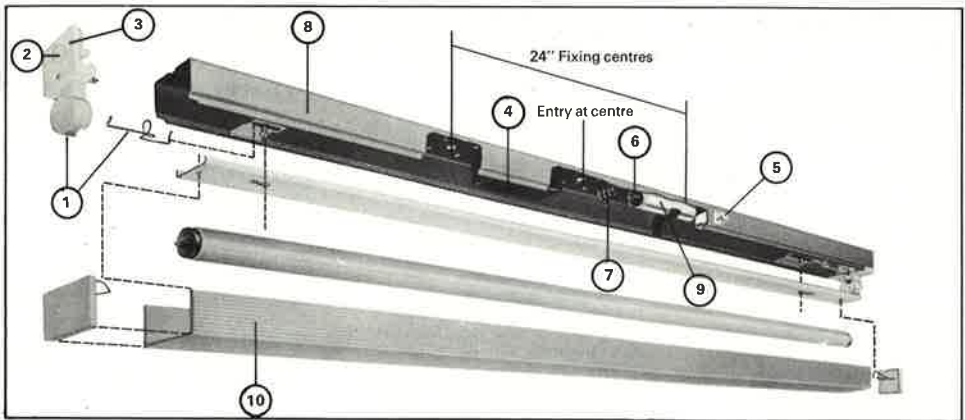
The twin version is supplied complete (batten, tubes and enclosure) in one carton.

These new enclosures make the Popular Pack range even more versatile than before.

See page 75 for full details.

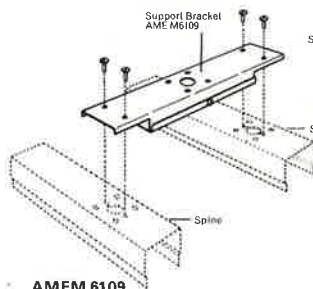
atlas

Popular Pack



TOP TEN FEATURES

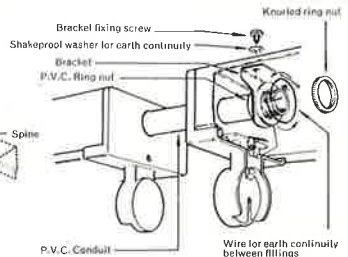
- 1 Spring mounted lampholders ensure the tube is always secure. The lampholders automatically locate the ends.
- 2 End conduit entry through knockouts in the lampholders.
- 3 Through wiring facilities making the Popular Pack even more flexible.
- 4 Solid filled control gear for long life and reliable operation.
- 5 Starter switch readily accessible through side of fitting.
- 6 New pin terminals on ballast and capacitor obviate danger of broken wires caused by overtight screws.
- 7 Three way terminal block for mains connection.
- 8 The two-tone grey and white finish enables the Popular Pack to blend with all colour schemes.
- 9 All fittings are power factor corrected except the 2ft single. The 8ft fittings operate at 0.66 leading.
- 10 The PPC prismatic control attachment is available with Popular Packs – cutting glare but retaining high light output.



AMEM 6109

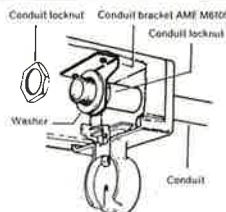
The use of these suspension brackets in conjunction with two twin Popular Pack batten or Twindustrial reflector fittings provides an economically priced four tube arrangement.

Further details are given on page 76.



AMEM 6100

Continuous Mounting Coupler which is used to maintain the correct spacing in continuous runs of fittings with or without attachments. This accessory can also be used for through-wiring providing the correct grade of high temperature cable is used.



AMEM 6105 Free on request

End Conduit Bracket is used when fittings are installed on surface conduit systems or where conduit is required to enter at the end of the fitting.



AMEM 6101 Free on request

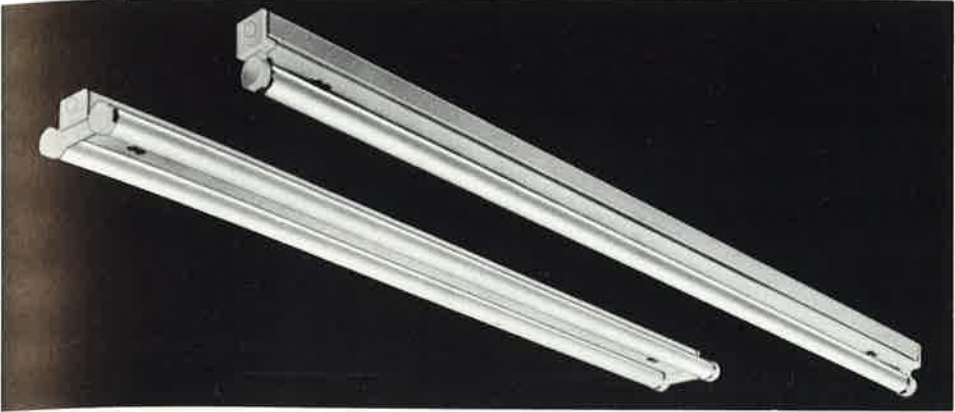
Pattress Block Cover can be used to shield a conduit box or alternatively to cover marks left on the ceiling by original fitting or ceiling plate.

atlas

Popular Pack batten fittings

PP265

PP65



The Popular Pack batten is available in 2ft, 4ft, 5ft, 6ft and 8ft single tube and twin tube fittings. The batten is packed complete with tube(s) in the same carton which effectively reduces handling costs. Spring-loaded lampholders are incorporated which embrace the lamp cap to prevent any strain of the lamp pins. Relamping from either end is possible even on 8ft fittings.

The spine totally encloses the control gear and the cover plate is speedily detached.

The starter switch is readily accessible through the side of the fitting.

End conduit entry is achieved through knock-outs in the ends of the lampholders and a bracket—Cat. no. AMEM6105—is available free of charge to secure the conduit into the fitting.

Through-wiring facilities are available using the end entries and accessory Cat. no. AMEM6100.

For continuous mounting a space of $\frac{1}{2}$ in between battens and trough reflectors and $1\frac{1}{8}$ in between diffusers is essential so that correct maintenance can be performed. The spine is painted grey to B.S.381 C colour no. 694. The reflector plate is painted white for maximum reflection.

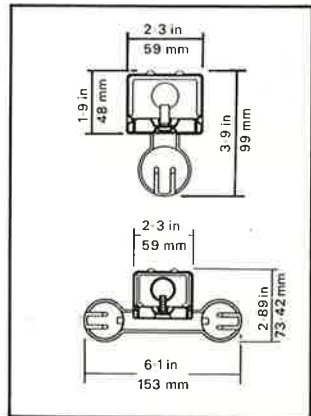
These fittings comply fully with BS 3820:1964 for Class 1, ordinary, indoor, normal atmospheres.

SUPPLY VOLTAGE

Standard fitting 230/240V 50Hz—other 50Hz voltages shown to order at no extra charge.

20W 2ft	200/210V, 220V and 250V
40W 4ft	
65W 5ft	
85W 6ft	
125W 8ft	
	250V

Details of fittings for other supplies on page 80.



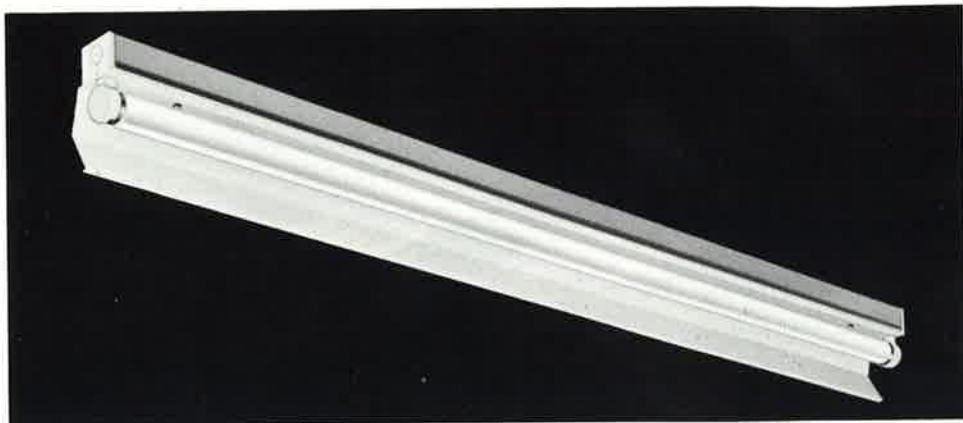
RANGE. These fittings are packed complete with White tube(s)

Nom. length	Rating	Circuit	Cat. no.	Length in	mm	Weight (inc. Tubes) lb	kg	Fixing centres in	mm
2ft	20W Single	Switchstart	PP.20	24.2	615	4.0	1.8	19.7	500
2ft	20W Twin	Switchstart	PP.220	24.2	615	4.75	2.16	19.7	500
4ft	40W Single	Switchstart	PP.40	48.2	1224	5.75	2.6	24.0	610
4ft	40W Twin	Switchstart	PP.240	48.2	1224	9.0	4.1	24.0	610
5ft	65W Single	Switchstart	PP.65	60.1	1525	7.5	3.4	24.0	610
5ft	65W Twin	Switchstart	PP.265	60.1	1525	12.0	5.45	24.0	610
6ft	85W Single	Resonant Start	PPQ.685	70.4	1788	9.5	4.32	24.0	610
6ft	85W Twin	Resonant Start	PPQ.2685	70.4	1788	14.75	6.7	24.0	610
8ft	125W Single	Switchstart	PP.125	94.4	2398	11.5	5.23	48.0	1220
8ft	125W Twin	Switchstart	PP.2125	94.4	2398	17.5	7.95	48.0	1220

atlas

Popular Pack PPA angle reflector

PPA65



This asymmetrical metal reflector is attached to the Popular Pack spine by means of screws fitted into slideable spring nuts retained in the spine. These screws engage into keyhole slots in the reflector. Applications – blackboards, wall charts, shop window lighting, etc. The reflector is finished in white stoved enamel for maximum reflection and fittings may be close ceiling or conduit mounted.

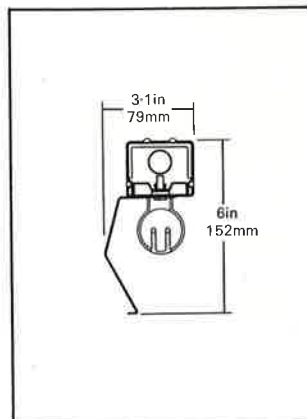
These fittings comply fully with BS 3820:1964 for Class 1, ordinary, indoor, normal atmospheres.

SUPPLY VOLTAGE

Standard fittings 230/240V 50Hz—other 50Hz voltages shown to order at no extra charge.

40W 4ft	200/210V, 220V and 250V
65W 5ft	
85W 6ft	
125W 8ft	250V

Details of fittings for other supplies on page 80.



RANGE. These fittings are packed complete with White tubes.

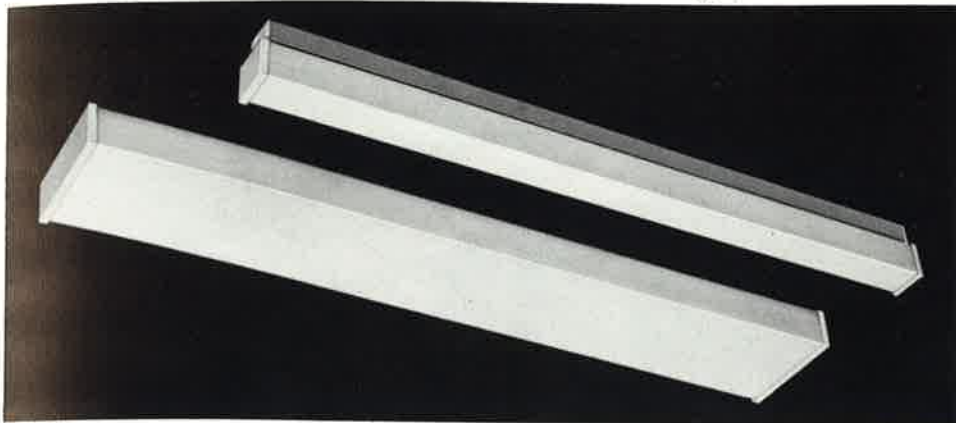
Nom. length	Rating	Circuit	Cat. no.	Length in	mm	Weight lb	kg	Fixing centres in	mm	Reflector Cat. no.
4ft	40W Single	Switchstart	PPA/40	48.2	1124	8.75	4.0	24	610	PPA.4
5ft	65W Single	Switchstart	PPA/65	60.1	1525	11.25	5.1	24	610	PPA.5
6ft	85W Single	Resonant Start	PPA/Q685	70.4	1788	13.25	6.0	24	610	PPA.6
8ft	125W Single	Switchstart	PPA/125	94.4	2398	17.25	7.85	48	1220	PPA.8

atlas

Popular Pack PPC prismatic controller attachment

PPC/265

PPC/65



The diffuser, only recently introduced to the Popular Packs and now firmly established, is of transparent extruded plastic with side prisms, the base is embossed with a fine prismatic pattern. These diffusers are quickly attachable or detachable from the batten by the 'clip on' action of the endcaps.

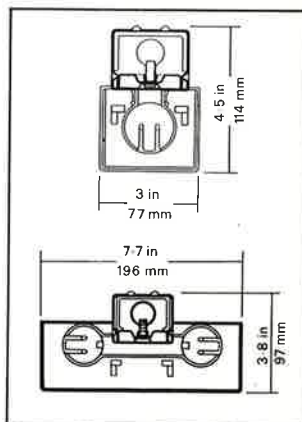
These fittings comply fully with BS 3820:1964 for Class 1, ordinary, indoor normal atmospheres.

SUPPLY VOLTAGE

Standard fitting 230/240V 50Hz—other 50Hz voltages shown to order at no extra charge.

20W 2ft	} 200/210V, 220V and 250V
40W 4ft	
65W 5ft	
85W 6ft	
125W 8ft	250V

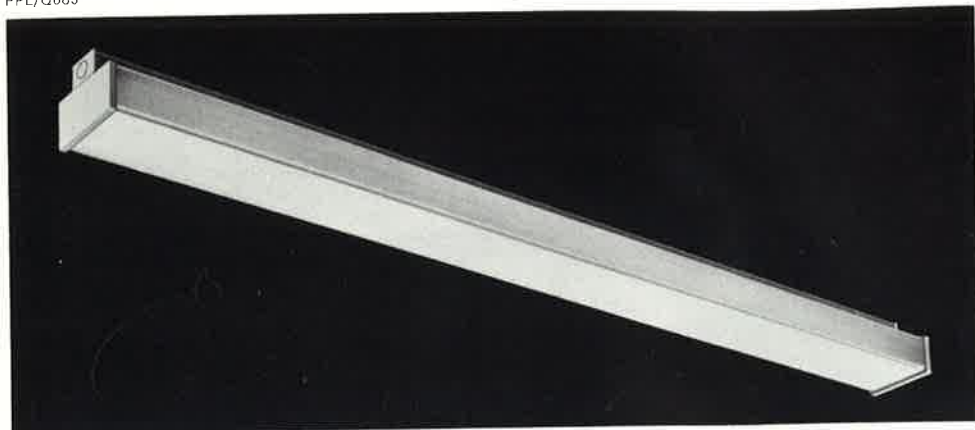
Details of fittings for other supplies on page 80.



RANGE. These fittings are packed complete with White tube(s)

Nom. length	Rating	Circuit	Cat. no.	Length in	mm	Weight lb	kg	Fixing centres in	mm	Diffuser Cat. no.
2ft	20W Single	Switchstart	PPC/20	25.1	638	4.64	2.1	19.7	500	PPC.2
2ft	20W Twin	Switchstart	PPC/220	25.1	638	6.25	2.84	19.7	500	PPC.22
4ft	40W Single	Switchstart	PPC/40	49.1	1248	7.0	3.2	24.0	610	PPC.4
4ft	40W Twin	Switchstart	PPC/240	49.1	1248	11.5	5.23	24.0	610	PPC.24
5ft	65W Single	Switchstart	PPC/65	61.0	1550	9.2	4.2	24.0	610	PPC.5
5ft	65W Twin	Switchstart	PPC/265	61.0	1550	13.5	6.2	24.0	610	PPC.25
6ft	85W Single	Resonant Start	PPC/Q685	71.4	1818	10.0	4.5	24.0	610	PPC.6
6ft	85W Twin	Resonant Start	PPC/Q2685	71.4	1818	14.3	6.5	24.0	610	PPC.26
8ft	125W Single	Switchstart	PPC/125	95.4	2428	14.4	6.5	48.0	1220	PPC.8
8ft	125W Twin	Switchstart	PPC/2125	95.4	2428	21.5	9.8	48.0	1220	PPC.28

PPL/Q685



This new prismatic controller for single tube fitting is a larger version of the very successful single PPC type. The increased size makes a higher degree of light control possible and the attachment is designed to provide lower brightness lighting in situations where glare could present problems. These diffusers are quickly attachable or detachable from the batten by the 'clip on' action of the endcaps.

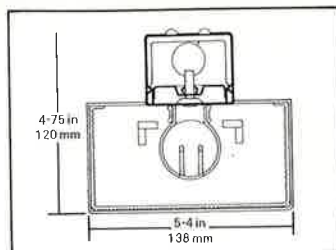
These fittings comply fully with BS 3820:1964 for Class 1, ordinary, indoor normal atmospheres.

SUPPLY VOLTAGE

Standard fitting 230/240V 50Hz – other 50Hz voltages shown to order at no extra charge.

20W 2ft	}	200/210V, 220V and 250V
40W 4ft		
65W 5ft		
85W 6ft		
125W 8ft	250V	

Details of fittings for other supplies on page 80.



RANGE. These fittings are packed complete with White tube.

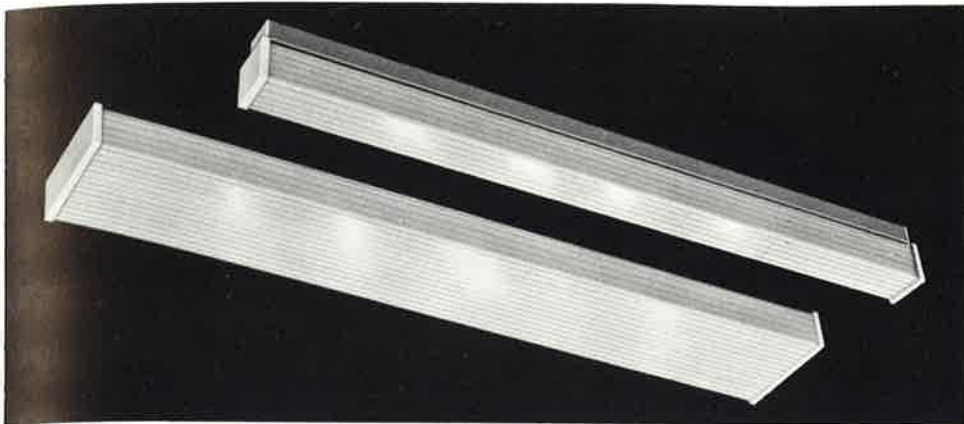
Nom. length	Rating	Circuit	Cat. no.	Length in	mm	Weight lb	kg	Fixing centres in	mm	Diffuser Cat. no.
4ft	40W Single	Switchstart	PPL/40	49.1	1248	7.5	3.4	24.0	610	PPL.4
5ft	65W Single	Switchstart	PPL/65	61.0	1550	9.75	4.52	24.0	610	PPL.5
6ft	85W Single	Resonant Start	PPL/Q685	71.4	1818	12.25	5.67	24.0	610	PPL.6
8ft	125W Single	Switchstart	PPL/125	95.4	2428	15.0	6.8	48.0	1220	PPL.8

atlas

Popular Pack PPD plastic diffuser attachment

PPD/265

PPD/65



This white opal diffuser in extruded plastic with external reading provides an extremely attractive and efficient fitting designed for general commercial and display use. The white plastic end-plates are simply fitted to the spine and enable the diffuser to be quickly and easily removed for cleaning and general maintenance.

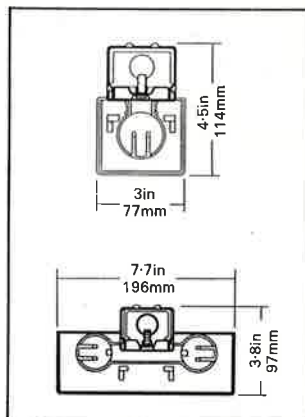
These fittings comply fully with BS 3820:1964 for Class 1, ordinary, indoor normal atmospheres.

SUPPLY VOLTAGE

Standard fitting 230/240V 50Hz—
other 50Hz voltages shown to order
at no extra charge.

20W 2ft	}	200/210V, 220V and 250V
40W 4ft		
65W 5ft		
85W 6ft		
125W 8ft	—	250V

Details of fittings for other
supplies on page 80.



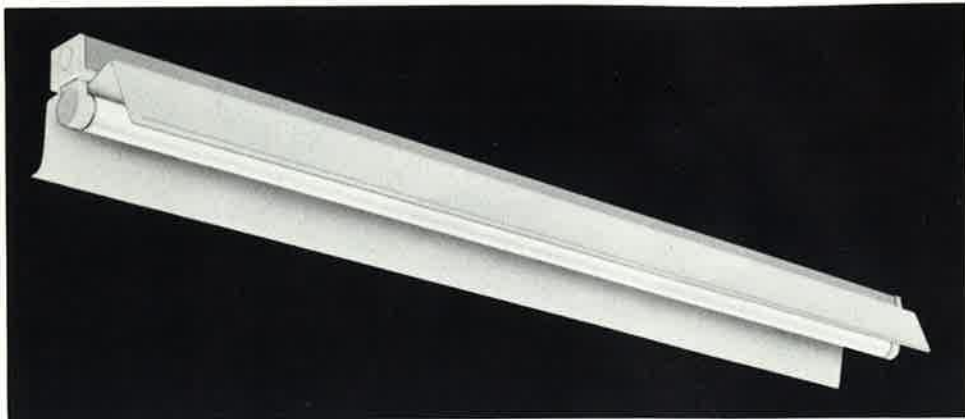
RANGE. These fittings are packed complete with White tube(s).

Nom. length	Rating	Circuit	Cat. no.	Length in	mm	Weight lb	kg	Fixing centres in	mm	Diffuser Cat. no.
2ft	20W Single	Switchstart	PPD/20	25.1	638	4.5	2.0	19.7	500	PPD.2
2ft	20W Twin	Switchstart	PPD/220	25.1	638	5.75	2.6	19.7	500	PPD.22
4ft	40W Single	Switchstart	PPD/40	49.1	1248	6.75	3.0	24.0	610	PPD.4
4ft	40W Twin	Switchstart	PPD/240	49.1	1248	11.0	5.0	24.0	610	PPD.24
5ft	65W Single	Switchstart	PPD/65	61.0	1550	8.75	4.0	24.0	610	PPD.5
5ft	65W Twin	Switchstart	PPD/265	61.0	1550	14.5	6.6	24.0	610	PPD.25
6ft	85W Single	Resonant Start	PPD/Q685	71.4	1818	10.75	4.9	24.0	610	PPD.6
6ft	85W Twin	Resonant Start	PPD/Q2685	71.4	1818	17.25	7.8	24.0	610	PPD.26
8ft	125W Single	Switchstart	PPD/125	95.4	2428	13.0	5.9	48.0	1220	PPD.8
8ft	125W Twin	Switchstart	PPD/2125	95.4	2428	21.25	9.6	48.0	1220	PPD.28

atlas

Popular Pack PPO plastic trough reflector

PPO/65



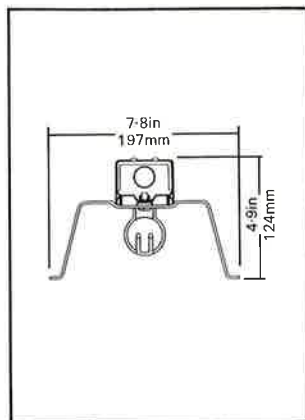
This opal plastic trough reflector provides generous upward light and an even spread of light in the downward plane. The plastic material is strong and sufficiently light-fast to maintain its efficiency with adequate maintenance throughout the life of the fitting. The reflector is easily attached to the spine by two screws retained by slideable spring nuts.

This fitting complies fully with BS 3820:1964 for Class 1, ordinary, indoor normal atmospheres.

SUPPLY VOLTAGE

Standard fitting 230/240V 50Hz—the following 50Hz voltages are also available at no extra charge. 200/210V, 220v and 250v

Details of fittings for other supplies on page 80.



RANGE. This fitting is supplied with White tube.

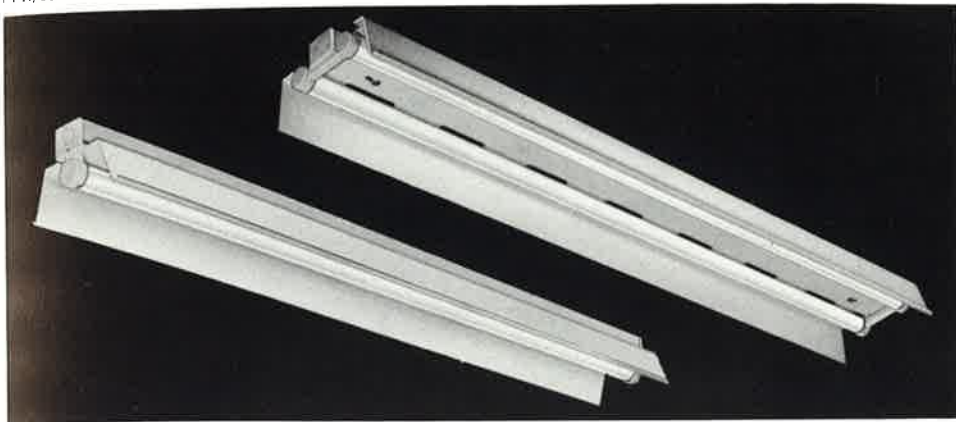
Nom. length	Rating	Circuit	Cat. no.	Length in	mm	Weight lb	kg	Fixing centres in	mm	Reflector Cat. no.
5ft	65W Single	Switchstart	PPO/65	60.1	1525	10.1	4.6	24	610	PPO.5

atlas

Popular Pack PPR metal reflector

PPR/65

PPR/265



These open-ended slotted metal trough reflectors give generous upward lighting. Finished in white stoved enamel, they are easily fitted by means of sliding captive screws providing extremely attractive and efficient attachments. These reflectors are suitable for many industrial applications where high efficiency and easy maintenance are important features.

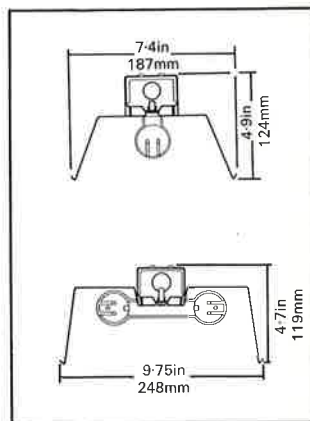
These fittings comply fully with BS.3820:1964 for Class 1, ordinary, indoor, normal atmospheres.

SUPPLY VOLTAGE

Standard fitting 230/240V 50Hz—other 50Hz voltages shown to order at no extra charge.

40W 4ft | 200/210V, 220V and 250V
65W 5ft
85W 6ft
125W 8ft

250V
Details of fittings for other supplies on page 80.



RANGE. These fittings are packed complete with White tube(s).

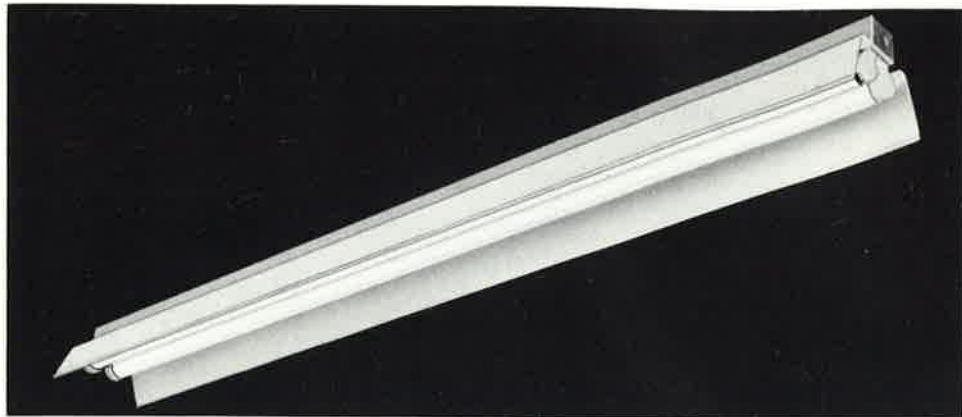
Nom. length	Rating	Circuit	Cat. no.	Length in	mm	Weight lb	kg	Fixing centres in	mm	Reflector Cat. no.
4ft	40W Single	Switchstart	PPR/40	48.2	1224	10.5	4.75	24	610	PPR.4
4ft	40W Twin	Switchstart	PPR/240/X	48.2	1224	15.0	6.8	24	610	PPR.24/X
5ft	65W Single	Switchstart	PPR/65	60.1	1525	13.75	6.3	24	610	PPR.5
5ft	65W Twin	Switchstart	PPR/265/X	60.1	1525	18.3	8.3	24	610	PPR.25/X
6ft	85W Single	Resonant Start	PPR/Q685	70.4	1788	16.5	7.5	24	610	PPR.6
6ft	85W Twin	Resonant Start	PPR/Q2685/X	70.4	1788	22.5	10.2	24	610	PPR.26/X
8ft	125W Single	Switchstart	PPR/125	94.4	2398	20.25	9.2	48	1220	PPR.8
8ft	125W Twin	Switchstart	PPR/2125/X	94.4	2398	30.8	14.0	48	1220	PPR.28/X

The suffix /X to catalogue numbers indicates the new one-piece twin reflector.

atlas

Popular Pack 'Twindustrial' twin reflector fitting

PPTQ/2685



This new twin, open-ended slotted metal reflector fitting is one of the latest additions to the Popular Pack range. It incorporates all the well-proven design features of the existing Popular Pack types plus a number of additional features of maximum advantage in a fitting for industrial use.

Metal end-plates incorporating knock-outs are used and the tube spacing enables a smaller reflector to be employed.

The fitting being produced primarily for industrial use is packed complete, that is basic spine, reflector and tubes in one carton giving advantages throughout the distribution chain in stocking, component availability, transportation and general convenience.

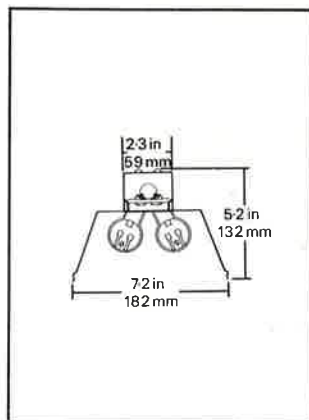
The spine is finished in grey stoved enamel to B.S.381 C, colour 694 and the reflector in white stoved enamel.

This fitting complies fully with BS 3820:1964 for Class 1, ordinary, indoor normal atmospheres.

SUPPLY VOLTAGE

Standard fitting 230/240V 50Hz.

Details of fittings for other supplies on page 80.



RANGE. This fitting is packed complete with White tubes.

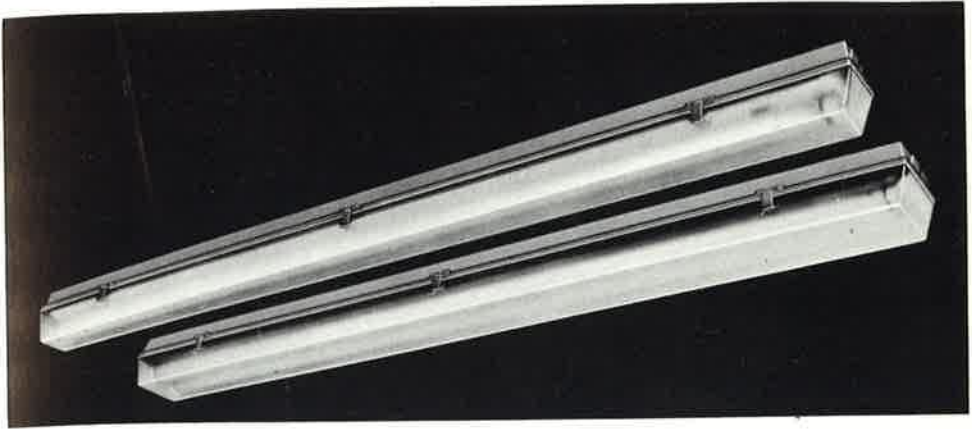
Nom. Length	Rating	Circuit	Cat. no.	Length in	mm	Weight lb	kg	Fixing centres in	mm
6ft	85w Twin	Resonant Start	PPTQ.2685	70.4	1788	19.25	8.8	24	610

atlas

Popular Pack PPU Sentinel

PPQ 685 and PPU 6

PPUQ 2685



The scope and versatility of the Popular Pack range has now been further extended by the introduction of the Sentinel Enclosures. These enclosures combined with 6ft Popular Pack fittings fulfil the protection needs for many under canopy, open building and corrosive situations.

The construction is a simple but effective 2-piece structure, formed by the combination of a grey glass fibre canopy and an acrylic lower moulding. Six captive clips provide easy, positive fastening and soft gaskets seal the enclosures from external environmental conditions.

The Sentinel is available in Single and Twin forms. The single enclosure is supplied separately for use with a standard 6ft 85 watt batten PPQ 685 while the twin is supplied complete in one pack i.e. batten, tubes and enclosures.

Comparable fittings generally employ 5ft tubes as the accepted size but with the 6ft 85 watt tube the Sentinel supplies some 30% more light, which is particularly

important in situations for which this product will be employed.

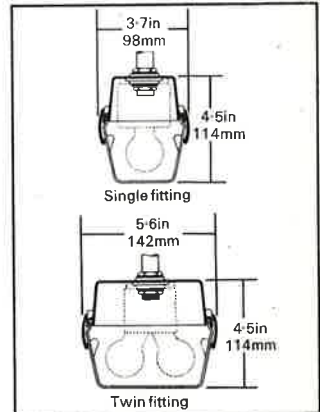
Although functional in design the grey glass fibre canopy and clear stippled lower enclosure form a combination which is attractive in appearance and tough in use.

These fittings comply fully with BS 3820:1964 for categories – Class 1, rainproof, dustproof, outdoors and chemically corrosive.

SUPPLY VOLTAGE

Standard fitting 230/240V 50Hz.

Details of fittings for other supplies on page 80.

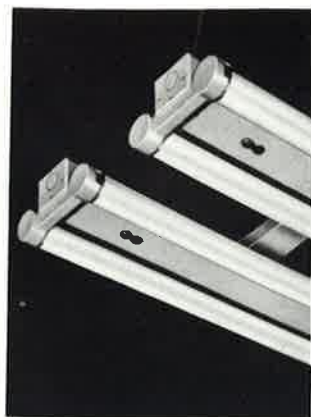
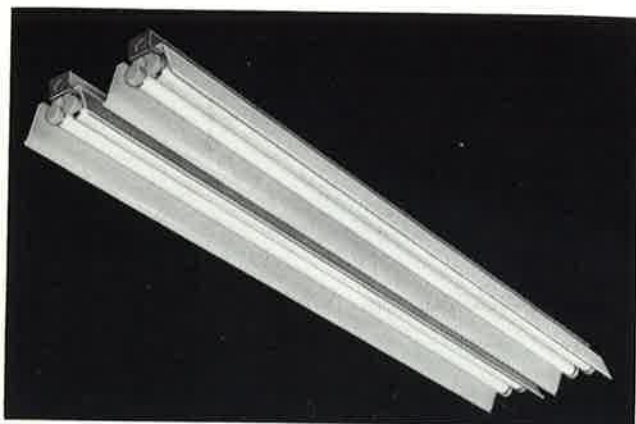


RANGE. These fittings are packed complete with White tube(s).

Nom. length	Rating	Circuit	Cat. no.	Description	Length in mm	Fixing centres in mm	Weight lb kg
6ft	85W Single	Resonant Start	PPQ685	Single 6ft 85W batten	72.8 1850	24 610	13 5.9
			PPU6	Single tube enclosure	72.8 1850	24 610	13 5.9
6ft	85W Twin	Resonant Start	PPUQ2685	Twin Sentinel fitting	72.8 1850	24 610	20 9.1

atlas

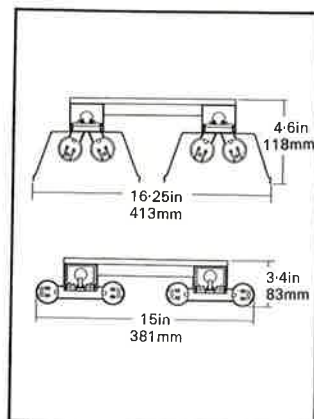
Popular Pack 'Double Twin' arrangements



By the use of the accessories detailed below and on page 3 it is possible to assemble economically priced four tube fitting arrangements.

These are made up of standard twin fittings in various lengths coupled together by two suspension bridges AMEM6109.

Individual twin fitting details are given on pages 67 and 73.



FITTING TYPE

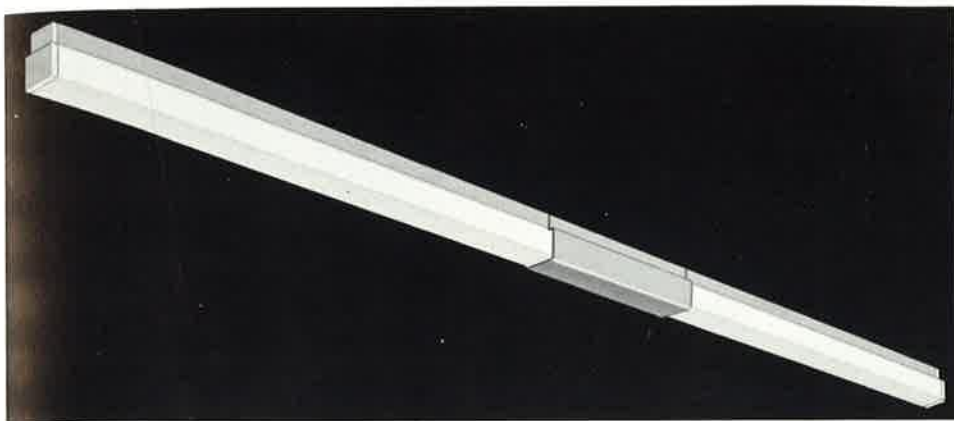
4 tube batten and Twindustrial fittings	Accessories
5ft, 6ft and 8ft	2. AMEM6109 bridges

DIMENSIONS

Batten fitting	Length		Weight		Fixing centres	
	in	mm	lb	kg	in	mm
5ft	60.1	1525	24.1	11.0	24	610
6ft	70.4	1788	25.3	11.5	24	610
8ft	94.4	2398	37.5	17.1	48	1220
Double Twindustrial Reflector fitting						
6ft	70.4	1788	31	14.1	24	610

atlas

Popular Pack One-Plus-One attachment



The One-Plus-One attachment is a new and interesting method for illuminating interior areas. The fitting is formed from a combination of a central box housing and two individual Pop Pack fittings in tandem; an arrangement that can be extended to give a continuous structure. This is particularly suitable for schools, supermarkets, shops and all indoor establishments where a good general level of illumination is required. The One-Plus-One can be used to form combinations of various sizes, dependent only on the type of Pop Pack employed, with a choice of opal diffuser or prismatic

controller attachments.

This new form of lighting is not solely functional the end product having clean lines and an attraction in appearance in addition to the worthwhile simplification in wiring and installation.

It should be noted that the One-Plus-One is suitable for ceiling mounting only.

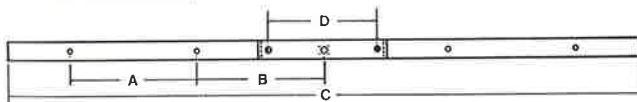
These fittings comply fully with BS.3820:1964 for Class 1, ordinary, indoor, normal atmospheres when used in conjunction with Popular Pack fittings mentioned.

Cat. no.	Length		Weight		Fixing centres	
	in	mm	lb	kg	in	mm
AMEM 6180 One-Plus-One	24	610	3.25	1.5	18 and centre BS box piercing	457

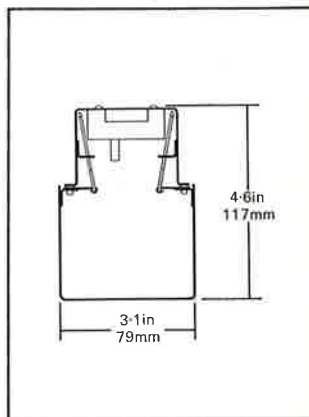
Prices and details of single tube fittings for use with the One-Plus-One attachment are given on pages 69 and 71.

ARRANGEMENT DATA

Dimensions shown include various size fittings combined with the One-Plus-One attachment.



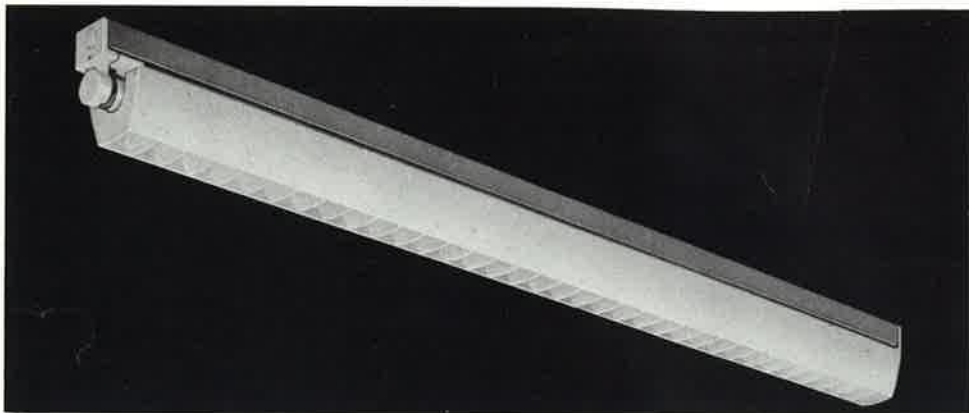
Nom. fitting size	A		B		C PPC or PPD		D	
	in	mm	in	mm	in	mm	in	mm
2ft	19.7	500	14.06	357	72.93	1852	18	457
4ft	24	610	23.91	607	120.93	3070	18	457
5ft	24	610	29.86	758	144.73	3655	18	457
6ft	24	610	35.01	889	165.33	4199	18	457
8ft	48	1220	35.01	889	213.33	5418	18	457



atlas

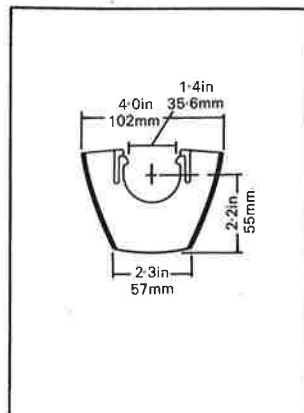
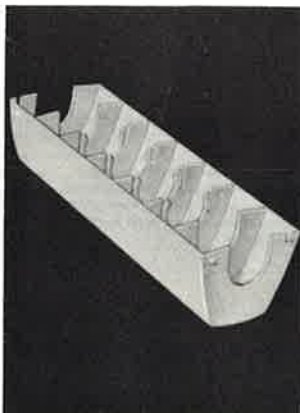
Popular Pack 'Clipluve' sectional louvres

KU5,P 'Clipluve' on PP,65 Batten



Bare lamp shielding in an economical form is provided by these practical and decorative opal plastic units which clip directly on to the lamp. KU5,P pack contains five 11.5in (292mm) sections suitable for bi-pin tubes. Four, five, six or eight sections are required according to the length of tube. The sections are fully interlocking to ensure alignment and are quickly detachable in sections for easy maintenance and washing. (Patent no. 751990.) 'Clipluve' meets the maximum brightness requirements set by the 'Standards for School Regulations 1959'.

Cat. no.	Description
KU5,P	5 piece pack





AME B1562
Single bi-pin white plastic grip-pin lampholder.



PP4616
Clip-in fused terminal block assembly with 3A fuse. Primary use for Popular Pack fitting when used on Trakline. Encroaches on centre entry on 2ft. 20W twin only. Not for use in 6ft. fittings. These contain a fuse as standard practice. Standard quantity 5 per pack.



AME A5051
Current Starter Socket.



AMEB 1548/A3
Replacement lampholder for Twindustrial and twin Sentinel fittings.



AME M6064/12/Loop Starter Socket
White PVC moulding enclosing starter switch contacts crimped to 12in loop 14/0076 white PVC cable which can be cut at a point to suit wiring layout. Current item for 2ft fittings and for earlier Popular Pack fittings in other sizes.



AME A5019/X Starter Socket
Used in earlier Popular Pack fittings. Fixed by clip AMEY5285



PP 4600
Lampholder Tension spring for single and twin fittings.



FUSE
For use in 6ft 85W Popular Pack fittings. BS1362 dimensions.

AME T1302 1 amp single tube
AME T1342 1.25 amp twin tube



PP 4602
Reflector and Coverplate fixing screw.



AMEY 5283
Capacitor fixing clip.



PP 4601
Used with PP 4602 screw to fix single and twin Popular Pack metal attachments.



AMET 1281/3
Three way terminal block. Will accept two 3/036 cables twisted together.



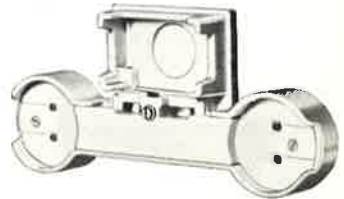
PP 4609
Replacement plastic clip for Sentinel fittings.



AMEM 6133
End cap for single tube PPC and PPD diffusers. Complete with fixing spring.



AMEM 6134
End cap for twin tube PPC and PPD diffusers. Complete with fixing spring.



AME B1563
Twin bi-pin white plastic grip-pin lampholder.

atlas

Popular Pack circuits data

ELECTRICAL DATA for 240V 50Hz Single tube circuits. Average performance tested at 25°C to BS 2818 specification.

Tube size	8ft	6ft	5ft	4ft	2ft
Diameter	1½in	1½in	1½in	1½in	1½in
Nominal tube watts	125	85	65	40	20
Lamp cap	Bi-pin	Bi-pin	Bi-pin	Bi-pin	Bi-pin
Actual lamp watts	123	84	64	39.5	19.5
Average tube volts	150	120	110	102	58
Average tube amps	0.94	0.80	0.67	0.44	0.37
Rated life (hours)	7,500	7,500	7,500	7,500	5,000
Circuit type	SS	SRS	SS	SS	SS
Total circuit watts	145*	103*	80*	50*	30*
Mains current amps	0.91	0.50	0.38	0.25	0.37
Total volt amps	220	120	91	60	90
Lagging power factor	0.66‡	0.86	0.85	0.85	0.34**
Min. starting temperature	0°C	-5°C	0°C	0°C	0°C
% Harmonics per phase	15%	25%	17%	17%	17%

** Uncorrected value. Allow 0.85 if power factor capacitor is fitted.

‡ Leading power factor. SRS = Semi Resonant Start. SS = Switchstart.

The above circuit watts for control gear tested in accordance with BS 2818 may be reduced by up to 3% when operating in some fittings, i.e., the circuit watts reduce as the lamp operating temperature increases.

REPLACEMENT CONTROL GEAR

These items are selected from the extensive range of control gear for UK Regional stocking to give ready availability. The reference numbers quoted will be different from those marked by the control gear in the fitting, but the units are equally applicable to Popular Pack fittings.

		Choke(s)	Capacitor(s)	Starter Switch(es)
125W 8ft	Single Tube	1 - CU/125	1 - AMEC 2173	1 - 155/800
	Twin Tube	2 - CU/125	2 - AMEC 2173	2 - 155/800
85W 6ft	Single Tube	1 - BU/685	1 - AMEC 2220	—
	Twin Tube	2 - BU/685	2 - AMEC 2220	—
65W 5ft	Single Tube	1 - CU/65	1 - AMEC 2241	1 - 155/500
	Twin Tube	2 - CU/65	1 - AMEC 2274	2 - 155/500
40W 4ft	Single Tube	1 - CU/40	1 - AMEC 2092	1 - 155/500
	Twin Tube	2 - CU/40	1 - AMEC 2221	2 - 155/500
20W 2ft	Single Tube	1 - CU/20	—	1 - 155/200
	Twin Tube	1 - CU/40	1 - AMEC 2092	2 - 155/200

A The standard electricity supply in UK is 230/240V 50 Hz and fittings suitable for this supply are standard stock lines.

B Other voltage 50 Hz fittings are available as shown below at no extra charge in UK. Delivery and details on application.

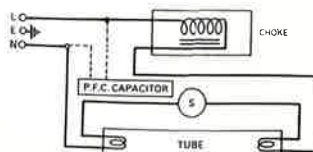
20W 2ft } 200/210V, 220V and 250V
40W 4ft }
65W 5ft }
85W 6ft }
125W 8ft } 250V

C Popular Pack fittings are also available outside UK for the following electricity supplies. Price and delivery details on application.

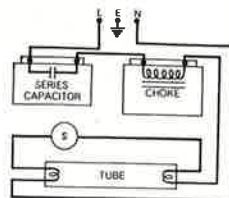
SS = Switchstart

SRS = Semi Resonant Start

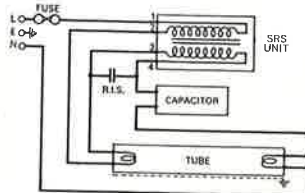
230/240V 50Hz CIRCUIT DIAGRAMS



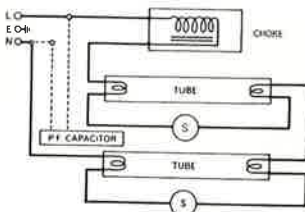
1 Standard starter switch circuit with optional PFC capacitor



2 Leading power factor starter switch circuit



7 6ft 85W Semi-resonant start circuit



10 Starter switch circuit for series pair tube operation

	CCT	50 Hz	60 Hz
125W 8ft	Leading SS only	220V	—
85W 6ft	HPF, SRS only	220V	—
65W 5ft	HPF or LPF, SS	110/120V (LPF twin fittings only)	110/120V (LPF twin fittings only)
		200/210V, 220V, 230/240V, 250V	200/210V, 220V, 230/240V, 250V
40W 4ft	HPF or LPF, SS	110/120V, 127V	110/120V
		200/210V, 220V, 230/240V, 250V	200/210V, 220V, 230/240V, 250V
20W 2ft	HPF or LPF, SS	110/120V	110/120V
		200/210V, 220V, 230/240V, 250V	200/210V, 220V, 230/240V, 250V

atlas Arrow-slim LX batten fittings

LXS single batten fitting. The 'Arrow-slim' basic batten, with its three-position twist lampholder, can be used in any location where an unshielded fluorescent tube is acceptable. These ultra-slim batten fittings are available in 3ft 30w and 5ft 50w sizes and are supplied ready packed complete with Warm White tubes.

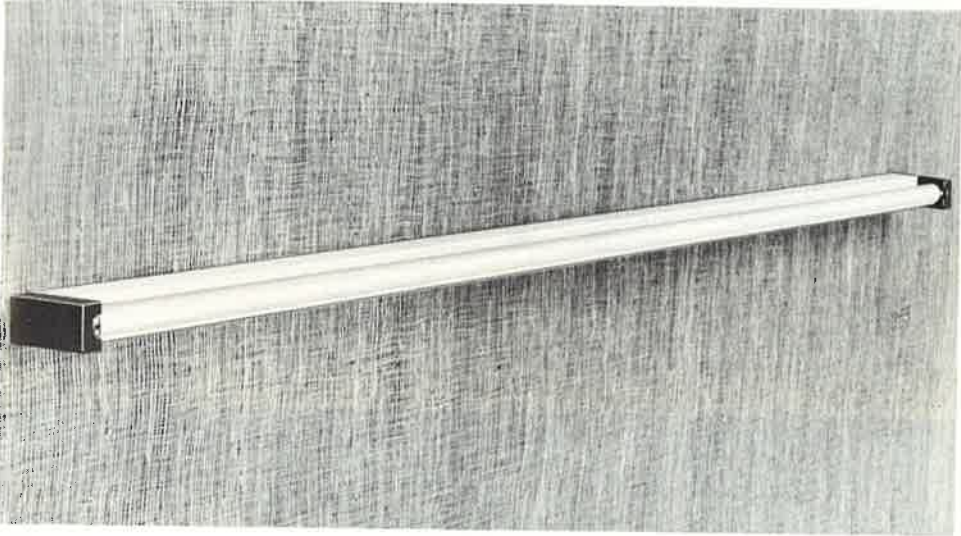
In exceptionally quiet locations the small amount of noise emitted by these fittings should be considered. The 5ft. 50w size may not be suitable in these circumstances.

Noise can be limited by the use of rubber grommets to "soften" the mounting.

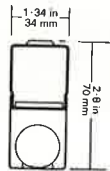
Fluorescent fittings (except special types) are unsuitable for situations where very frequent switching takes place.

These fittings comply fully with B.S.3820:1964 for Class 1, ordinary, indoor normal atmospheres.

A pull switch AMEM6119 is available for wall mounted fittings.



LX.S1050



RANGE

Complete fitting

Rating	Circuit	Cat. no.	Length		Weight		Fixing centres	
			in	mm	lb	kg	in	mm
30w Single	Switchstart	LX.S1030	36	914	4.25	1.83	24	610
50w Single	Switchstart	LX.S1050	59.9	1521	6.0	2.72	24	610

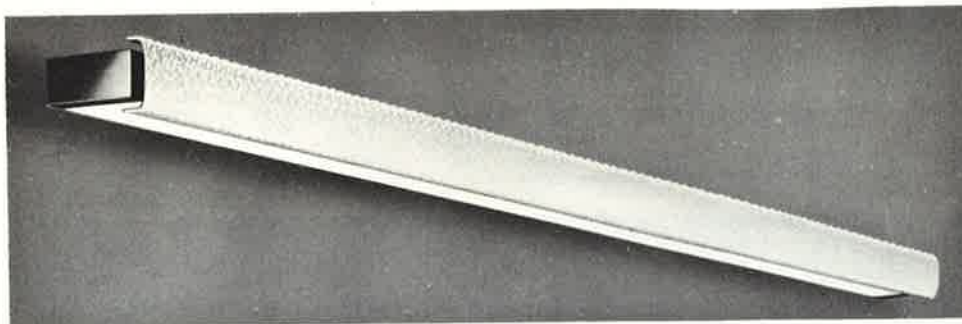
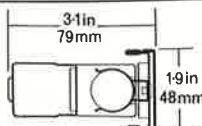
The above fittings are packed complete with Warm White tube.

Voltagess: These fittings are suitable for 230/240v 50Hz. Details of fittings suitable for other supplies are available on application.

atlas

Arrow-slim LXA-LXB attachments

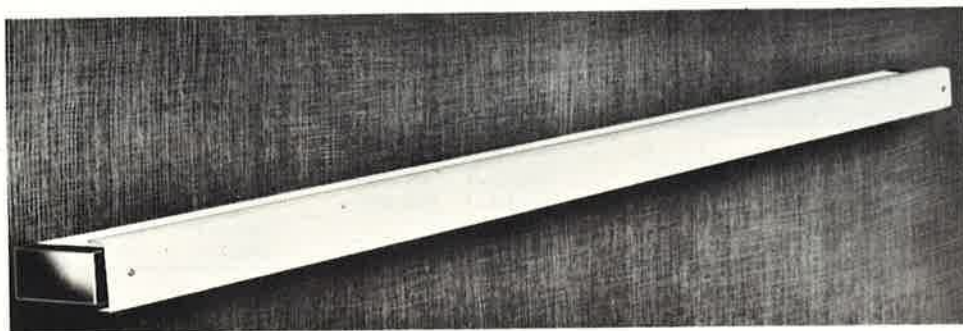
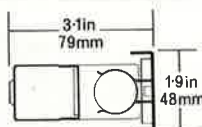
LXA raffia attachment. This woven raffia diffuser blends simply with furnishings of bedrooms, lounges, hallways, etc., and is easily clipped on to the tube by spring clips situated at each end of the attachment.



RANGE

Rating	Circuit	Complete Fitting Cat. no.	Length in	mm	Weight lb	kg	Fixing centres in	mm	Attach. Cat. no.
30w Single	Switchstart	LXA/S1030	36	914	4.45	2.0	24	610	LXA.13
50w Single	Switchstart	LXA/S1050	60	1524	6.5	2.95	24	610	LXA.15

LXB metal baffle. Complementary to the LXA attachment this lustre finished baffle can be used in similar situations where upward and downward lighting is required to accentuate textures, paintings, etc. The baffle is attached easily and quickly to the tube by spring clips.



RANGE

Rating	Circuit	Complete Fitting Cat. no.	Length in	mm	Weight lb	kg	Fixing centres in	mm	Attach. Cat. no.
30w Single	Switchstart	LXB/S1030	36	914	4.55	2.1	24	610	LXB.13
50w Single	Switchstart	LXB/S1050	60	1524	7.7	3.5	24	610	LXB.15

The above fittings are packed complete with a Warm White tube. Voltages: These fittings are suitable for 230/240V. 50Hz. Details of fittings suitable for other supplies are available on application.

In exceptionally quiet locations the small amount of noise emitted by these fittings should be considered. The 5ft. 50w size may not be suitable in these circumstances.

Noise can be limited by the use of rubber grommets to "soften" the mounting.

Fluorescent fittings (except special types) are unsuitable for situations where very frequent switching takes place.

These fittings comply fully with B.S.3820 1964 for Class 1, ordinary, indoor normal atmospheres.

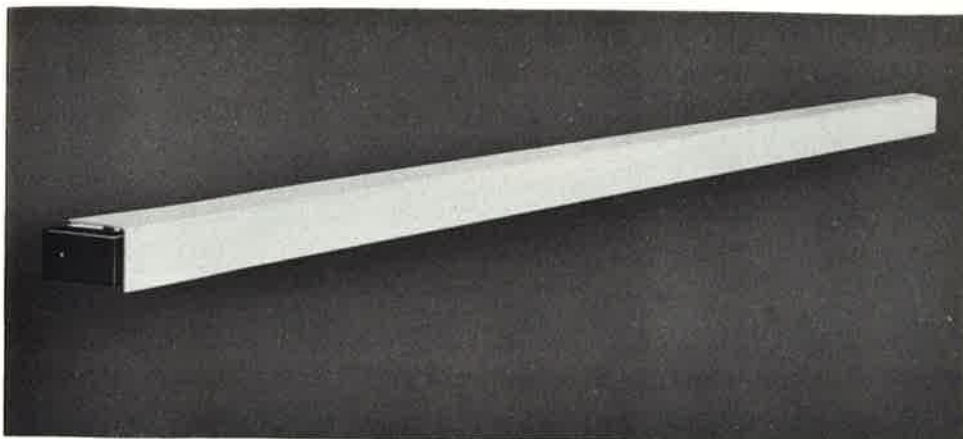
Pull switch. A pull switch AMEM 6119 is available for wall mounted fittings.

atlas

Arrow-slim LXC diffuser

LXC diffuser attachment. This diffuser is extruded from opal plastic and is easily attached to the tube by spring clips. The diffuser may be used with a wall mounted batten fitting to give unobstructed downward

light and general diffused light. Inverted or vertical mounting positions are also possible. A pull switch AMEM6119 is available for wall mounted fittings



LXC/S1050

RANGE

Rating	Circuit	Complete Fitting	Length		Weight		Fixing centres		Diffuser Cat. no.
		Cat. no.	in	mm	lb	kg	in	mm	
30W Single	Switchstart	LXC/S1030	36	914	4.75	2.2	24	610	LXC.13
50W Single	Switchstart	LXC/S1050	60	1524	8.0	3.6	24	610	LXC.15

The above fittings are packed complete with Warm White tubes. Price of fitting does not include tubes(s).

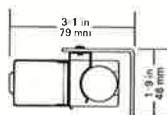
Voltages: These fittings are suitable for 230/240V, 50Hz. Details of fittings suitable for other supplies are available on application.

In exceptionally quiet locations the small amount of noise emitted by these fittings should be considered. The 5ft, 50W size may not be suitable in these circumstances.

Noise can be limited by the use of rubber grommets to "soften" the mounting.

Fluorescent fittings (except special types) are unsuitable for situations where very frequent switching takes place.

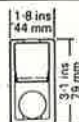
These fittings comply fully with B.S.3820: 1964 for Class 1, ordinary, indoor, normal atmospheres.



atlas

Arrow-slim LXE and LXF attachments

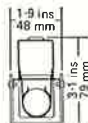
LXE metal trough reflector. This white finished reflector is ideal for situations where the maximum downward lighting is required such as shop window pelmets and similar locations. Fixing is achieved by placing the reflector over the LX batten where it is held by the normal suspension fixings.



RANGE

Rating	Circuit	Complete Fitting Cat. no.	Length in	mm	Weight lb	kg	Fixing centres in	mm	Attach. Cat. no.
30w Single	Switchstart	LXE/S1030	36	914	5.75	2.61	24	610	LXE.13
50w Single	Switchstart	LXE/S1050	60	1524	11.3	5.1	24	610	LXE.15

LXF two-tone single diffuser. Extruded plastic diffuser with clear fine reeded base and opal sides which gives an even downward distribution of light, yet cuts fitting brightness to the minimum. Ideally suited for small shops and stores where an attractive yet unobtrusive fitting is desirable. Fixing is by means of spring clips fitted to the end of the diffuser.



RANGE

Rating	Circuit	Complete Fitting Cat. no.	Length in	mm	Weight lb	kg	Fixing centres in	mm	Attach. Cat. no.
30w Single	Switchstart	LXF/S1030	36	914	4.75	2.2	24	610	LXF.13
50w Single	Switchstart	LXF/S1050	60	1524	7.0	3.2	24	610	LXF.15

A set of two clips and plastic studs for LXF attachments, cat. no. LX4610, is available as a replacement item.

The above fittings are packed complete with Warm White tube. Voltages: These fittings are suitable for 230/240V, 50Hz. Details of fittings suitable for other supplies are available on application.

In exceptionally quiet locations the small amount of noise emitted by these fittings should be considered. The 5ft. 50W size may not be suitable in these circumstances.

Noise can be limited by the use of rubber grommets to "soften" the mounting.

Fluorescent fittings (except special types) are unsuitable for situations where very frequent switching takes place.

These fittings comply fully with B.S.3820 1964 for Class 1, ordinary, indoor normal atmospheres.

atlas

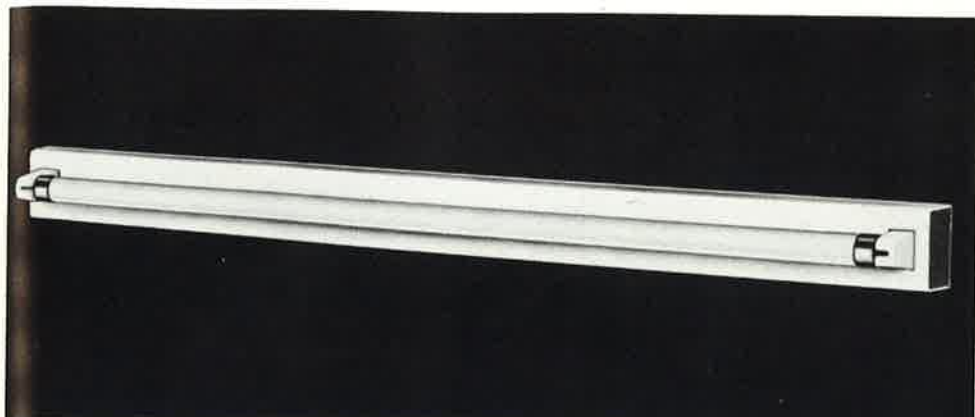
LJ Series Minipack fittings

The Minipack is the smallest fluorescent fitting to be offered for everyday use. They provide miniature fluorescent lighting for many uses including display cabinets, public notice signs, hotel mirrors and the range of attachments (see overleaf) broadens the application even further. The 12 $\frac{3}{4}$ in long version gives more light than a 40w tungsten lamp. Especially impressive, the 21 $\frac{3}{4}$ in model gives a better output than three 30w tungsten striplights. The body assembly has two-tone colouring – the channel cover is white and the channel and end plates are grey. To gain access to the control gear, the white moulded lamp holders are rocked slightly forward to release the cover which can

be completely removed for installation and servicing. **PULL SWITCH**, Cat. No. AMEM6117. A pull switch is an added convenience and is available for all models.

SHELF CLIPS, Cat. No. AMEM6118. An elegant form of accent lighting is to use this fitting to illuminate objects on shelves. For this purpose two single clips are available which locate inside the batten and securely onto the shelf, accommodating shelf thickness up to 1 in.

These fittings comply fully with B.S.3820:1964 for Class 1, ordinary, indoor normal atmospheres.



LJS1013

RANGE

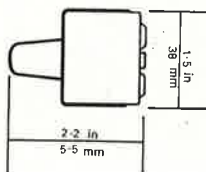
Rating	Circuit	Complete Fitting	Length		Weight		Fixing centres	
		Cat. no.	in	mm	lb	kg	in	mm
8w Single	Switchstart	LJ.S1008.H	12.75	324	2.0	0.85	11	279
13w Single	Switchstart	LJ.S1013.H	21.75	552	2.5	1.1	18	457

These fittings are packed complete with Warm White tubes.

Voltages: These fittings are suitable for 230/250V, 50Hz.

Details of fittings suitable for other supplies are available on application.

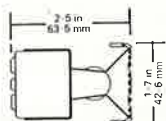
The range of low voltage D.C. transistorised Minipacks has been superseded by the 'Nomad' range of fittings. For details of this new range please see page 87.



Minipacks offer a choice of attractive attachments suitable for domestic and commercial situations.

LJA Raffia attachment

This woven natural raffia attachment blends simply with furnishing of bedrooms, hallways, lounges etc. and is easily clipped on to the tube by a spring clip mounted at each end of the attachment.



RANGE

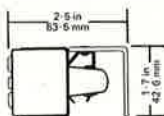
Attachments only

Type	Size (in)	Cat. no.
Raffia	12	LJA.112
Raffia	21	LJA.121



LJA Opal plastic diffuser

This attractive white opal diffuser is designed for more general use, with its clean simple appearance, it is suitable for any application. The diffuser is attached easily and quickly by spring clips.



RANGE

Attachments only

Type	Size (in)	Cat. no.
Opal Plastic	12	LJA.112
Opal Plastic	21	LJA.121



This new range of transistorised fluorescent fittings is designed to provide efficient battery operated lighting, independent of a mains supply. The olive green body and clear reeded prismatic controller are made of high impact and light stabilised polystyrene. An integral push switch controls the fitting. The control gear operates the fluorescent tube at a high frequency so that the fitting is inaudible in use. Protection against accidental polarity reversal is incorporated within the fitting. These attractive and easily installed fittings may be used in conjunction with the AMER 2463 emergency lighting unit. (see page 254 for details).

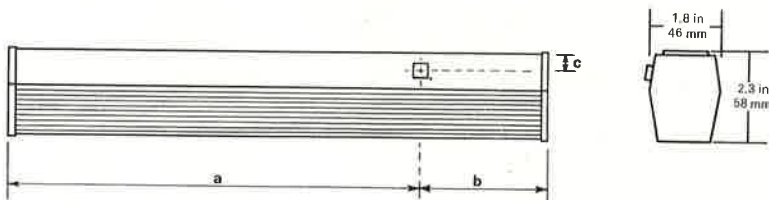
8W fitting installed in mobile shop



RANGE

Rating	Volts (D.C. only)	Cat. no.	Length in.	mm	Weight lbs.	kg.	Fixing Centres in.	mm.
8w Single	12v	NOM.1008.12	13.5	341	0.75	0.34	12.5	318
13w Single	12v	NOM.1013.12	22.4	569	1.1	0.48	21.7	547

The above fittings are packed complete with a Warm White tube.



Position of Push Switch

Rating	Dimensions					
	a		b		c	
	in.	mm.	in.	mm.	in.	mm.
8w	10.3	262	3.1	79	0.4	10
13w	19.3	490	3.1	79	0.4	10

Other voltages: Transistorised fluorescent fittings suitable for operation on 6- or 24-volt supplies are also available. Further details can be obtained from regional offices. Prismatic Controller extrusions NOM 4600 (8 watt), NOM 4601 (13 Watt) and endplate NOM 4602 are available as replacement items.

Battery Information

Rating	Supply Current at 12 volts amps	Battery Rating (amp/hours)	
		38	42
		Number of hours of operation*	
8w	0.8	42	47
13w	1.1	31	34

*Assuming the efficiency of the battery to be 90%.

atlas

'Au Pair' Homelight

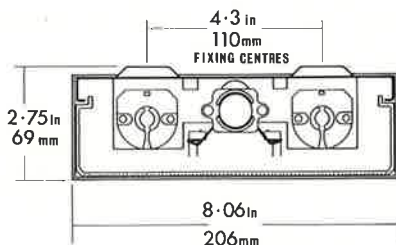
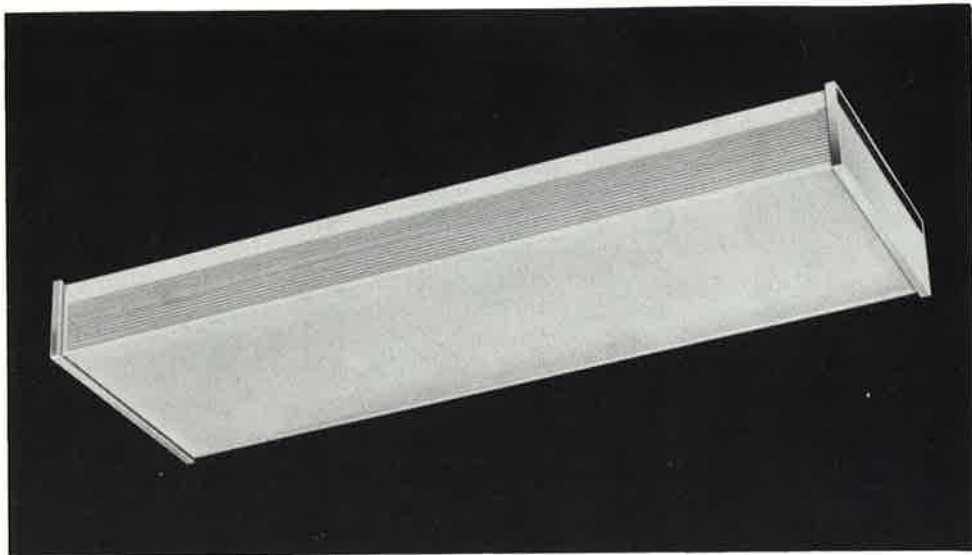
The Atlas Au Pair is the newest addition to the range of domestic fluorescent fittings; designed specifically to meet the requirements of home lighting situations, the shallow modern construction will enhance the decor of most rooms.

By virtue of the enclosed structure, dust and flies are excluded from the fitting, an aspect that makes the Au Pair particularly suitable for kitchen environments. The use of this fitting, however, is not limited to the kitchen. The Au Pair has many other uses in the home such as hall-ways, stair-cases, landings and bathrooms where its enclosed good looks and low running cost

ideally suit such situations.

Full use is made of the prismatic controller in channelling light in the downward, vertical direction where it is most needed. In addition glare, sometimes experienced with other types of diffuser, is effectively controlled.

Easy and quick to install the Au Pair, with its compact, sophisticated design meets the requirements for a functional yet attractive domestic fitting.



RANGE

Complete fitting

Nom. length	Rating	Circuit	Cat. no.	Length in mm	Weight lb kg	Fixing centres in mm
2ft	20W Twin	Switchstart	SK.220	24.8 630	6.25 2.76	15.75 400

The above fitting is packed complete with Warm White tubes.

Voltages: These fittings are suitable for 230/240V 50Hz. Details of fittings suitable for other supplies are available on application.

End plate (Cat. No. SK.4600) and prismatic controller (Cat. No. SK.4610) are available as replacement items.

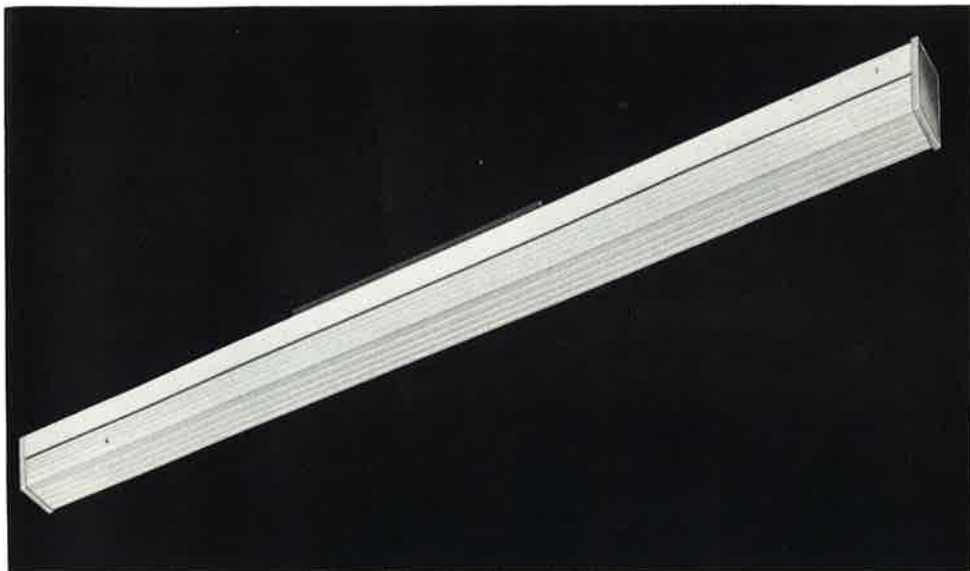
atlas

'One-Up' Diffuserlight

As the name of this new fitting implies it has a number of 'One-Up' features and the first of these is its very attractive streamlined appearance. The basic fitting is finished in white stoved enamel with a white opal diffuser. The diffuser endplates are also in white plastic with a trim of metallic appearance giving a soft sparkle effect.

The fitting is extremely easy to install, the ceiling bracket being fixed first and the completely assembled fitting is then latched onto the bracket.

By virtue of the fittings construction it is possible to obtain more light from a 4ft fitting than ever before. This fitting gives some 7% more light than a more conventional arrangement.



1.U.P



RANGE

Complete fitting		Cat. no.	Length		Weight		Fixing centres	
Size	Circuit		in	mm	lb	kg	in	mm
4ft Single	Switchstart	1.U.P	48.4	1193	5.6	2.55	11	280

The fitting is packed complete with 40w Warm White tube.

Voltages: These fittings are suitable for 230/240v 50Hz. Details of fittings suitable for other supplies are available on application.

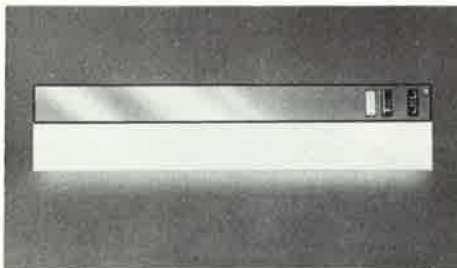
End plates (Cat. No. UP.4600) and diffuser extrusions (Cat. No. UP.4601) are available as replacement items.

'Viewpoint' combined light and shaver point

These fluorescent fittings are designed specifically for use in hotels, hostels and homes with one model for bedroom and general purpose use and the other model for use in the bathroom.

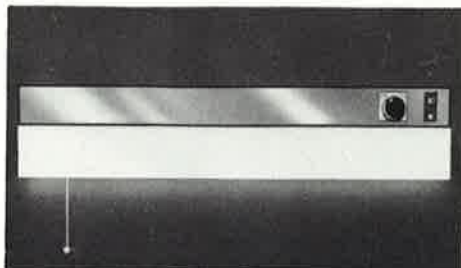
The fittings employ the 15w 18in (1in diam.) Warm White tube, the most efficient tube in the shorter sizes. Both models have a body of slate grey plastic fixed to a substantial steel backplate. The front panel has a brushed silver trim.

The LS.15 is the general purpose type incorporating a shuttered mains voltage shaver socket and is suitable for use in all rooms *excluding the bathroom*.

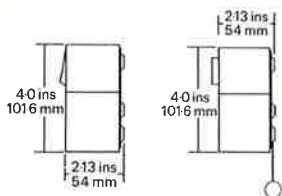


LS.15

The LST.15 is the bathroom model and this has a dual voltage output (115/230v) from the shaver socket from a double wound transformer to B.S.3052 and a pull-switch. This fitting complies with the requirements of the I.E.E. Regulations for bathroom equipment.



LST.15



RANGE

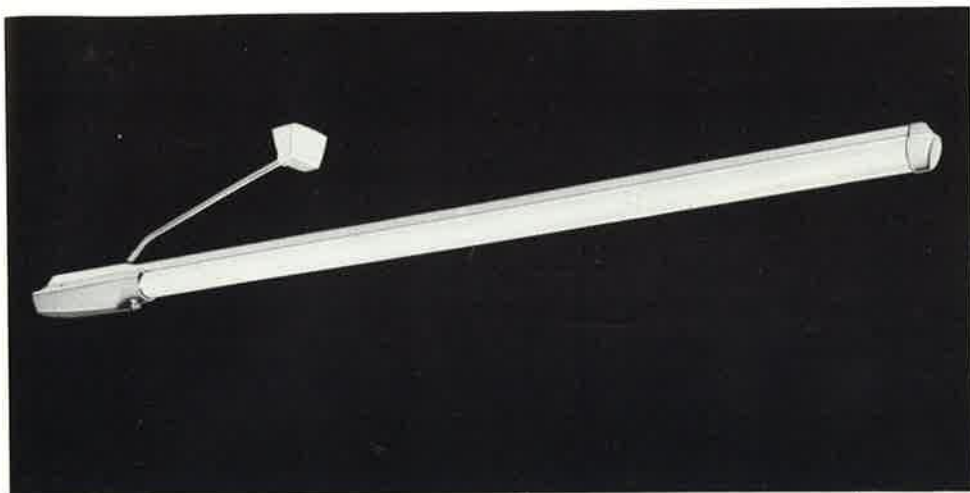
Complete fitting		Circuit	Cat. no.	Length		Weight		Fixing centres	
Fitting				in	mm	lb	kg	in	mm
General purpose (bedroom) type	Switchstart		LS.15	18.5	470	4.5	2.0	11	279
Bathroom type	Quickstart		LST.15	18.5	470	7.13	3.33	11	279

Fittings are packed complete with a 15w Warm White tube.

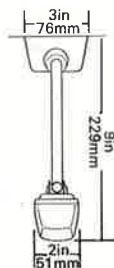
Voltages: These fittings are suitable for 230/240v 50Hz. Details of fittings suitable for other supplies are available on application.

Diffusers (Cat. No. LS.4600) are available as replacement items.

This fitting of contemporary design for the home, hotels, offices or any other application where appearance matters, must rate as the most attractive of its kind. The end cover comes in a choice of three exciting colours, the rest of the fitting being finished in white gloss enamel apart from the plated support arm. The Netaline is packed complete for quick installation in a robust carton with instruction leaflet. The fitting is guaranteed for 12 months.



4.NLI.B



RANGE

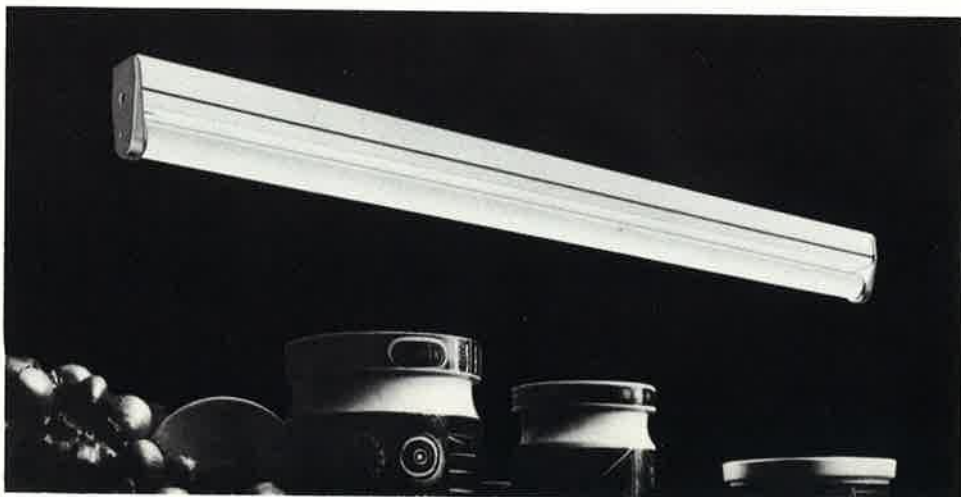
Size	Circuit	End Cover Colour	Cat. no.	Length in	mm	Weight lb	kg
4ft Single	Switchstart	Yellow	4.NLI.Y	56-75	144	2.5	1.13
		Blue	4.NLI.B				
		White	4.NLI.W				

Packed complete with Warm White tube.
Standard voltage 230/240V 50Hz.

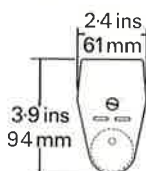
mazda

Litepak

The 4ft Litepak is a slim-sectioned, single lamp, fluorescent fitting, manufactured from top quality steel, with a full bonderising and rust inhibiting process before application of white stoved enamel. Plastic moulded light blue end-pieces form a one piece end to the channel. These ends are each secured by means of a single recessed screw and are spring-loaded to facilitate re-lamping and channel cover fixing. In addition the moulding of the end piece is extended to act as a lampholder shroud and provide a re-lamp guide. Every Litepak is assembled complete with control gear, channel cover. Warm White lamp and full instruction leaflet, all packed in a strong attractive carton.



4.MLB.1



RANGE

Complete fitting

Rating	Circuit	Cat. no.	Length in	mm	Weight lb	kg	Fixing Centres in	mm
40W Single	Switchstart	4.MLB.1	49	1224	5.5	2.5	24	612

The above fitting is packed complete with 4ft Warm White tube.

Voltagcs: These fittings are suitable for 230/240V, 50Hz. Details of fittings suitable for other supplies are available on application.

mazda

‘Circline’ fluorescent fittings

The range of ‘Circline’ fittings has been designed for use in both domestic and commercial applications. A triangular shaped gear tray containing 40W switch-start control gear is completely hidden from view by

the wide range of attractive diffusers. These fittings blend with all decors and colour schemes.

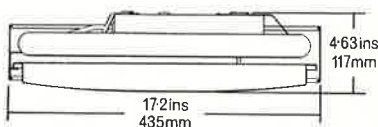
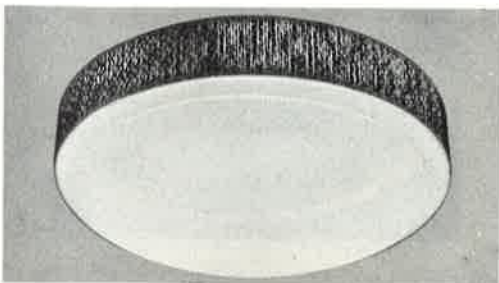
CFA fitting. This attractive anodized aluminium attachment is simply assembled by locating over the centre screw on the gear tray and securing with the black plastic knob. A white opal dish is then inserted

to form a neat and attractive fitting for use in many domestic and commercial interiors. This fitting is packed in one carton complete with gear tray, aluminium attachment and tube.



CFG fitting. This fitting is basically the same as the CFA above except that the aluminium attachment is replaced by a very modern raffia type attachment. The attachment is particularly attractive in domestic

situations. This fitting is packed in one carton complete with gear tray, raffia type attachment and tube.



RANGE

Rating	Circuit	Cat. no.	Description
40W Single	Switchstart	CFA 40	Aluminium frame fitting
40W Single	Switchstart	CFG 40	Raffia frame fitting

These fittings are packed complete with 40W Warm White tube.

Voltages: These fittings are suitable for 230/240V, 50Hz. Details of fittings suitable for other supplies are available on application.

Aluminium frame (Cat. No. CF 4601) the associated mounting spider (Cat. No. CF 4604) raffia baffle (Cat. No. CF.4602) opal diffuser dish (Cat. No. CF 4603) and attachment fixing knob (Cat. No. CF 4605) are available as replacement items.

mazda

'Circline' fluorescent fittings

CF/LSG Large Sparkle Glass diffuser fitting.

This bowl diffuser is moulded in clear glass with a smooth upper surface for easy cleaning and a random embossed, patterned lower surface which sparkles even when the fitting is unlit. A pleasing radial pattern



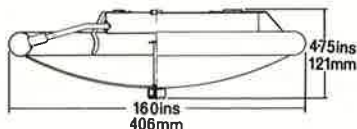
CF/SPG Sparkle Glass diffuser fitting. This very attractive diffuser is moulded in clear glass with a smooth upper surface for easy cleaning. The very modern pattern of the diffuser will harmonise with



is silk screened in white on the upper surface of the glass and this is attached to the fitting by a white plastic knob with an aluminium insert. The glass completely obscures the fluorescent tube from view.



almost any decor and give a good amount of soft, well diffused light. The glass bowl is held to the fitting by a white plastic knob with aluminium insert which holds the glass flush to the tube.



RANGE

Rating	Circuit	Cat. no.	Description
40W Single	Switchstart	CF/LSG	Large Sparkle Glass fitting
40W Single	Switchstart	CF/SPG	Small Sparkle Glass fitting

These fittings are packed complete with Warm White tubes.

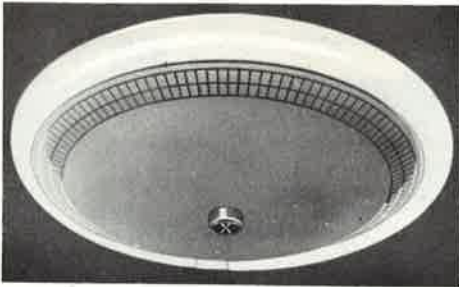
Voltages: These fittings are suitable for 230/240V, 50Hz. Details of fittings suitable for other supplies are available on application.

Large sparkle glass (Cat. No. LSG) retaining knob (Cat. No. CF 4607) Sparkle glass (Cat. No. SPG) and retaining knob (Cat. No. CF 4606) are available as replacement items.

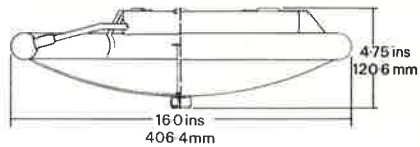
mazda

'Circline' fluorescent fittings

CF/WHG White Glass diffuser fitting. This extremely attractive diffuser fitting moulded in smooth glass for ease of cleaning is especially suitable where a relatively plain diffuser bowl is required.



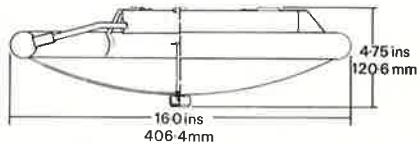
The diffuser bowl is held flush to the fluorescent tube by a smart white knob with an aluminium insert.



CF/ITG Ivory Glass and CF/WBG Wedgwood Blue Glass Fittings.

Both these attractive fittings are suitable for almost any situation. The smooth glass bowl with its attractive geometrical pattern comes in either blue or ivory and

is held firmly up to the fluorescent tube by the white plastic knob with aluminium insert.



RANGE

Rating	Circuit	Cat. no.	Description
40W Single	Switchstart	CF/ITG	Ivory Glass fitting
40W Single	Switchstart	CF/WBG	Wedgewood Blue Glass fitting
40W Single	Switchstart	CF/WHG	White Glass Diffuser fitting

These fittings are packed complete with a 40W Warm White tube.

Voltagess: These fittings are suitable for 230/240V, 50Hz.
Details of fittings suitable for other supplies are available on application.

Ivory glass (Cat. No. ITG) Blue glass (Cat. No. WBG) and White glass (Cat. No. WHG) diffusers and securing knobs (Cat. No. CF 4806) are available as replacement items.

mazda

'Circline' fluorescent fittings

Enclosed 'Circline' fittings.

These 'Circline' fittings have a triangular-shaped gear tray which is completely enclosed by a patterned white plastic diffuser and a copper coloured trim. The fixing knob has a matching copper coloured base and is countersunk so as to enhance the clean modern lines of these fittings. The twin version (CF/ODC.2) is available where a higher degree of illumination is required.

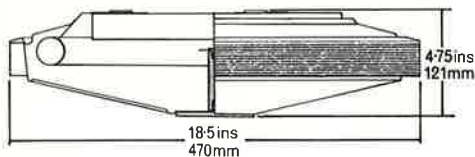
Both fittings are packed complete with Warm White tubes in robust packs.

These fittings are available in 230/240V 50Hz ratings only.

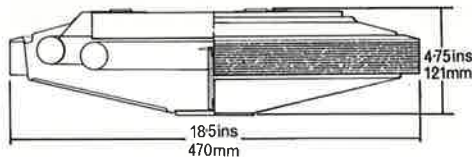
RANGE

Rating	Circuit	Cat. no.
40W Single	Switchstart	CF/ODC1
40W + 32W Twin	Switchstart	CF/ODC2

Lower diffuser (Cat. No. CF.4610) upper diffuser (Cat. No. CF.4611) and retaining knob (Cat. No. CF.4609) are available as replacement items.



CF/ODC.1



CF/ODC.2

atlas

Arrow Slim, Minipack & Domestic Fluorescent Accessories



AMEB1537. Single tube Arrow Slim Bi-pin lampholder, Black plastic.



AMEM6117. Pull switch for wall-mounted Mini-pack fittings



AMEB1568. Lampholder for One-Up fitting.



LX4611. Lampholder tension spring for Arrow Slim fittings.



AMEB1587/B. Blue lampholder for Litepack fitting.



AMEA5019/X. Starter switch socket for Au-Pair fitting.



AMEM6119. Pull switch for wall-mounted Arrow Slim fittings.



AMEB1542. Lampholder for Netaline fitting.



AMEB1582. Lampholder for Au-Pair fitting.



AMEB1556/3. Lampholder for Mini-pack fittings.



NL4601. End cover for Netaline fitting.



AMEB1555/Z. Lampholder for Viewpoint fitting.



UP4602. Lampholder tension spring for One-Up fitting.



AMEB1535. Lampholder for circular fluorescent fitting.

REPLACEMENT CONTROLGEAR

Tube Size	Fitting	Choke	Starter Switch	Tube Size	Fitting	Choke	Starter Switch
8W 12in	Minipack	1-CD8	1-155/100	40W Circular	All Circine	1-CU 40	1-155/400
13W 21in	Minipack	1-CD13	1-155/100	30W 3ft	Arrow Slim	1-CJ30	1-155/400
15W 18in	LS Viewpoint	1-CU20	1-155/200	40W 4ft	1.UP, Litepak	1-CU 40	1-155/400
Twin 20W 2ft	Au Pair	1-CU40	2-155/200	50W 5ft	Arrow Slim	1-CJ50 &	1-155/501
32W Circular	CF/ODC2	1-CU30	1-155/400			1-AMEC2229 Capacitor	

*LST Viewpoint, 1X15W 18in lamp. Choke: AME 69072-4, Transformer: AME 47071.

atlas

Trunking

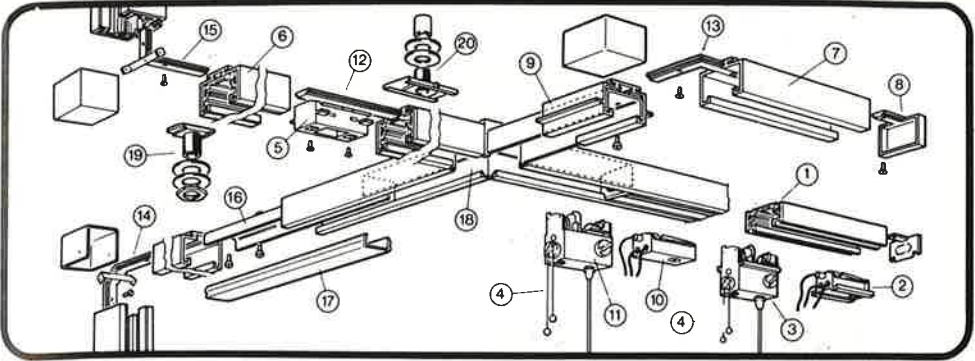
The versatile range of Atlas slim sectioned trunking lengths and neat accessories are designed to meet the exact requirements, in both length and strength, of all types of lighting installation. Their time saving features and small number of components enable Atlas trunking systems to offer valuable savings in time and money. Newest of these four systems is Atlas 'Trakline', which is a P.V.C. extrusion in which are embedded metal conductor strips. The electrical connections to the supply and earth can be at a single point anywhere in the installation and the load may be connected at points anywhere along the trunking length by means of the fused adaptor boxes.

'Trakline' is ideal for the varying demands of display lighting. It is designed for use on its own or within 'New Lightweight' and 'Liteline', where greater strength, or for use with fluorescent fitting, is required.

'New Lightweight' trunking lengths are extruded from

aluminium alloy and are designed for commercial applications where both strength and appearance are of importance. Two types of trunking length are available one for surface mounting or conduit suspension, the other specially designed for use with suspended ceilings. 'Liteline' trunking system has been developed where a neat, yet low cost system is required for use in commercial or industrial installations. Liteline trunking is small and compact in design and suitable for surface mounting or recessing into a false ceiling, using a 'Top Hat' section. The 'Atlantic' trunking system is designed for use in industrial applications and is a mild steel rolled section of larger dimensions manufactured from 18 S.W.G. galvanised sheet steel. This trunking may be surface mounted or suspended on conduit.

Details of maximum suspension centres and loading can be obtained from Regional Offices.

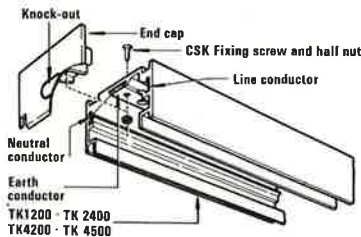


- 1 TK.1200. 1.2m.
TK.2400. 2.4m.
TK.4200. 4.2m.
TK.4500. 4.5m.
4 lengths of self-coloured PVC track supplied with end caps.
- 2 TK.101. Mains Connector Box.
- 3 TK.104. Adaptor Box.
- 4 TK.110. Pull Cords.
- 5 TK.103. Track Coupler.
- 6 TKN.1200. 1.2m.
TKN.2400. 2.4m.
New Lightweight Aluminium Trunking supplied with end caps.
- 7 LTN.4500. Economic 4.5m. lengths of New Lightweight Aluminium Trunking.
- 8 LTN.4507. Aluminium end caps for LTN.4500 and LTR.4500, supplied separately.
- 9 LTR.4500. New Lightweight Aluminium Trunking for recessed ceilings. 4.5m. lengths.
- 10 TK.102. Mains Connector Box for use with Trakline in trunking.
- 11 TK.105. Adaptor Box for use with Trakline in trunking.
- 12 TK.106. Alignment Straight Coupler.

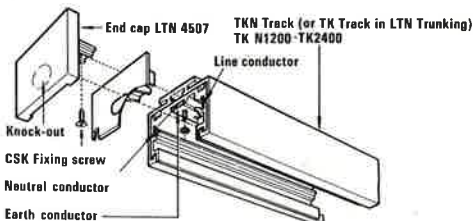
- 13 TK.107. 90° Horizontal Elbow Assembly.
- 14 TK.108. 90° Vertical Internal Elbow Assembly.
- 15 TK.109. 90° Vertical External Elbow Assembly.
- 16 LTN.4503. Straight jointing piece.
- 17 TK.111. Clip on Cover.
- 18 LTN.4504. 2-way junction.
LTN.4505. 3-way junction.
LTN.4506. 4-way junction.
- 19 TK.112. Part of Fluorescent Suspension Assembly (two Suspension Bolt assemblies and one Mains Connector Box supplied).
- 20 LTN.4502. Trunking Suspension Assembly.

Items not illustrated above:

- TK.114. Top entry wiring box for T.K. Track.
TK.115. Top entry wiring for TK N Track (End mounting).
TK.116. Top entry wiring box for TK N Track (Centre Mounting).
TK.117. Top entry wiring box for TK Track in LTR trunking (end mounting).
TK.118. Top entry wiring box for TK Track in LTR trunking (centre mounting).
PP.4616. Fused terminal block assy for Popular Pack fittings and TKN trunking or TK on LTR trunking Track.



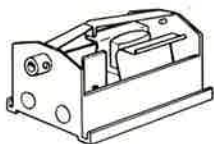
- TK 1200 a 1.2 metre length of Trakline.
TK 2400 a 2.4 metre length of Trakline.
TK 4200 a 4.2 metre length of Trakline.
TK 4500 a 4.5 metre length of Trakline.



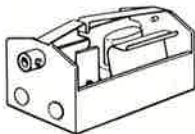
- TK N 1200 a 1.2 metre length of Aluminium Trunking packed complete with TK 1200 inside it.
TK N 2400 a 2.4 metre length of Aluminium Trunking packed complete with TK 2400 inside it.

atlas

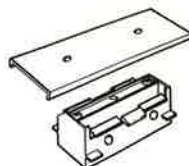
Trakline Components



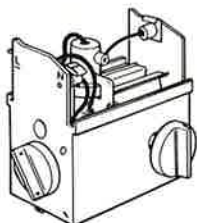
TK 101 Mains Connector Box for TK Track.



TK 102 Mains Connector Box for TKN Track (also used for wiring Fluorescent fittings to track).



TK 103 Track Coupler.



TK 104 Fittings Adaptor Box for TK Track.



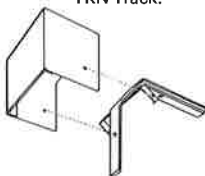
TK 105 Fittings Adaptor Box for TKN Track.



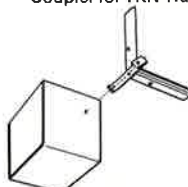
TK 106 Alignment Straight Coupler for TKN Track.



TK 107 Horizontal Elbow Assembly for TKN Track.



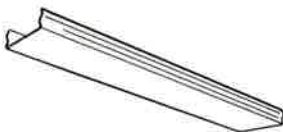
TK 108 Vertical Internal Elbow Assembly for TKN Track.



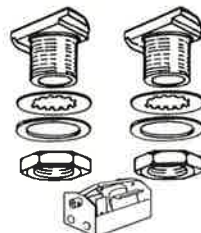
TK 109 Vertical External Elbow Assembly for TKN Track.



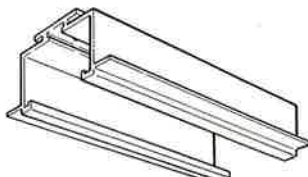
TK 110 Adaptor Box Pull Cords.



TK 111 Clip on Cover. (390 mm long).



TK 112 Fluorescent Suspension Assembly for TKN Track.



LTR 4500 a 4.5 metre length of Winged Aluminium Trunking.

Spotlights

The full range of Atlas spotlights is available for use with Atlas Trakline (pages 154 to 158).

These spotlights, other than the VGT series, are supplied as standard with back plates and can be used on the track simply by discarding the back-plate. The spotlight is then wired to the fittings adaptor box and the box is plugged into the track.

NOTE: The VGT 100 and the VGT 150 fittings are supplied without backplates: the fixed versions of these fittings are catalogued VG 100 and VG 150 respectively.

Decorative Pendants

The complete range of Atlas decorative pendants is available for use with Trakline. These fittings, shown on pages 115 to 140, are supplied for Trakline without backplates and with cables shifted back to fix easily to the fittings adaptor box. In suspensions where a strainer cable is used, a fibre disc is supplied to secure it in the adaptor box.

The WA and WAM series fittings, already familiar as use rise and fall pendants, are supplied as fixed drop pendants for use with Trakline.

When ordering pendants for use with Trakline, the prefix TK/ should be added to the catalogue number.



VGT 150

A matching unit to the VGT100 is designed for use with a 150W PAR38 sealed beam or a general service lamp with auxiliary reflector Cat. No. VA150.

A cool running fitting ideally suitable for use with Cool-Ray PAR38 lamp. Supplied wired complete with ES lampholder.



VI 150A

A matching unit to the VI100 Series, but designed to use 150W internally silvered reflector spotlight and is supplied wired with ES lampholder.

Both fittings can be wall or ceiling mounted if not required for use with Trakline.

This fitting is also available with stove enamelled finish in white (Suffix W).



VQ 150A

This spot-light is designed to house the 150W internally silvered reflector spot-light. It completely shields the lamp and is constructed in a one-piece aluminium spinning with a natural anodised finish.

The fitting is also available with stove enamelled finish in white (Suffix W). A matching unit is the VQ 100A (or W), which is designed for use with the 100W internally silvered reflector lamp.

The VQ100 has similar dimensions and photometric data as the WS1 100. Louvres and filters are available for both sizes of fitting.



VH 150S

A larger version of the VH100S is designed for use with 150W internally silvered reflector lamp, or 150W general service lamp with auxiliary reflector Cat. No. VA150, or PAR38 Lamp.

Louvres and filters are also available.

These fittings can be wall or ceiling mounted if not required for use with Trakline.

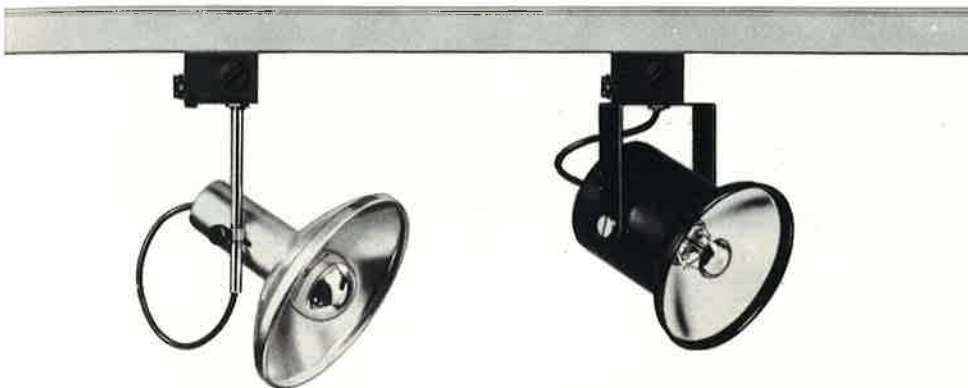


VTC 60

This versatile spotlight offers effect lighting that brings flair to your decor; light for working or relaxing as well as lighting pictures or objects of art. Simple and functional in design, the Top Spot uses a standard 60W general service lamp in place of special types normally used in conventional spots. The reflector finished in gloss white (Cat. No. VTC60W) or matt black (Cat. No. VTC60B) is mounted on a 153mm (6") chrome rod via a clamping block. There is an adjusting screw for tilting the reflector to any position. Wired complete with black PVC cable and supplied complete with 60W clear lamp.

VHB 100S

A cylindrical spotlight unit incorporating low brightness baffles which completely eliminate the glare usually associated with spotlights. Finished painted white (Suffix W) or Brushed Silver (Suffix S), the fitting is designed for use with 100W internally silvered reflector lamp or general service lamp with auxiliary reflector Cat. No. VA100. Mounted on a 153mm (6") chrome stem by means of a clamping block, allows the fitting to be swivelled in any direction and also for up and down movement. Supplied wired complete with BC lampholder.



VM 100

A high intensity spotlight using a special 240/250V 100W coiled coil lamp with crown silvered lamp and 3-pin BC cap. The reflector unit made from anodised aluminium is fully adjustable for focusing. Mounted on a 153mm (6") chrome stem by means of a clamping block, allows for swivel as well as up and down adjustment. To introduce colour into a display area, this unit is also available with the reflector surface finish anodised red, blue, yellow or green with the outside painted egg shell black to provide an overall matching appearance when various colours are used together. Wall and ceiling mounting is also provided if not required for use with Trakline.

ES 1050

This low voltage display fitting couples the advantages of the tungsten halogen lamp development to the optical efficiency of the low voltage reflector fitting. The tungsten halogen lamp is rated at 12V 50W, and its extreme compactness enables a far greater degree of light control to be achieved. Peak intensity of 85,000 candelas is over twice that of fittings with conventional lamps. Lamp life at 2,000 hours, is also doubled and the simplicity of lamp contact and lampholder ensures trouble free operation. The fitting also has the advantage of the transformer being an integral part of the fitting. Colour filters are also available.



1. TK.XPI with XYO glass

In this exciting range of tungsten fittings is a large selection of glass cylinders in clear crystal pattern and satin etched white opal. Here for instance is a satin etched white opal barrel shape glass mounted on single black cable suspension.

3. TK.XPI with XYC reflector and XYL louvre

Polished Spun Copper or white painted aluminium are the materials used for this curved conical reflector. White painted reflecting surfaces provide a maximum of downward reflecting light and a ringed white opal louvre can be added to give a softer diffusion. Suspended on black cable in which is incorporated two copper strainer wires.

2. TK.XPI with XDC inner glass and XAT outer glass

A combination of two glasses designed to give the maximum light output plus modern design. Featured here is the twilight sphere glass with a clear glass cylindrical inner. Also available with Amethyst coloured outer or Bubbled clear glass. Suspended on black cable incorporating two copper strainer wires.

4. TK.WXPI with WXG.A glass

This colourful range of low priced decorative fittings is available in two glassware types, comprising five colours – clear and amber in a crystal pattern and plain colour glasses in white satin etched opal, orange flashed opal and green flashed opal. Suspended on black cable, the lampholder is shrouded in a contrasting chrome cylinder.

Full details of this extensive range are shown on page Nos.117to123

This trunking system is adapted to receive lighting fittings on its underside, and provides a structural support for the fittings whilst creating adequate through-wiring capacity. The system has been designed to reduce installation time to the minimum.

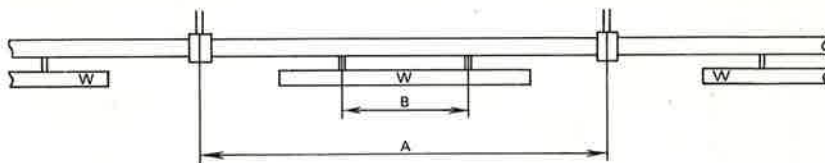
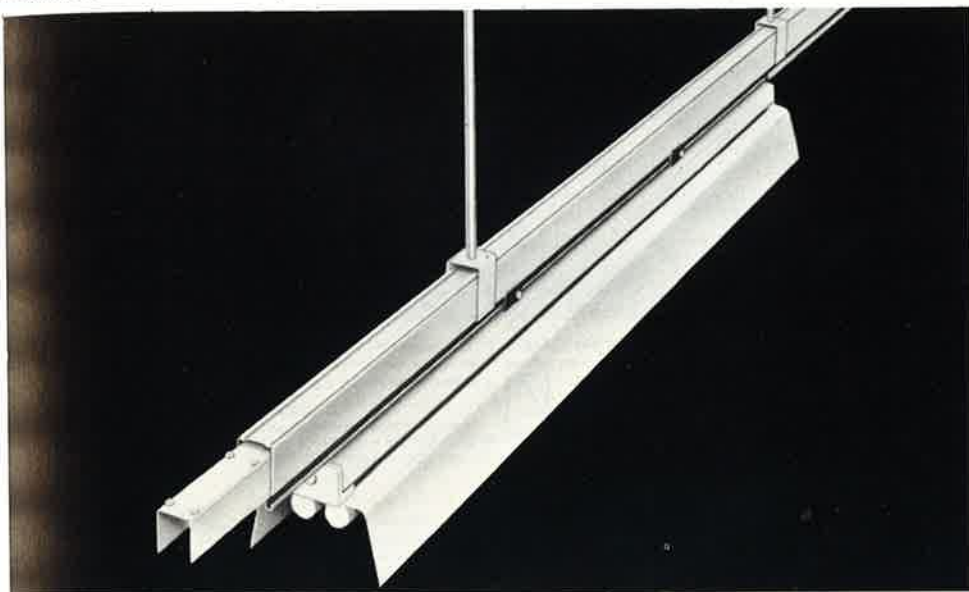
The closed-top trunking is suspended by saddle brackets attached to down-drops from the ceiling or roof structure, and joint pieces hold the sections rigidly in line and provide earth continuity. The suspension of trunking by means of chains is normally NOT recommended. Close ceiling mounting is also possible. Brackets are attached to the fittings by means of a threaded bush, nut and washer supplied. The brackets engage with the batten flanges of the trunking and allow the fitting to be hinged from the trunking during installation, maintenance or subsequent modification of

the through-wiring in the trunking. Clip-in, 15 amp terminal blocks are available for inter-connection and looping in. Cable carriers are included in each trunking length to retain the cables neatly in position.

The trunking mouth is closed by a black snap-on P.V.C. cover strip which is easily cut to length on site to fit between fittings. This part is not required of course when the fittings are continuously mounted. To ensure satisfactory earth continuity between the fittings and the trunking an earth screw is provided on the jointing piece, a jumper cable being necessary to complete the bond.

Standard trunking is made from 18 s.w.g. galvanized sheet steel.

Maximum recommended trunking suspension centres 15ft (4.57 metres).



Deflections for Atlantic Trunking

Dim. A,	Dim. B	Weight W	Deflection
15ft	24in	40lb	0.1in
4.57 metres	0.61 metres	18 kgs	2.54mm

Dim. A	Dim. B	Weight W	Deflection
15ft	48in	55lb	0.17in
4.57 metres	1.22 metres	25 kgs	4.32 mm

For spans less than 15ft the deflection on this trunking was not measurable.

NOTES. The above deflections were measured using maximum weight Atlantic 3 fittings, i.e. A3Z/R4065 at 24in suspension centres and A3Z/T4085 at 48in centres and suspended as detailed above. These figures assume that all loads are counter balanced and the final trunking span will be adequately supported at the termination point.

All Atlantic fittings incorporate additional suspension points at the centre and towards the ends of the fitting. These can be

utilized in addition to or instead of the standard to obtain further rigidity and so reduce the deflection.

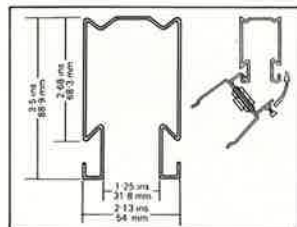
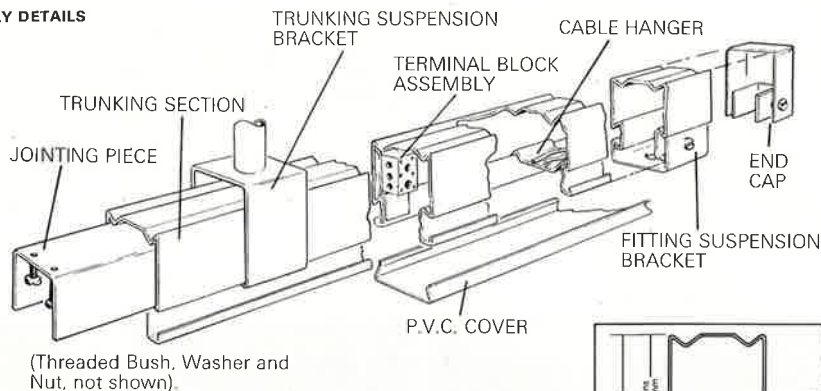
It is important when designing trunking installations to ensure that the deflection between spans does not exceed 1/300th of the total span, e.g. an installation requires trunking to be suspended at 15ft spans,

$$\therefore \text{maximum deflection} = \frac{15 \times 12}{300} = 0.6\text{in (15.24mm)}$$

atlas

Atlantic trunking

ASSEMBLY DETAILS



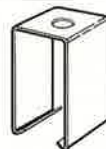
Complete Parts List



AA 4702 Cable Support



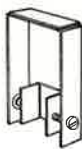
AA 4703 Straight Coupling



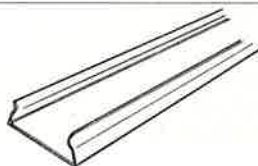
AA 4704 Trunking Suspension



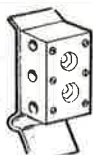
AA 4705 Fitting Suspension



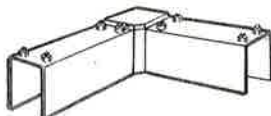
AA 4706 End Cap



AA 4707 P.V.C. Cover



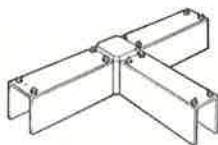
AA 4708 Terminal Block Assembly



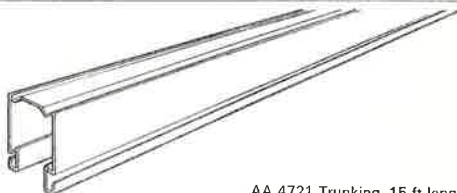
AA 4709 Horizontal Coupling



AA 4712 4-Way Coupling



AA 4713 'T' Coupling



AA 4721 Trunking, 15 ft length

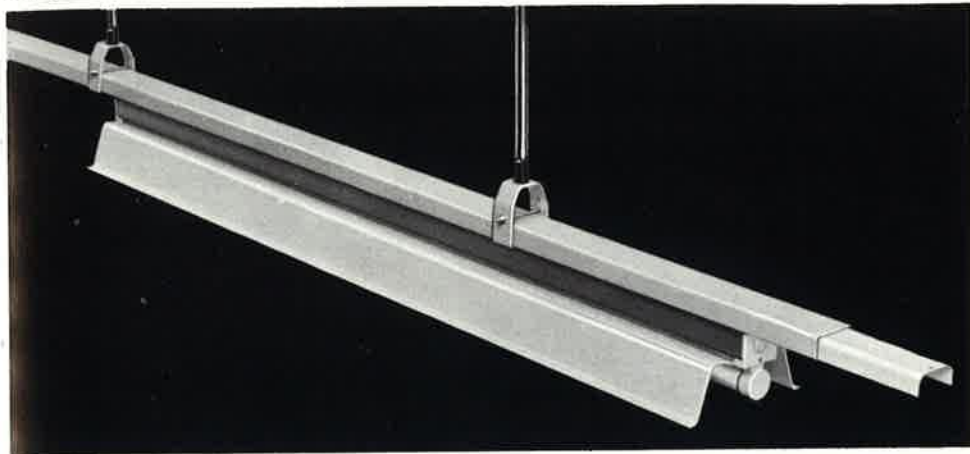
atlas Liteline trunking

Universal system for factories, shops, offices, etc.

Liteline Trunking is a universal system for carrying overhead lighting, electric fittings or cables for industrial and commercial buildings.

Liteline Trunking can either be suspended, fixed flush to a ceiling or, by means of the Top Hat Section, incorporated into a suspended ceiling. Suspension of trunking by means of chains is generally NOT recommended. Having a cross section of only 2½ in x 1½ in it is available in 4.5 metre (14'9") lengths of 18 gauge cold rolled steel. The paint surface is a single dip coat

finish and is light grey in colour to BS.2660.9-094. For very arduous conditions it may be necessary to apply a final finishing coat for increased durability. Simple jointing by slide-in straight coupling piece secured by 8 screws ensuring earth continuity, and removable clip-in PVC cover fillets enable easy installation. The fittings and accessories have been designed to allow continuous, unobstructed runways for the cables. Maximum recommended suspension centres 3.35 metres (11ft).



NEAT AND RIGID

The trunking is small and compact in design and suitable for surface mounting installations. The design of the channel section ensures maximum rigidity and weight carrying capacity over unsupported spans up to 3.35 metres (11 ft).

EASY TO WIRE

When trunking is erected, there are no obstructions whatsoever and, therefore, cable can be fed into the trunking with ease.

Up to two lighting fittings can be supplied from any point by fitting a Parablock connector.

FLEXIBLE

The numerous junction pieces enable horizontal diversions of 90° to be made from the main trunking run.

COLOUR

The BS.2660.9-094 light grey colour is attractive yet unobtrusive and is therefore ideal for commercial office schemes.

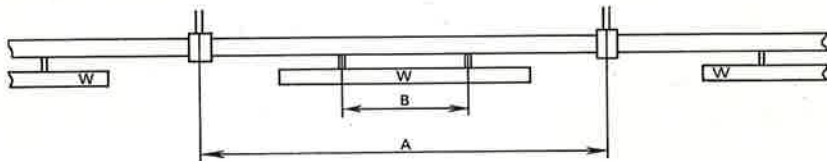
SIMPLE INSTALLATION

Simple jointing by slide-in straight coupling piece secured by 8 screws ensuring earth continuity. Easily removable clip-in PVC cover fillet. 'Clip-over' suspension stirrup suitable for conduit suspension Universal Girder Clamps for R.S.J. mounting.

means of a special 'T' Bolt Assembly, which also facilitates alterations to lighting layouts. Fittings with larger conduit fixings can be mounted by means of a suitable reducer. A Top Hat Section can be supplied where it is required to fit a flush mounted suspended ceiling.

VERSATILE

Any type of fitting with 1.9cm (¾ in) conduit hole fixing can be suspended from any point by



Deflections for Atlas Liteline Trunking

Dim. A	Dim. B	Weight W	Deflection
11ft	24in	40lb	0.25in
3.35 metres	0.61 metres	18 kgms	6.35mm

Dim. A	Dim. B	Weight W	Deflection
11ft	48in	55lb	0.20in
3.35 metres	1.22 metres	25 kgms	5.1 mm

NOTES. The above deflections were measured using maximum weight Atlantic 3 fittings, i.e. A3Z/R4065 at 24in suspension centres and A3Z/T4085 at 48in centres and suspended as detailed above. These figures assume that all loads are counterbalanced and the final trunking span will be adequately supported at the termination point.

All Atlantic fittings incorporate additional suspension points at the centre and towards the ends of the fitting. These can be utilized

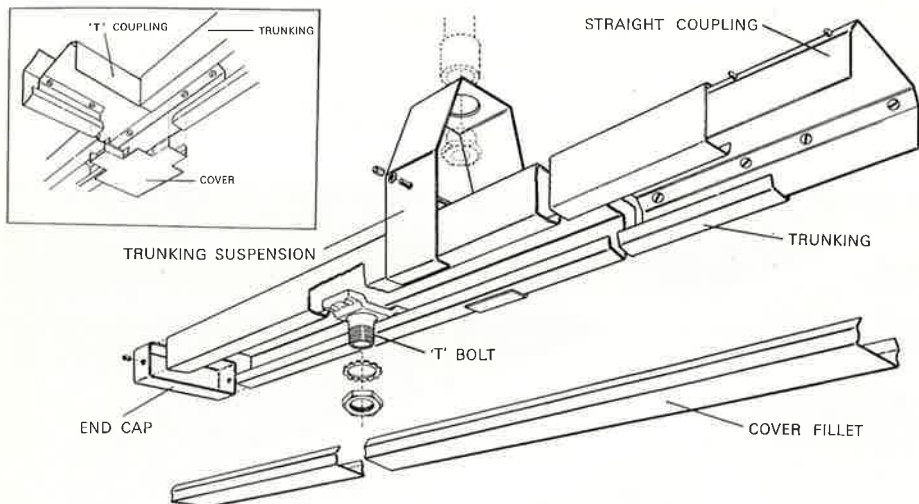
in addition to or instead of the standard to obtain further rigidity and so reduce the deflection.

It is important when designing trunking installations to ensure that the deflection between spans does not exceed 1/300th of the total span, e.g. an installation requires trunking to be suspended at 11ft spans.

$$\therefore \text{maximum deflection} = \frac{11 \times 12}{300} = 0.44\text{in (11.2mm)}$$

atlas

Liteline trunking



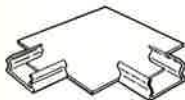
Cat. no. AL4500
Trunking Section
4.5 metres (14'9")
length. Weight 6.3kg
(13.915) 6.67cm
(2.6in) wide x 3.2cm
(1.3in) deep



Cat. no. AL1003
End Cap
Weight 0.01kg (½oz)



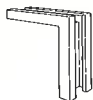
Cat. no. AL1006
Horizontal Coupling
Weight 0.5kg
(1lb 3oz)



Cat. no. AL1009
Cover Assembly
Weight 0.6kg (2oz)



Cat. no. AL4512
Top Hat Section
4.5 metres (14'9")
length. Weight 3.5kg
(7lb 10oz)
10.6cm (4 1/8in) wide
x 4.3cm (1 7/8in) deep



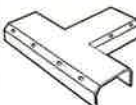
Cat. no. AL1015
Vertical Horizontal
Coupling (External)
Weight 0.7kg
(1lb 10oz)



Cat. no. AL1001
PVC Cover Fillet
1.8 metres (5'11")
length. Weight 0.17kg
(6oz)



Cat. no. AL1004
Trunking
Suspension
Weight 0.11kg (4oz)
3.8cm (1 1/2in) wide x
8.6cm (3 3/8in) deep



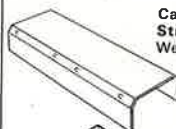
Cat. no. AL1007
'T' Coupling
Weight 0.7kg
(1lb 10oz)



Cat. no. AL1010
Girdler Clamp
Assembly
Weight 0.14kg (5oz)



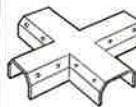
Cat. no. AL1013
Parablock
Connector
Weight 0.03kg (1oz)
takes cable up to 7/036



Cat. no. AL1002
Straight Coupling
Weight 0.5kg
(1lb 3oz)



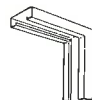
Cat. no. AL1005
'T' Bolt (Fitting
Suspension)
Weight 0.09kg (3oz)



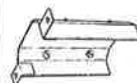
Cat. no. AL1008
4-way Coupling
Weight 0.9kg
(2lb 1oz)



Cat. no. AL1011
Suspension Bracket
Weight 0.03kg (1oz)



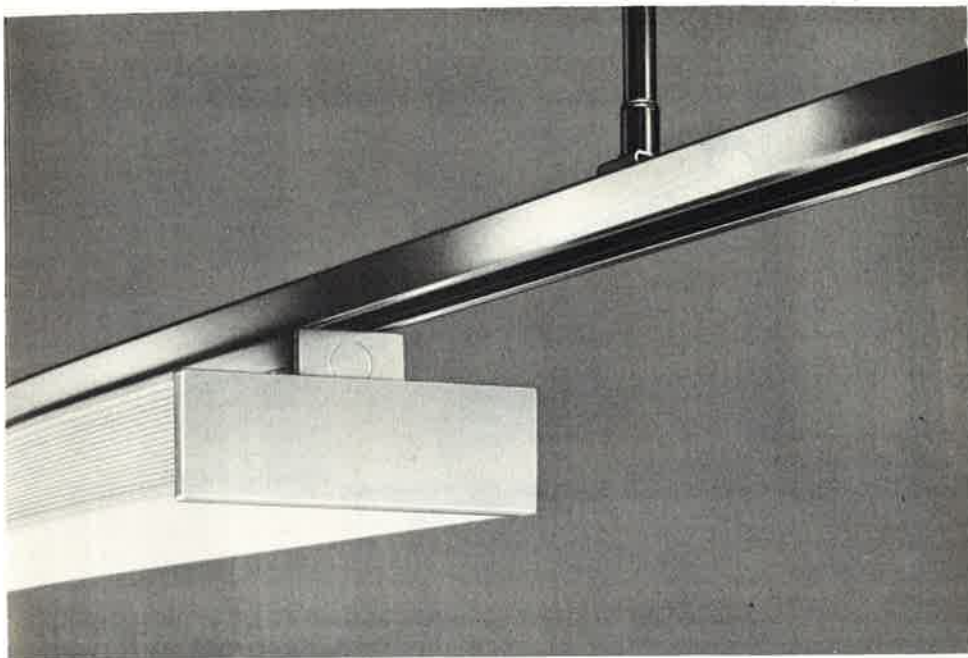
Cat. no. AL1014
Vertical-Horizontal
Coupling (Internal)
Weight 0.7kg
(1lb 10oz)



Cat. no. AL1016
Stop-End Junction
Weight 0.5kg
(1lb 3oz)

atlas

New lightweight trunking



This ultra slim section anodised aluminium trunking is particularly suitable for office, store and display lighting applications where more industrial forms are too bulky and may present an unsatisfactory appearance.

Two types of trunking section are available – one for surface mounting or conduit suspension and another type for recessing into suspended ceilings. (See illustration).

The trunking suspension assembly is used to connect the trunking section to the $\frac{3}{4}$ in conduit down-drop.

Suspension of trunking by means of chains is normally NOT recommended.

The fitting is connected to the trunking section by means of the fittings suspension assembly. By this means extreme flexibility of suspension centres for the trunking and spacing of the fittings along the trunking is achieved.

The coupling piece to join the lengths of trunking together is fitted internally and is locked with set-screws without drilling the trunking.

A PVC cover closes the open mouth of the trunking between fittings and a black finished end-plate closes the end of the

trunking. This end-plate incorporates a knock-out to receive conduit which is used to feed into the trunking and make bends, clear obstacles, etc. between the trunking runs.

Through wiring cables are retained in the trunking by fibre support pieces.

Maximum recommended trunking suspension centres 8ft.

NOTE: A gap of at least $\frac{1}{4}$ in must be left between trunking lengths during installation to allow for expansion.

Deflections for Atlas New Lightweight Trunking

Dim A	Dim B	Weight W	Deflection
8 ft	24 in	20 lb	0.225
8 ft	48 in	30 lb	0.225



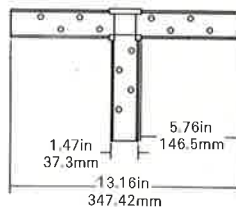
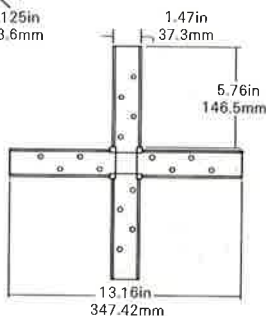
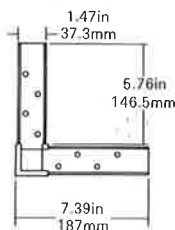
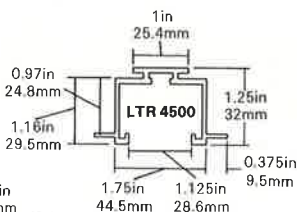
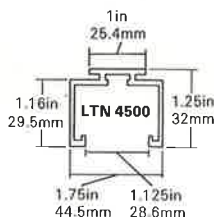
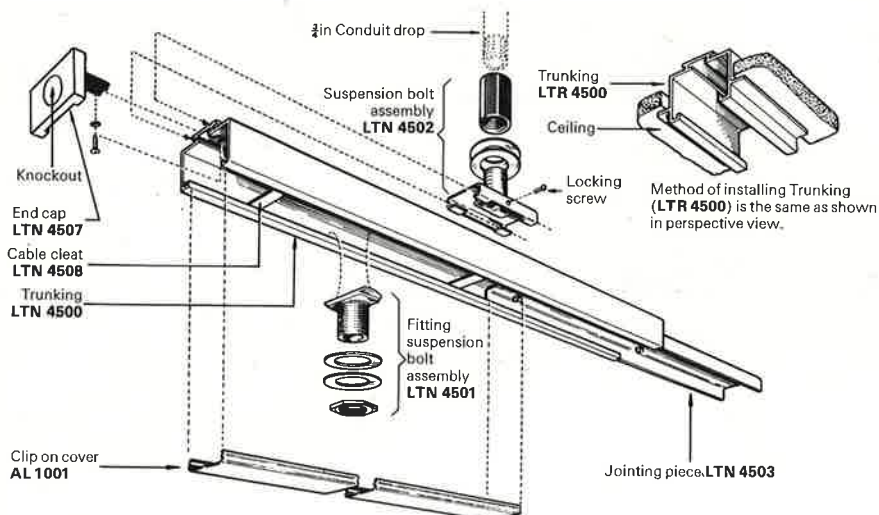
NOTE: The above deflections were measured using maximum weight Popular Pack fittings. These figures assume that all loads are counter-balanced and the final trunking span

will be adequately supported at the termination point. It is important when designing trunking installations to ensure that the deflection between spans does not exceed $1/300$ th of the total span.

For example, an installation requires trunking to be suspended at 8ft spans. Therefore maximum deflection = $\frac{8 \times 12}{300} = 0.32$ in.

atlas

New lightweight trunking



LTN 4504

LTN 4506

LTN 4505

Components Table

Catalogue no.	Description
LTN 4500	4.5 Metre Length Trunking
LTR 4500	4.5 Metre Length Trunking for Recessing
LTN 4501	Fittings Hanger Assembly
LTN 4502	Trunking Hanger Assembly
LTN 4503	Jointing Piece
LTN 4504	2-way Coupling
LTN 4505	3-way Coupling
LTN 4506	4-way Coupling
LTN 4507	End Cap
LTN 4508	Cable Cleats
AL 1001	1.8 Metre P.V.C. Cover (Also used with Liteline Trunking)

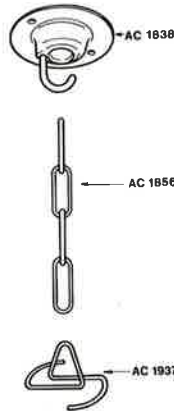
All of the above components are bulk packed.

Suspension sets are available for all Thorn lighting fittings. Reference should be made to maximum loading table and respective weight of fitting to determine the type of suspension required. Standard lengths of rod or chain sets is 30in. Other lengths in multiples of 6in will be supplied on request. Half sections of the suspension sets are illustrated. Catalogue number relates to complete set.

Catalogue number for individual parts of suspension sets are shown on the diagrams.

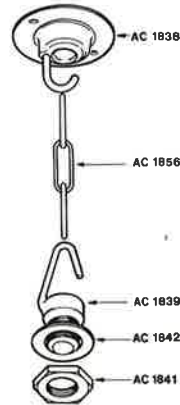
Max. loading table

Maximum loading per set Cat. no.	lb	kg
A.30	40	18.2
B.30	68	30.9
H.30	270	123.0
K.30	60	27.3



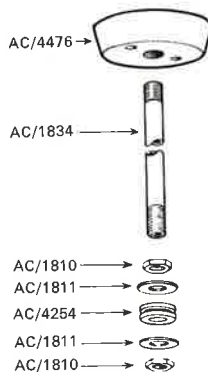
Suspension Set A.30 (Light Duty)

Two malleable iron hooked ceiling plates, two 30in lengths of chain, two spring loops.



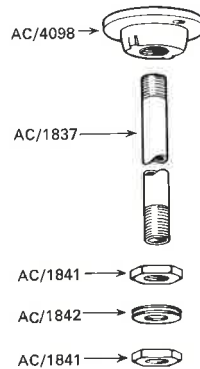
Suspension Set K.30 (Heavy Duty)

Two dome hook plates, two 30in lengths of chain, two 3/4 E.T. suspension hooks, back nuts and washers.



Suspension Set B.30

Two pressed ceiling plates, two 3/4 in by 30in rods screwed 26 T.P.L., grommets, locknuts, washers. White finish.



Suspension Set H.30

Heavy duty conduit suspension including two 3/4 in by 30in rods with ball joint ceiling plates and back-nuts. White finish.



INCANDESCENT AND DISCHARGE— INTERIOR

Introduction

In the fittings illustrated in this section, glass, plastic and metal are used to produce a decorative effect as well as to screen or diffuse the light.

Single, multiple or adjustable pendants, wall brackets and recessed or swivelling spotlights are included in the range, which is suitable for a number of commercial, display and other applications.

Many of the fittings illustrated can use the °**Kolorlux** lamp with its high efficiency and good colour rendering properties.

Since control-gear is needed with these lamps the °**Kolorlux** pack has been developed making them as easy to use as the familiar tungsten-filament lamp.

Creative imagination is the keynote to Thorn design – efficiency and reliability its invisible bonus.

Incandescent and Discharge Interior Index

Page no.	Modern	155	VI, VQ Series K1100/1150 Filters
115	Introduction	156	VF, VM, VE Series
116	Glassware and Suspension	157	DL, VG, VA Series
117	XY Metal Reflectors		
118	XJ, XK Ceiling Fittings		
	XL XW1 Wall Brackets	158	Low Voltage Spotlights
119	Construction Detail		DB, DS Series
120-121	Glass and Suspension Details		ES Tungsten Halogen
		159	K1150 Colour Filter
			DAS, DCS Fittings
			TRF Low Voltage Transformer
122-123	Modern Junior		
	WX Series Glassware and Suspension		
		160	Interior Floodlight
			EU Tungsten Halogen
124	Novelle		
	NLH Series		
		161	Hospital
124	Modern		OE, OG Low Brightness
	WO Occasional Lamp		
		162	Opalite
			MN Series
	Colordome		
125	WKA100C, WKA100S, WKC100R, WKC100W		
126	WAM and WA Adjustable Pendant	163	Industrial
127	WH100, WR100	164	Introduction
	WS1100 Spotlight Series	165	HBR/G250, G400
		166	HBR/G700, HBR/G1000
		166	HBIX/G400
		167	HBT/X400
128	Top Spot	168	HBT
	VTC60, VTD60		
129-130	Linklight		
131	WL Series		
	WE Series		
132	Cubelight		
	WM Series		
133	Scatterlight		
	SC Series and Suspension		
134-135	Chelsea		
	J. Range Glassware & Suspension		
136	Netastrip		
	NE60, NE4600		
137	Mini Dimmer		
138	Nova		
139	Cylinder Range ML100/150, MP100/150		
140	NCA, NDA, NFT, NLT Fittings, MR, MT Fittings		
141	NC, ND, NF, NL Fittings		
	Dimensions and Weights		
142	Kolorlux Pack		
143	PKC80, PKC125		
144	PKA80, PKA125, PKM80, PKM125		
145	PKT80, PKT125		
	PKO80, PKO125, PKB80, PKB125		
146	Display Range		
147	Introduction		
	VS2060 Surface Mounted Fittings		
148	VL, VX, VZ Attachments for VS2060		
	VS2100 Surface Mounted Fitting		
149	VL, VZ Attachments for VS2100		
	VCB, VCM, VU Cylinder Baffle		
150	VW Wall Washer for VU		
	VC Cylinder Range		
	VL, VX, VZ Attachments for VC Fitting		
151	VR100 Recessed Fitting		
	VL, VP, VS, VX, VY, VZ Attachments for VR100		
152	VR200 Recessed Fitting		
	VL, VO, VX, VY, VZ Attachments for VR200		
153	DNM Surface Mounted Fitting		
	DP Recessed		
	JC Recessed		
	VJ Junior Recessed Vertical Fitting		
Page no.	Modern		
	Main Voltage Spotlights		
154	VH, VHB		

The Modern range, an exciting range of tungsten lighting fittings offers an interesting variety of glass diffusers and metal reflectors. Both satin opal and clear crystal glass have been used to fine effect, with surface treatment and texture giving qualities valuable for use in present-day interiors.

The link through this great variety is the suspension design with its distinctive black cap. Pendants – one, three and five-way are arranged for straight drops, radiating arms or spreader assemblies. Close ceiling mounting and wall brackets cover all applications. Fourteen glasses provide a wide scope of choice for the interior designer. Three superb spherical glasses may be used in combination with certain cylindrical inner to create a richness of texture and colour. Sparkle from the

bubbled sphere shows crystal at its best; amethyst and twilight blue add that subtle touch of colour.

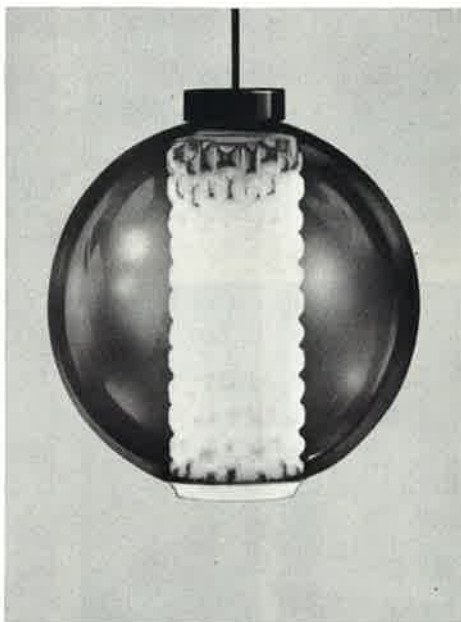
Elegant conical metal reflectors, in polished and lacquered copper and aluminium with a white skirt extend the range: splendid and cool in turn. Concentric louvres in white plastic are available for both types. The pendant assemblies, as used for the glassware, support the reflectors, the black cap again making a pleasant emphasis against the copper or aluminium.

Two ceiling fittings of crystal glass supported in black finished metal framing complements the Modern range. A range capable of varied and extensive use.

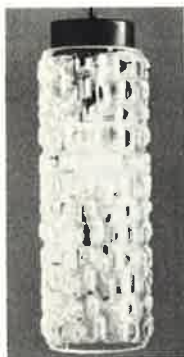
Examples of glass fittings on suspension. For ordering details see pages 119 120 and 121



XDO. Satin opal glass on three-way pendant. XP3.



XAT. Twilight outer sphere with XDO satin opal inner. single pendant. XP1.



XDC. Crystal glass, on single pendant, XP1.



XEO. Stepped satin opal glass on single pendant, XP1.



XBC. Bubbled glass with XDC clear crystal inner. Using XR1 ceiling mounting.



XFL. Satin opal cylinder on single pendant, XP1.



XGS. Large diameter short satin opal cylinder on single pendant, XP1.



XYO. Long barrel satin opal glasses, on five-way spreader pendant, XS5.



XUO. Long satin opal glasses on three-arm pendant, XC3.

Examples of Double glass fittings. For ordering details see pages 120 and 121



XBC. Bubbled glass with XDC clear crystal inner. Using XP1 single pendant.



XAT. Twilight sphere with clear crystal inner, on XP1 single pendant.



XAM. Amethyst sphere with XEO stepped satin, opal inner, on XP1 single pendant.

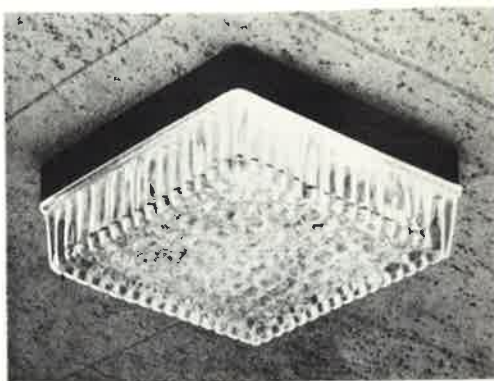


XYC. Polished copper (or XYA Aluminium) reflector with XYL louvre attachment on XP1 single pendant.

Examples of wall brackets and close ceiling fittings. For ordering details see pages 120/121



XLI. Single wall bracket using short clear crystal glass. XDS.



XJ.2040. Square ceiling fitting with clear crystal glass ; 2 x 40w lamps.



XK.2040. Circular ceiling fitting with clear crystal glass ; 2 x 40w lamps.



XL2. Twin wall bracket using short barrel satin opal glasses. XZO.



XWI. Single wall bracket using short clear crystal glass. XDS.

Straight drop pendants single and three-way XP1 and XP3.

The basic lampholder and gallery assembly (1) can be used with every glass and metal reflector. It is suspended on a black cable (2) normally 2ft 6in long for the single pendant, in which is incorporated two copper straining wires (3) securely anchored at lampholder and ceiling plate (4). The weight of the single suspension without glass is $\frac{3}{4}$ lb, 0.3kg. The illustration shows a cross section of a typical pendant set. The glass is mounted on to a metal spider (5) and can easily be removed for cleaning. Unscrewing the black knurled bush (6) permits the cast cap (7) to be raised and allows for the glass to be lifted by a sideways movement over the spider.

For single pendants with cable drops longer than standard there is an 8ft suspension in kit form, Cat. no. XP1/8 kit. This pendant is supplied with ceiling plate unassembled enabling the cable to be cut to the desired length. Following instructions provided, the ceiling plate is easily connected to the cable.

Also available is a three-way multipendant XP3, the standard length of each cable being 6ft. With the addition of the AC4895 looping block, the three-way suspension can easily be converted into a looped, free ranged pendant.

Close ceiling unit XR1.

Suitable for all types of glasses, bracket (8) permits mounting direct to ceiling or B.E.S.A. box. To remove glass for cleaning, it is only necessary in this instance to unscrew the specially designed glass retaining ring (9).

Arm type pendants three and five-way XC3 and XC5.

These multipendants have a central cast ceiling plate (10) with a white plastic cover (11) screwed on to the central boss. This cover retains the slider (12) in position on the back casting. The sliders which carry polished brass arms (13) are suitably attached to the back casting through keyhole slots. The cable length is 6ft for each pendant terminating in the standard Modern range lampholder assembly.

Spreader type pendants three and five-way XS3 and XS5.

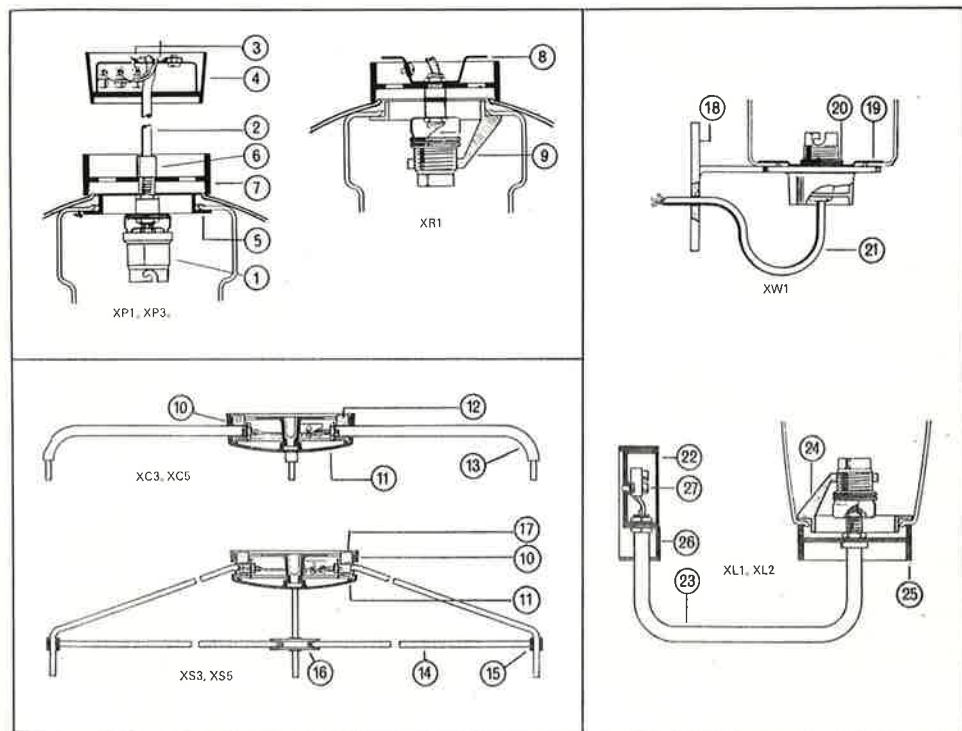
This suspension has, in common with the XC series, a matching plate (10) and cover (11), but incorporates a three or five-way black anodized spreader (14). The cable suspensions pass through polished brass collars (15) and the black anodized rods (14) meet centrally at the polished cast brass ring (16). The spreader can be adjusted *in situ* to any forward position on a cable length of 6ft. The cable is anchored into a slider (17) which is suitably attached to the ceiling plate casting through keyhole slots.

Wall bracket XW1.

A wall mounting unit is available for use with any of the glasses up to 4in maximum diameter. The wall fixing plate casting (18) also carries a glass support cap from a slender connecting arm. The glass is retained by a clamping piece (19) secured by the shade ring (20). The black cable connection (21) is looped from the lampholder and passes back through the wall plate. It is finished black in keeping with the Modern range.

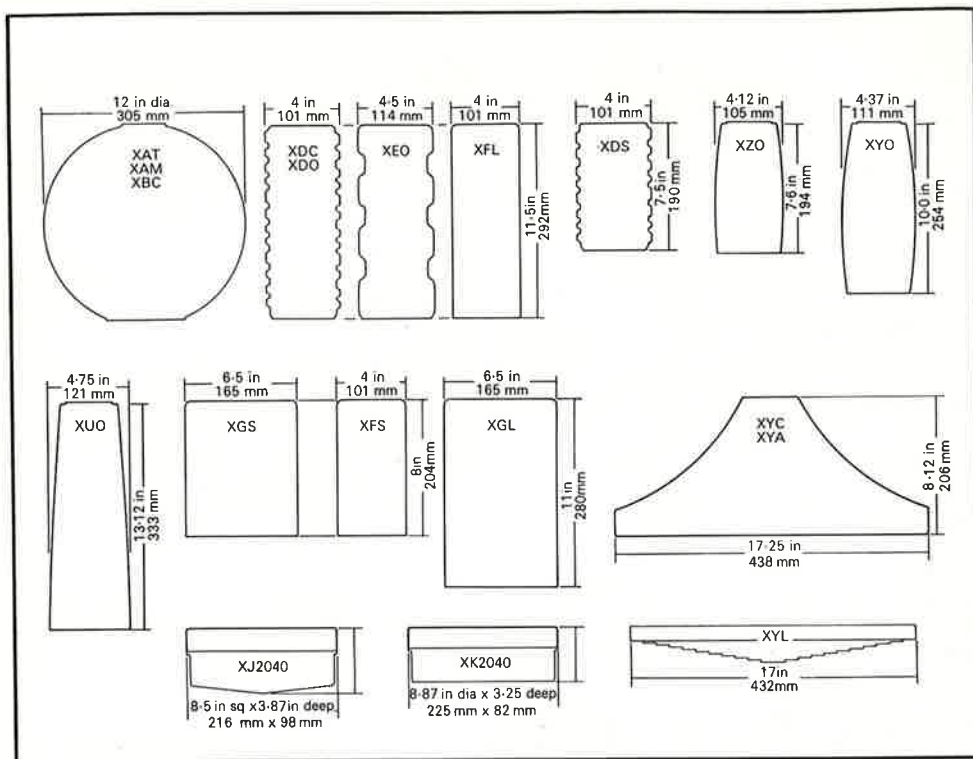
Wall bracket XL1 and XL2.

Single and twin wall brackets have been designed with a polished brass back plate cover (22) and slender tubular brass arms (23). Any of the glasses in the range can be used. The retaining ring (24) clamps the glass against the black cast cap (25). Removal of the brass cover (22) from the black finished casting (26) exposes the fixing points and terminal block (27) which makes mounting an easy and fast operation. The arms can be swivelled to any desired angle and can be used reversed (glass open downwards) if required. All fittings comply with B.S.3820.



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Modern glasses



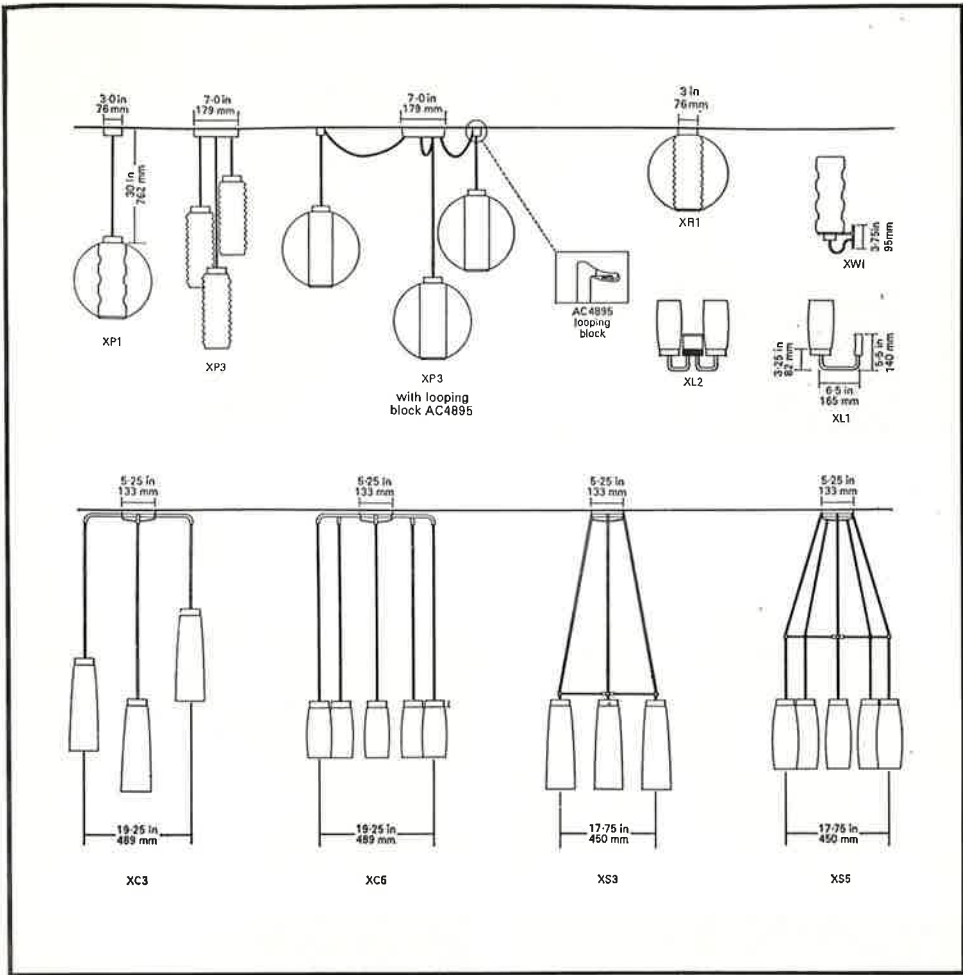
ORDERING DETAILS OF GLASSES: glasses and suspensions to be ordered separately.

		Cat. no.	Maximum wattage	Weight of fitting (ex. lamps)	
				lb	kg
Glasses outer	Bubbled sphere	XBC	150	3½	1.58
	Twilight sphere	XAT	150	3½	1.58
	Amethyst sphere	XAM	150	3½	1.58
Glasses inner (or single)	Long crystal	XDC	150	1½	0.68
	Dimpled opal	XDO	150	1½	0.68
	Stepped opal	XEO	150	1½	0.68
	Plain cylinder	XFL	150	¾	0.34
	Short crystal	XDS	100	1½	0.57
Glasses single	Short barrel	XZO	100	½	0.23
	Long barrel	XYO	150	¾	0.34
	Long U shaped	XUO	150	1	0.45
	Large short	XGS	150	1	0.45
Single glasses – plain cylinder	Small short	XFS	100	½	0.22
	Large long	XGL	200	1½	0.80
Ceilings fittings – complete	Round	XK2040	2 x 40	4	1.8
	Square	XJ2040	2 x 40	6½	2.94
Metal reflectors	Copper	XYC	100	4½	2.0
	Aluminium	XYA	100	2	0.9
Attachments	Louvre	XYL	100	½	0.22

Weights are less suspensions.

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Modern suspensions



ORDERING DETAILS OF SUSPENSIONS

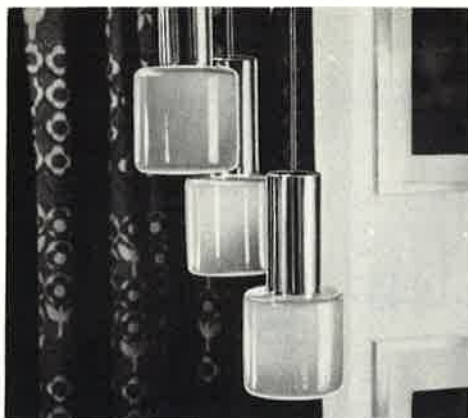
Glasses indicated are typical examples only. Glasses and suspensions to be ordered separately.

			Cat. no.	Weight (ex. lamps)	
				lb	kg
Straight drop	Single		XP1	2	0.3
	Single		XP1/B KIT	2	0.3
	3-way		XP3	3	1.36
Looping block			AC.4895		
Close ceiling	unit		XR1		
Arm pendant	3-way		XC3	3½	1.6
	5-way		XC5	5½	2.49
Spreader pendant	3-way		XS3	3	1.37
	5-way		XS5	4	1.8
Wall bracket	Single		XW1	2	0.34
	Single		XL1	1½	0.56
	Twin		XL2	2	0.90

Weights are less glasses.

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Modern junior



WXP3, Triple suspension with orange glass WXG.R



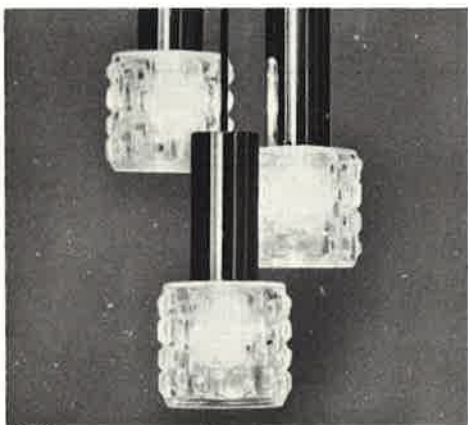
WXB1, Wall bracket using green glass WXG.G.



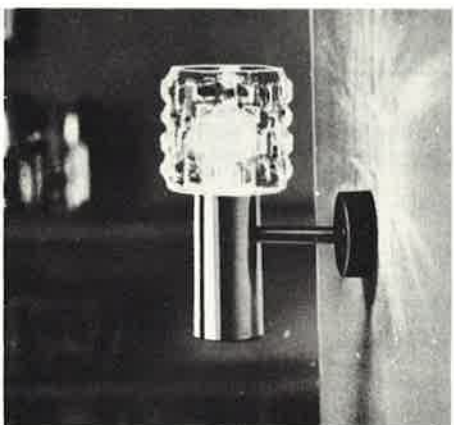
WXP1, Single suspension with amber glass WXG.A.



WXC1, Close ceiling fitting with amber glass WXG.A.



WXP3, Triple suspension with clear glasses WXG.C.



WXB1, Wall bracket, clear glass WXG.C.

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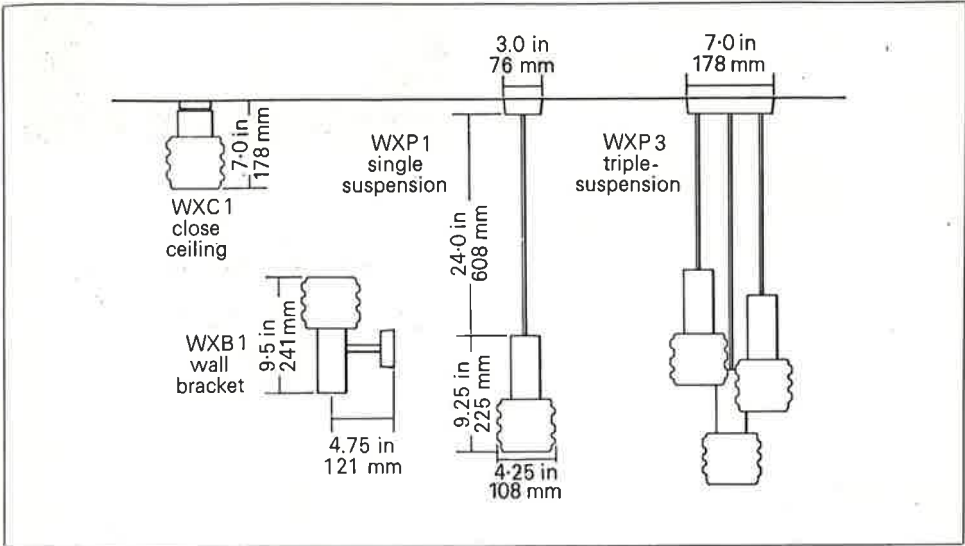
Modern junior

The Atlas Modern Junior range offers a low priced means of enjoying the charm of crystal glass and giving your decor that extra touch of luxury. Available in amber as well as clear, the crystal glass matches the larger design in pattern and texture.

Colour – the keynote of modern installations – has been included in this versatile range, White Opal Satin Etched, Orange Flashed Opal and Green Flashed Opal glassware

being recent additions.

These fittings can be used singly or in clusters over a dining table or high on the ceiling in hallways, etc. A matching wall bracket is also included in the range. Suspended on a black cable, the lampholder is shrouded in a chromium plated shield. Glass packed complete with 60w lamp.



ORDERING DETAILS. Glasses and Suspensions to be ordered separately.

Cat. no.	Colour	Weight (ex. lamp)		Cat. no.	Suspension	Weight	
		oz	kg			lb	kg
Glass							
WXG.A	Amber	14.0	0.4	Suspensions			
WXG.C	Clear	14.0	0.4	WXP1	Single	1.0	0.45
WXG.G	Green flashed opal	14.0	0.4	WXP3	Triple	2.5	1.2
WXG.O	White opal satin etched	14.0	0.4	WXB1	Wall bracket	1.0	0.45
WXG.R	Orange flashed opal	14.0	0.4	WXC1	Close ceiling	0.5	0.22

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Novelle and Occasional lamp

Novelle

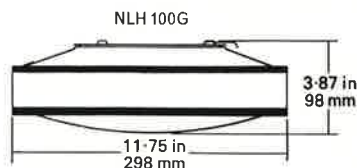
When efficient lighting without glare is required, satin opal glass provides the answer. Take a simple gallery suitable for close ceiling mounting, add a decorative gold fabric trim and you have NOVELLE.

This attractive fitting using the same basic components as the very popular NOVA range is suitable for homes, hotels, universities, in fact any interior where well designed yet simple fittings are required.

Cat. no.	Colour	Lamp watts
NLH100G	Gold	100

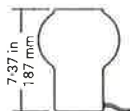


NLH 100 G



Occasional lamp

Glass occasional lamp for brightening up dim corners and decorating the room with glowing colours. The orange and white glasses are a perfect foil for each other and find numerous resting places, such as occasional or coffee tables, book shelves, ladder racks and room dividers. Subdued light for TV or supper parties makes your house guests admire your decor.



Colour	Cat. no.
Orange opal	WO1060R
White opal	WO1060W

Packed with 60W lamp.



WO 1060R

Colordome

A new attractive range of decorative pendants using two part metal reflectors and white plastic louvres. The lower reflectors are available brushed lacquered in silver or copper as well as stove enamelled in orange and white. A contrasting white painted top cover mounted above the reflector has an internal orange finish which provides a richly toned halo effect. Suspension is by means of a ceiling-mounted rise and fall unit for fittings having the brushed lacquered finishes with contrasting black cable carried from a white ceiling cover.

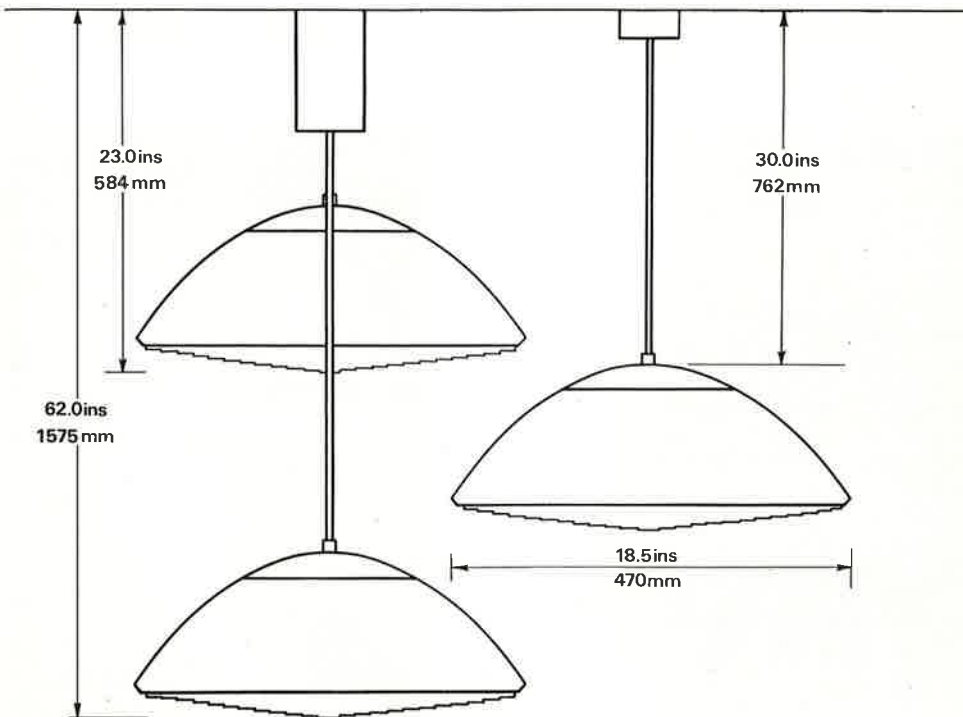
A non adjustable single cable suspension is used for those with the painted finish with black cable and ceiling plate.

This versatile range has numerous applications in the home, hotel, restaurant, bar, etc.

Suitable for lamps of up to 100w rating.



	Cat. no.	Weight (ex. lamp)		
		lb	ozs	kg
Adjustable Pendant				
Reflector finished brushed copper with white painted cap	WKA100C	6	6	2.87
Reflector finished brushed silver with white painted cap	WKA100S	6	6	2.87
Cable Suspension - Non Adjustable				
Reflector painted orange with white cap	WKC100R	5	—	2.25
Reflector painted white with white cap	WKC100C	5	—	2.25



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Modern adjustable pendants

Adjustable pendant

A multi-purpose pendant fitting adjustable to any convenient height by means of a ceiling mounted rise and fall unit.

The reflector of spun aluminium is available finished in a variety of colours comprising brushed silver, amber, purple, blue or painted matt black and is suspended on contrasting black cable carried from a white ceiling cover. An opal cylindrical inner ensures well diffused light whilst adding decor to the main design. Diffusers in

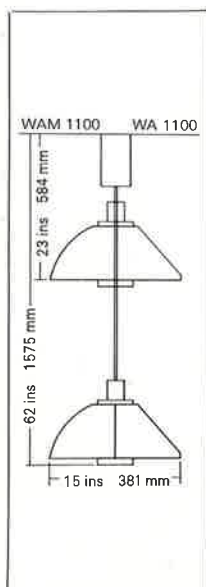
orange or white acrylic are also available in place of the spun aluminium reflector. Packed complete with 100w lamp.

Over the dining table the fitting provides height adjustment for comfort and emphasis on the table decoration. Over the dressing table the correct lighting position is achieved for make-up, etc., numerous other applications include bed-side lighting, study, nursery, etc. The lampholder is shrouded in a chromium plated shield.

Colour	Cat. no.	Weight (ex. lamp)		
		lbs	ozs	kg
Brushed silver reflector	WAM1100S	3	10	1.6
Matt black reflector	WAM1100M	3	10	1.6
Amber reflector	WAM1100A	3	10	1.6
Blue reflector	WAM1100B	3	10	1.6
Purple reflector	WAM1100P	3	10	1.6
Orange diffuser	WA1100R	3	5	1.5
White diffuser	WA1100W	3	5	1.5



WAM 1100A



WAM 1100S



WA 1100R

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Modern domestic cylinders and spotlights

Ceiling cylinder

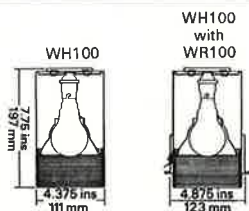
WH100 A high quality surface mounted cylinder in a brushed silver finish with low brightness baffles to eliminate glare. Provides the basic functional lighting to modern standards with visual comfort – the very solution to many lighting problems. Packed complete with 100w general service lamp with clip-on auxiliary reflector. Used in conjunction with bezel ring assembly, Cat. no. WR100 enables unit to recess into ceiling. Adjustment is provided permitting varying degrees of projection. Concealed support brackets enabling quick fixing to all types of suspended ceilings are also provided.

	Cat. no.	lbs	kg
Ceiling cylinder	WH 100	1½	0.57
Adjustable bezel ring	WR 100	½	0.11



WH 100 with WR 100

WH 100



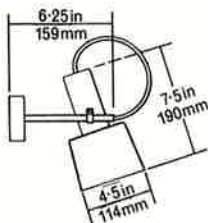
Domestic spotlight

This adjustable spotlight is designed for wall or ceiling mounting. In natural anodized aluminium finish is rear spinning mounted by means of a bright chrome stem on to a black fixing plate.

A push switch is available as an optional extra. It is easily fixed to the back-plate by means of the knock-out provided.

Full instructions for fixing and wiring to the terminal block in the backplate are supplied. For additional colours there are two alternatives.

The WS1100SW is available with the front shield in a smooth brushed silver finish. Rear spinning and fixing plate are stove-enamelled white.



WS 1100

	Cat. no.	Weight	
		ozs	kg
Natural anodized and black	WS1100	8	0.22
Brushed silver and white	WS1100SW		
Brushed copper and white	WS1100CW		

atlas Top spot

Top spot

This versatile spotlight offers effect lighting that brings flair to your decor, light for working or relaxing and makes an attractive addition to the home.

Simple and functional in design the Top Spot uses a standard general service lamp in place of special types normally used in conventional spots.

The reflector of the desk lamp version (Cat. no. VTD 60) finished in eggshell black is externally mounted via a bright chrome support rod on to a black rectangular metal base.

There is an adjusting screw for tilting the reflector to any position and a rocker switch in the base, both of which are finished in bright red in contrast with the eggshell black and chrome. Elongated slots in the base allow the fitting to be hung on the wall.

A ceiling mounting version with reflector and back plate finished in gloss white (Cat. no. VTC 60W), or matt black (Cat. no. VTC 60B) is also available.

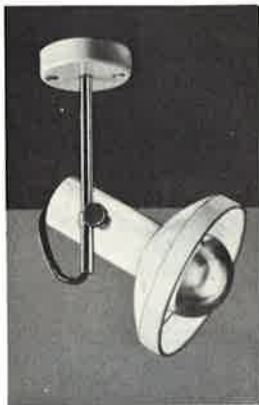
These inexpensive fittings have a wide range of applications in the home. They are invaluable as a desk lamp as well as for lighting pictures or *objets d'art*. They can be used as a bed-side light or in living areas and are extremely useful for handyman jobs or home hobbies.

Both units are wired complete with an adequate length of black P.V.C. flex and supplied complete with 60W lamp.

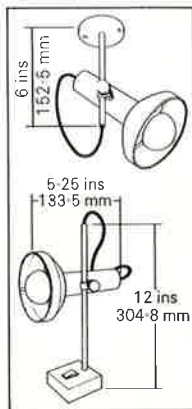
	Cat. no.
Desk lamp	VTD 60
Ceiling fitting	VTC 60W
Ceiling fitting	VTC 60B



VTD 60 Desk lamp.

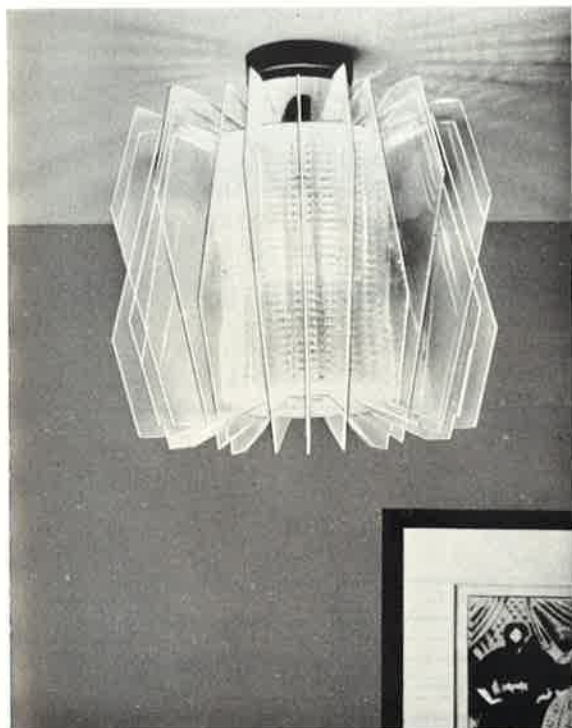


VTC 60w Ceiling fitting.



The dramatic possibilities of 'edge-lighting' are exploited to the full in this superb range of lighting fittings. Suitable for both commercial and domestic situations, the Link-lite introduces a highly original and remarkably effective lighting technique, and represents an entirely new concept in design and adaptability. By the careful use of a variety of finned crystal styrene diffusers, the fitting achieves an effect that combines sparkling attractiveness with functional efficiency. As the light shines through the diffuser, the edges of the

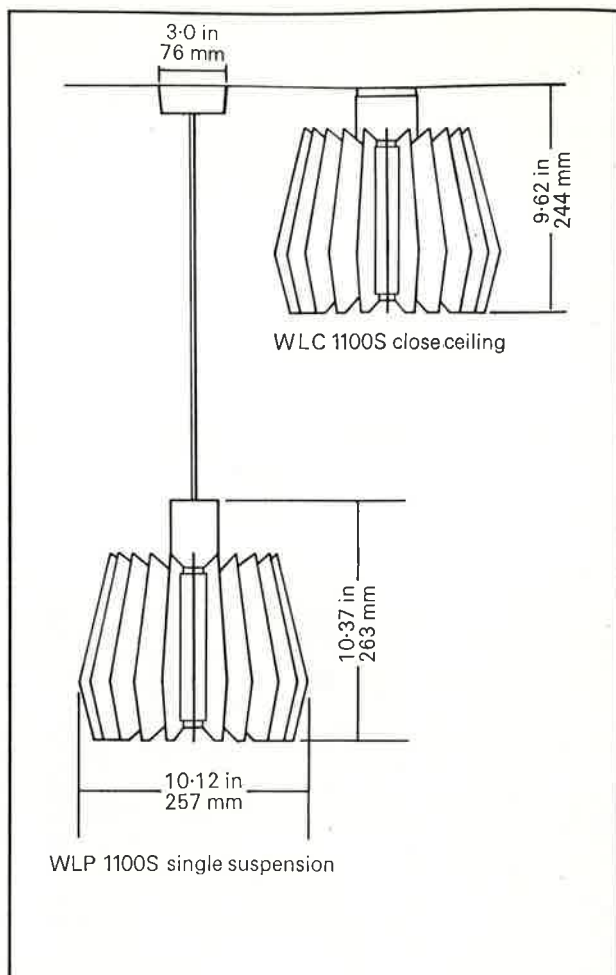
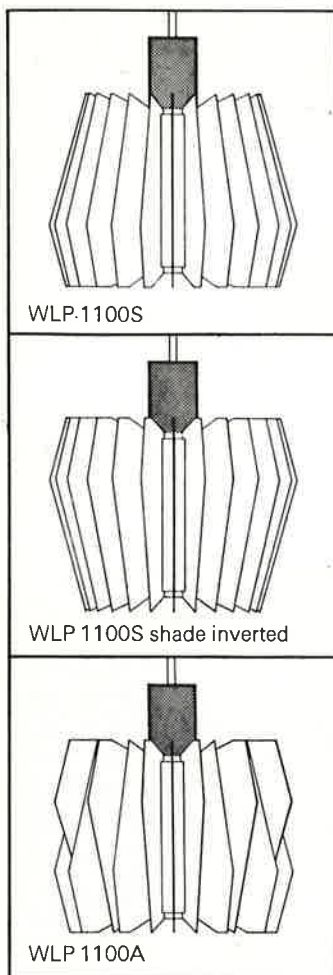
fins are strongly highlighted in a pleasing and unusual way, forming a decorative pattern that completely surrounds the fitting. This pattern is varied by inverting some or all of the fins, so that many different regular or irregular patterns are achieved (see diagrams). For suspensions the range is fitted with a contrasting chrome cylinder with a black cable assembly, and is available either as a single pendant, or, if required, as a close-ceiling-mounted unit. Reg. Design no's. 925530 and 925531.



WLC 1100A close ceiling version



WLP 1100S single suspension.



CATALOGUE NUMBERS AND TYPES

fin arrangement		Lamp watts	Weight (ex. lamp)		
Single suspension			lb	oz	kg
Asymmetrical	Cat. no WLP1100A	100	3	10	1.6
Symmetrical	WLP1100S	100	3	10	1.6
Close ceiling		Lamp watts	Weight (ex. lamp)		
			lb	oz	kg
Asymmetrical	WLC1100A	60	3	10	1.6
Symmetrical	WLC1100S	60	3	10	1.6

Packed complete with clear lamp in decorative box.

atlas

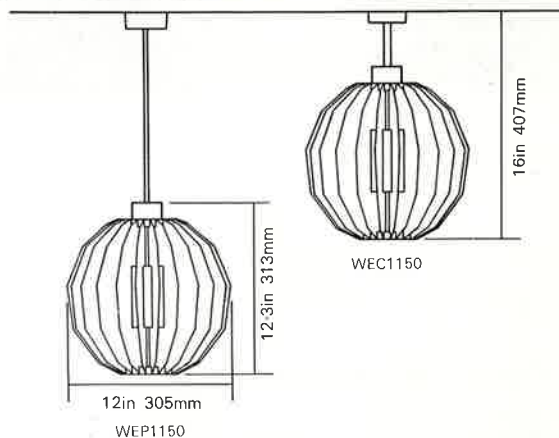
Link-lite 2

Linklite 2 is a bold development of the same technique as the original highly successful Linklite fitting using a 150w clear lamp to provide higher illumination without loss of form or sparkle. This fitting which was 'hailed' by the Electrical Light Fitting Association with an Efla award for good design is available in two versions.

A single pendant on a 2' 6" length of black cable giving an overall drop of 3' 5" and a close ceiling version with an overall drop of 16". Fitted with a unique

reversible lampholder support which permits the use of a 100w lamp whilst still maintaining the same light centre as the 150w lamp. This lampholder support is housed in a chrome cylinder which blends with both the black flex and ceiling plate as well as the polished styrene fins. This inexpensive range has many applications in the home, hotels, restaurants, bars and boutiques etc. Packed complete with 150w clear single coiled lamp in decorative box.

REGISTERED DESIGN NO. 939,946.



CATALOGUE NUMBERS AND TYPES

	Cat. no.	Lamp Watts	Weight	
			lb	kg
Single suspension	WEP1150	100/150	4	1.8
Close Ceiling	WEC1150	100/150	4	1.8
Including 150w Clear single coiled lamp.				

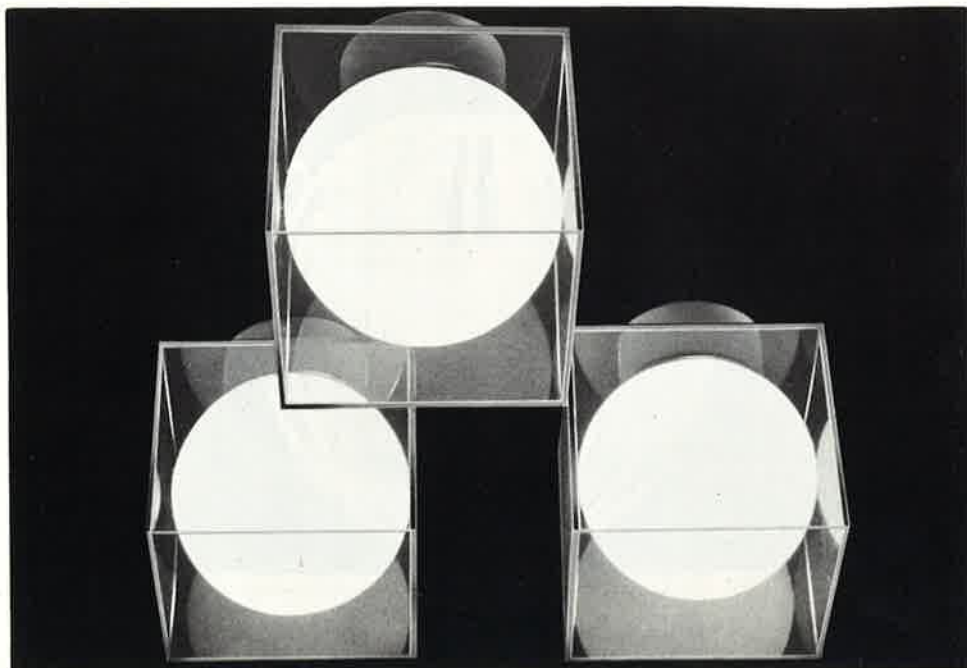
atlas Cubelight

An attractive range of decorative lighting fittings of classic simplicity. The Cubelight range is built round a satin etched white opal screw neck sphere to which is added a perspex cube outer in Twilight or Amber colour. Direct mounting to wall or ceiling is achieved by means of a white plastic heat resistant gallery and gasket.

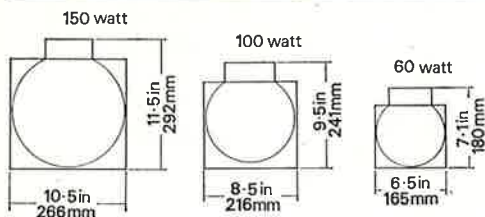
This colourful range of decorative units is available in 60w, 100w and 150w lamp sizes as single units

but equally attractive arrangements can be created by having regular or abstract patterns of cubes scattered on the ceiling.

These inexpensive units have a wide range of applications in the home, hotel or restaurant. Also available is a table stand adaptor complete with cable and switch which can simply be added to any size of cube when a table lamp is required.



WM 60A



CATALOGUE NUMBERS AND TYPES

Cat. no.	Lamp watts	Colour	Weight (ex. lamp)		
			lb	oz	kg
WM60A	60	Amber	2	0	0.9
WM60T	60	Twilight	2	0	0.9
WM100A	100	Amber	3	8	1.6
WM100T	100	Twilight	3	8	1.6
WM150A	150	Amber	5	8	2.5
WM150T	150	Twilight	5	8	2.5
WMT	Table stand adaptor		8		
			0.2		

atlas Scatter light

A range of elegant lighting fittings introduces an entirely new effective lighting technique, suitable for both commercial and domestic situations. Well proportioned pieces of Polyester Resin crazed to give a sparkling effect are available in clear, amber or red. The lamp which is concealed in a contrasting chrome cylinder allows the light to be directed through the resin dramatically highlighting its form. For suspension the range is available with a black cable assembly



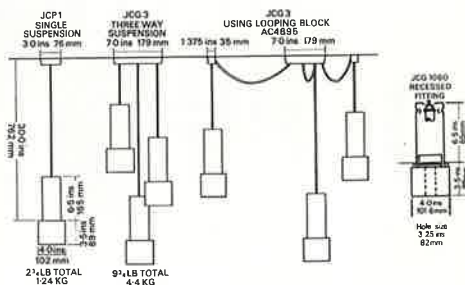
JCG3 with diffusers

with contrasting chrome cylinder either in a single or three-way pendant which can be converted into the looped free hanging type of suspension with the addition of AC.4895 cable suspension holder. A compact unit is also available for recessing into the ceiling surface to provide an inconspicuous source. A matching range of Scatter light discs are available in the form of attachments to our Display Range. For further details see pages 164 and 169.



JCG1060 with diffuser

For fixing details refer to page 169



ORDERING DETAILS diffuser and suspensions to be ordered separately

Cylinder diffuser			Cat. no.
	Clear		SCC
	Amber		SCA
	Red		SCR
Suspensions	Single pendant		JCP1
	Three pendant group		JCG3
	Recessed fitting		JCG1060
	Cable suspension holder		AC4895

Lamps

A special reflector lamp with diffusing front surface is recommended for these fittings.

Wattage	Name	Caps	Volts
60	Chelsea lamp	B.C.	200/210
			220/230
			240/250

atlas

Chelsea handwrought glass

Atmosphere is more important than lighting levels in many sophisticated surroundings and bars, restaurants and clubs are typical examples. The Chelsea glass has a special place in providing the tools for such applications. Elegant in the extreme, the range of Chelsea glass fittings successfully blends traditional craftsmanship with modern design. The sparkling handwrought glass is available in clear, ruby and

amber in shapes that permit within the scopes of various multiple assemblies complete changes of lighting effect. Light which is directed through the thick glass section from within a chromium plated sleeve dramatically highlights the form and colour. Available for single, or three-way suspension and a matching wall bracket.



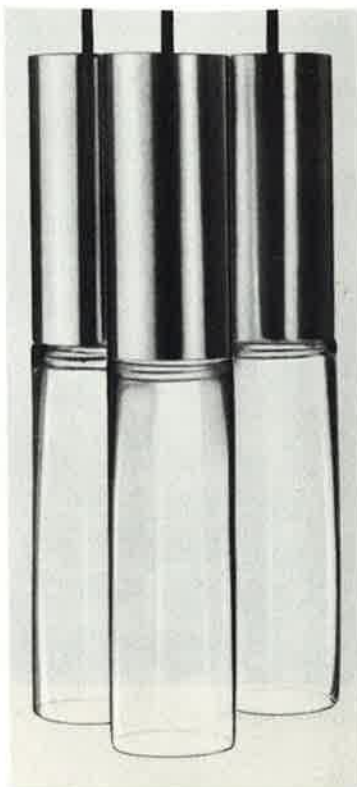
JYC



JJA



JCG3



JJA



JFR



JCB1



JCG1060

JCG3
Three-way pendant JCG3 with three JFR
ruby glasses.
JJA
Amber glasses on three-way pendant JCG3.
JJA
Amber glass on single pendant JCP1.
JFR
Ruby glass on JCP1 pendant.
JYC
Clear glasses on JCP1 Pendant.
JCB1
Wall bracket with JZR ruby glass.
JCG1060
Recessed fitting with JFA amber glass.

GLASSES

Range of glasses. Ordering details: glasses and suspensions should be ordered separately.

JZ glass. A shimmering crystal unit that sparkles with light and fire. Available in clear, amber and in cased ruby. In the latter glass the bubbles are in a clear glass overlay, giving the effect of twinkling stars against a glowing red ground.

JY glass. A glass of superbly elegant proportions. The subtle colours are enhanced by the transmission of light through the crystal itself, the lower end glowing with striking hues where the light is released. In clear or amber.

JF glass. This simple yet striking flare shape provides an effective contrast to the JZ glass. Available in clear or amber and in cased ruby.

SUSPENSIONS

Single suspension JCP1. This includes a black ceiling plate and cable with chromium plated outer cylinder. The cable (standard length 2ft 6in) incorporates two straining wires securely anchored at lampholder and ceiling plate.

Three-way suspensions JCG3. Using a finely proportioned 7in diameter ceiling plate this multiple pendant can be hung

directly in a closely grouped arrangement or with the addition of the AC4895 cable suspension holder can be converted into the looped free hanging type of suspension. Supplied with 6ft of cable per drop.

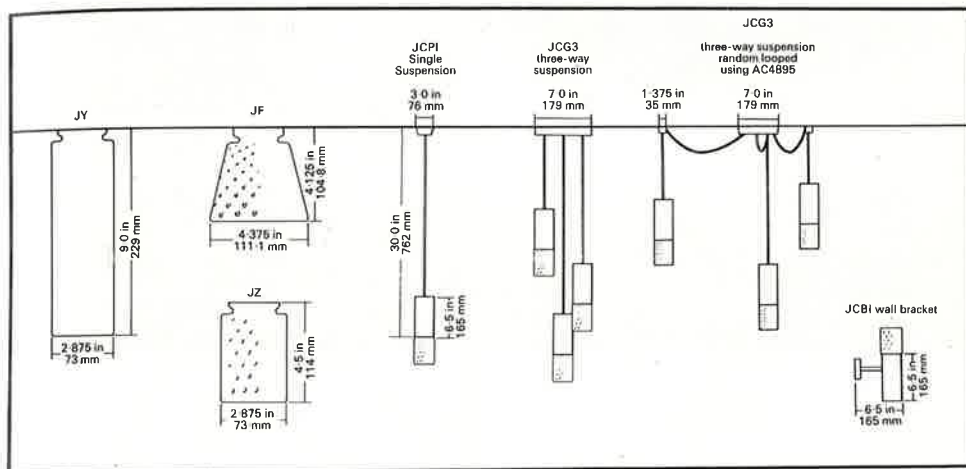
Wall bracket JCB1. Single wall bracket with black tubular arm and wall plate with chromium cylinder.

Recessed Unit JCG1060. A compact unit for recessing into the ceiling surface to provide an inconspicuous source. Fitting with glass supporting cylinder enables all Chelsea range glassware to be used. Also available fitted with metal cylinder (copper anodized finish) Cat. no. JCA1060 for particulars refer to page

Fitting and removal. When the chromium plated sleeve is raised the claws spread and the glass is placed in position. The sleeve is then lowered causing the claws to grip the neck of the glass positively and safely. The black flex, itself an integral part of the design, incorporates two straining wires securely anchored at lampholder and ceiling plate.

Lamps. A special internally silvered reflector lamp with diffusing front surface is recommended for these fittings, 60 watt, Chelsea lamp, B.C. cap. 200/210, 220/230, 240/250 volts.

All fittings comply with B.S.3820.



ORDERING DETAILS: Glasses and Suspensions to be ordered separately

Glasses

Cat. no.	Colour	Weight (ex. lamp)	
		lb	kg
JZC	Clear	1 1/2	0.68
JZA	Amber	1 1/2	0.68
JZR	Ruby	1 1/2	0.68
JYC	Clear	1 1/2	0.80
JYA	Amber	1 1/2	0.80
JFC	Clear	1 1/2	0.55
JFA	Amber	1 1/2	0.55
JFR	Ruby	1 1/2	0.55

Suspensions

Cat. no.	Suspension	Weight	
		lb	kg
JCP1	Single pendant	1 1/2	0.22
JCB1	Wall bracket	1 1/2	0.22
JCG3	Three pendant group	3	1.36
JCG1060	Recessed fitting	1 1/2	0.33
AC4895	Cable suspension holder	—	—

Weights are less suspensions and lamp.

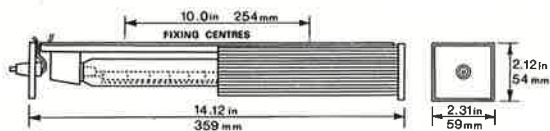
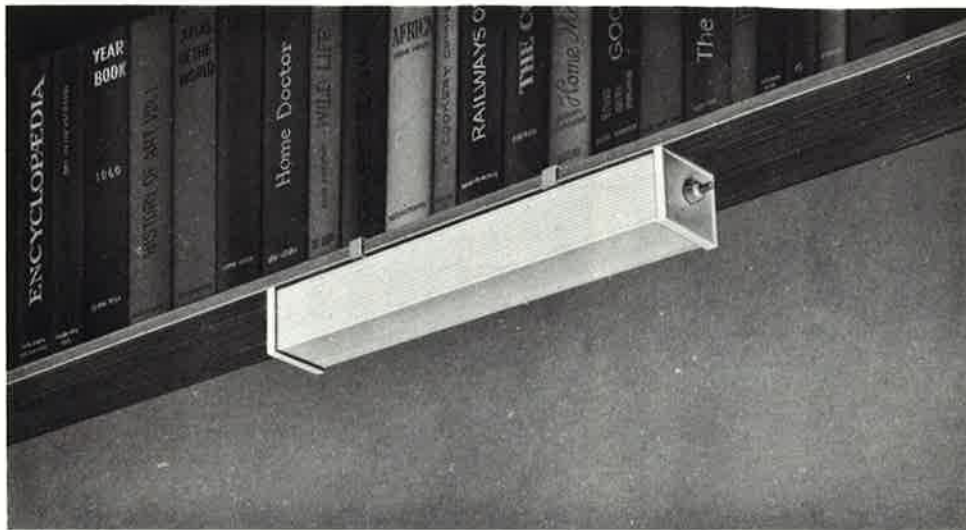
atlas Netastrip

NETASTRIP

An economically priced decorative striplight operated by a push-button switch, is complete with 30W (284 mm) clear double-cap striplight lamp and a very attractive reeded styrene diffuser. The sprung white plastic end-caps provide a simple means of removing this diffuser for lamp replacement.

Shelf clips are also available which extend the use from bed heads and book shelves to kitchen work surfaces and do-it-yourself work benches.

Packed complete with lamp in a decorative carton.



	Cat. no.	Weight lb	kg
Complete fitting	NE60	$\frac{1}{2}$.34
Shelf clips	NE4600		

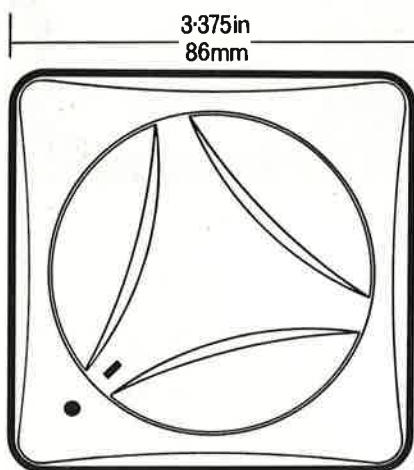
atlas

Mini-dimmer for incandescent lamps

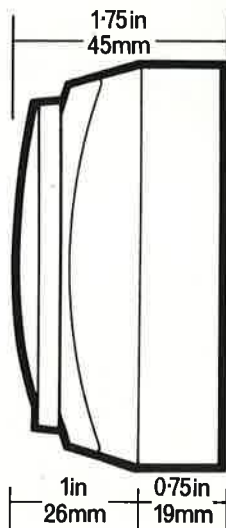
The Atlas Mini-Dimmer is a solid state device designed to produce smooth, reliable, and economic dimming of incandescent lamps up to 300W total load on 200/250V 50 Hz supplies. It is ideally suited for use in conjunction with display and similar fittings for tungsten filament lamps.

This dimmer may be substituted directly for any single pole on-off switch mounted on a standard $3\frac{3}{8}$ " square switch plate. A special mounting frame is supplied with each dimmer for use with "plaster-depth" or other shallow switch boxes.

Suppression against interference on radio and television is provided within the unit.



3-375in
86mm



Cat. no.
SS300

Rating
300W

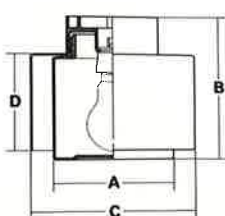
atlas

Nova Cylinder range

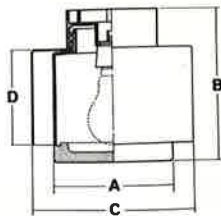
Whatever the interior, the Nova Cylinder range can be the right answer. The simplicity of the design of these new glasses will allow them to blend in with any interior decor.

Two types of satin opal glass, one with a satin opal base and one with an intriguing clear lens base are available in 100w and 150w sizes and an optional glass trim for both sizes completes the range.

These inexpensive fittings can be used singly to provide general illumination, but will also be very effective when used in regular or abstract patterns scattered on a ceiling. Nova Cylinders are particularly suitable for the home, hotels, restaurants and any interior where low ceilings are encountered.



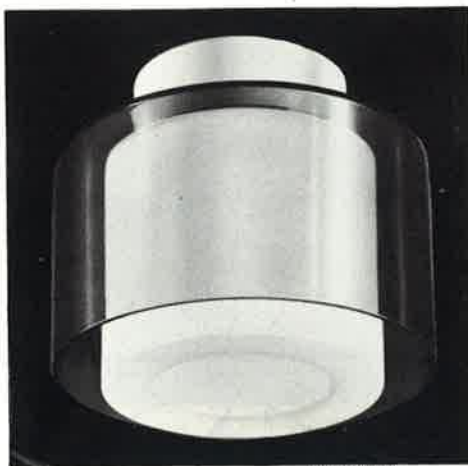
MP 100 and MP 150
MHS and MHL Trims



ML100 and ML 150
MHS and MHL Trims



ML 100



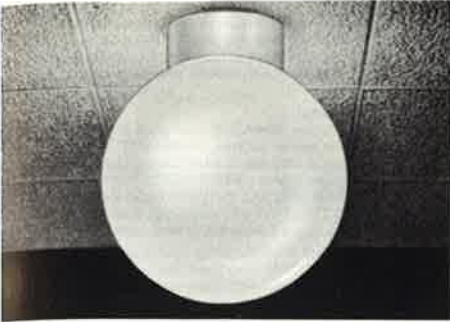
MP 100 with MHS Trim

DIMENSIONS AND WEIGHTS

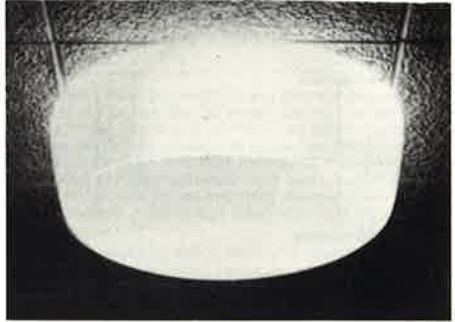
Cat. No.	A		B		C		D		Weight	
	mm	ins.	mm	ins.	mm	ins.	mm	ins.	KG	lbs
ML100	140	5.5	178	7.00	—	—	—	—	—	2½
ML100+MHS	140	5.5	178	7.00	190	7.5	116	4.57	1.92	4½
ML150	180	7.06	247	9.75	—	—	—	—	2.14	4¾
ML150+MHL	180	7.06	247	9.75	260	10.25	182	7.18	3.17	7
MP100	140	5.5	168	6.62	—	—	—	—	.80	1¾
MP100+MHS	140	5.5	168	6.62	190	7.5	116	4.57	1.47	3¾
MP150	180	7.06	238	9.375	—	—	—	—	1.36	3
MP150+MHL	180	7.06	238	9.375	260	10.25	182	7.18	2.38	5¼

ORDERING DETAILS

Complete fitting		Component Glassware		Gallery		Attachments	
Cat. no.	Lamp Watts	Cat. no.	Description	Cat. no.	Cat. no.	Description	
ML100	100	MLG100	Satin Opal cylinder with clear base	MTCB1100	MHS	Small amber glass trim 100w size	
ML150	150	MLG150	Satin Opal cylinder with clear base	MTCB1100	MHL	Large amber glass trim 150w size	
MP100	100	MPG100	Plain Satin Opal cylinder	MTCB1100			
MP150	150	MPG150	Plain Satin Opal cylinder	MTCB1100			



MTC1100. Screw-necked globe on white plastic gallery.



MR2100 Unit with concealed metal work



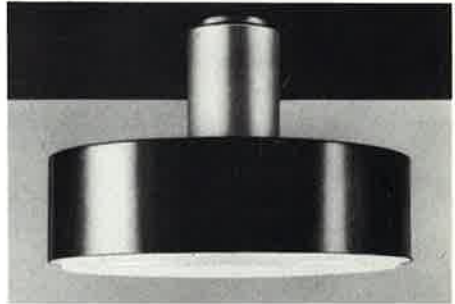
NLT200



NCA200



NFT200 with suspension rod



NDA200



NFT200

atlas

Nova range

This versatile range of satin-etched Nova glassware has been specially designed to meet the demand for new and interesting shapes to cater for a wide variety of applications in modern interiors.

Flanged cap gallery

For suspending the glass just off the ceiling or on a half-inch suspension rod (standard length 18") the flanged cap gallery is available in 100W BC, 100W ES, or 200W ES versions. The 100W BC version will accept two glasses, the ND100 and the NF100. The 100W ES versions, ND100.ES* and NF100.ES* will accept the exciting new 80W *Kolorlux lamp. The 200W ES versions will accept two 200W size glasses, the ND200.ES and the NF200.ES, both suitable for GLS or 125W *Kolorlux lamps.

Lever release gallery

For mounting directly onto walls or ceilings a lever release gallery is available and will accept two glasses in 100W size, the NC100 and the NL100 and two glasses in the 200W size, the NC200 and the NL200. The glass is removed by a simple lever release concealed behind the glass.

*Made to customer's special order.

Decorative trims

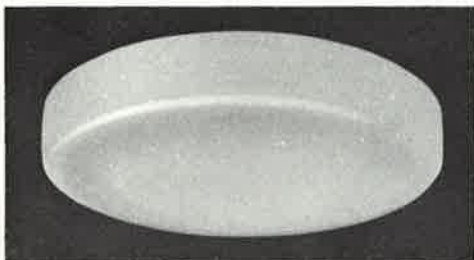
If required a decorative black painted metal trim Cat. no. NT100 and NT200 may be added to the NF and NL series of fittings. There is also available a metal trim for the NC and ND series, this item finished in a lacquered gun-metal colour, Cat. no. NA100 and NA200.

Screw neck spheres

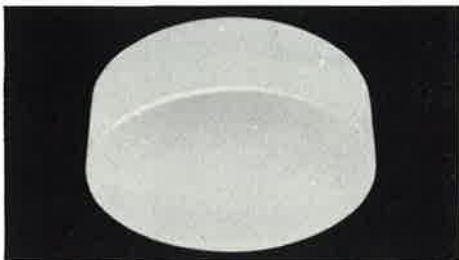
Also available are screw neck white opal glass spheres with heat resistant white plastic galleries in 60W (MTC 1060); 100W (MTC 1100), 150W (MTC 1150) sizes. The 100W version fitted with an ES lampholder (MTC 1100.ES)* will accept the new 80W *Kolorlux lamp and the 150W version with an ES lampholder (MTC 1150.ES)* will accept the new 125W *Kolorlux lamp. Suitable for ceiling or wall mounting.

To complete the range a further white opal glass is available in two sizes, 100W and 200W using again the lever release gallery, Cat. no. MR 1100 and MR 2100, Suitable for ceiling or wall mounting.

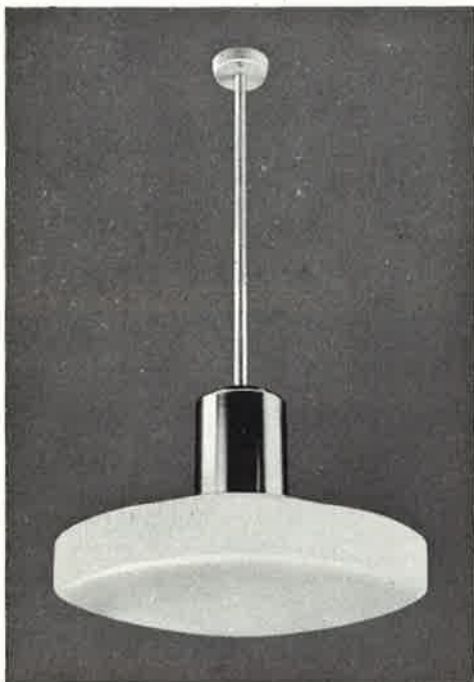
N.B. *Kolorlux lamps require to be operated through control gear. Details of the control gear boxes available are on page 271 of this Catalogue.



NL200



NC200



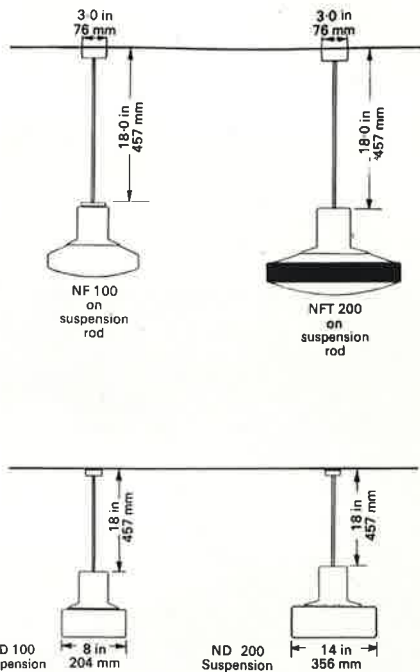
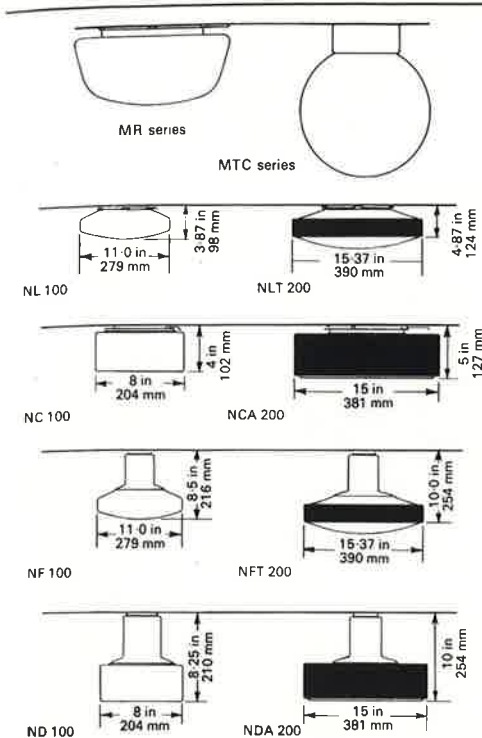
NF200 with suspension rod



ND200



NF200



Complete Fitting

Cat. no.	Lamp watts	Lamp cap	Overall diameter in	Overall diameter mm	Overall depth in	Overall depth mm	Weight (ex. lamp) lb	Weight (ex. lamp) kg
NC100	100	BC	8-0	204	4-0	102	1½	0-8
NC200	2 × 100	BC	14-0	356	5-0	127	2½	1-0
ND100	100	BC	8-0	204	8-25	210	2	0-9
ND100ES	80°K	ES	8-0	204	8-25	210	2	0-9
ND200ES	200/125°K	ES	14-0	356	10-12	257	3½	1-6
NF100	100	BC	11-0	279	8-5	216	2½	1-1
NF100ES	80°K	ES	11-0	279	8-5	216	2½	1-1
NF200ES	200/125°K	ES	15-39	390	10-0	254	4	1-8
NL100	100	BC	11-0	279	3-87	98	2½	1-1
NL200	2 × 100	BC	15-25	387	4-87	124	4	1-8
MR1100	100	BC	9-62	244	4-75	120	2½	1-0
MR2100	2 × 100	BC	13-5	343	5-5	140	4	1-8
MTC1060	60	BC	6-0	152	7-5	190	1½	0-6
MTC1100	100	BC	8-0	203	9-5	241	1½	0-8
MTC1100ES	80°K	ES	8-0	203	9-5	241	1½	0-8
MTC1150	150	BC	10-0	254	11-5	292	2	0-9
MTC1150ES	125°K	ES	10-0	254	11-5	292	2	0-9

Components

Glassware	Gallery
Cat. no	Cat. no.
NCG100	NCB100
NCG200	NCB200
NCG100	NFB100
NCG100	NFB100ES
NCG200	NFB200ES
NFG100	NFB100
NFG100	NFB100ES
NFG200	NFB200ES
NFG100	NCB100
NFG200	NLB200
MRG1100	NCB100
MRG2100	NCB200
MTCG1060	MTCB1060
MTCG1100	MTCB1100
MTCG1100	MTCB1100ES
MTCG1150	MTCB1150
MTCG1150	MTCB1150ES

Suspension—ordered separately AME.M.6113/18. Rod suspension 18in—12s. Od.†
 Trims — to be ordered separately.

*Prices applicable to United Kingdom.
 †For other suspension lengths alter suffix accordingly, i.e. 18=18".

Cat. no.	For use on	Overall diameter in	Overall diameter mm	Overall depth in	Overall depth mm	Weight (ex. lamp) lb	Weight (ex. lamp) kg
NA100	NC100, ND100, ND100ES	8-87	225	3-37	85	½	·11
NA200	NC200, ND200ES	15-0	381	4-12	105	1	·45
NT100	NF100, NF100ES, NL100	11-12	282	1-87	48	½	·11
NT200	NF200ES, NL200	15-37	390	2-12	54	6 ozs	·17

atlas

The Atlas °Kolorlux package deal

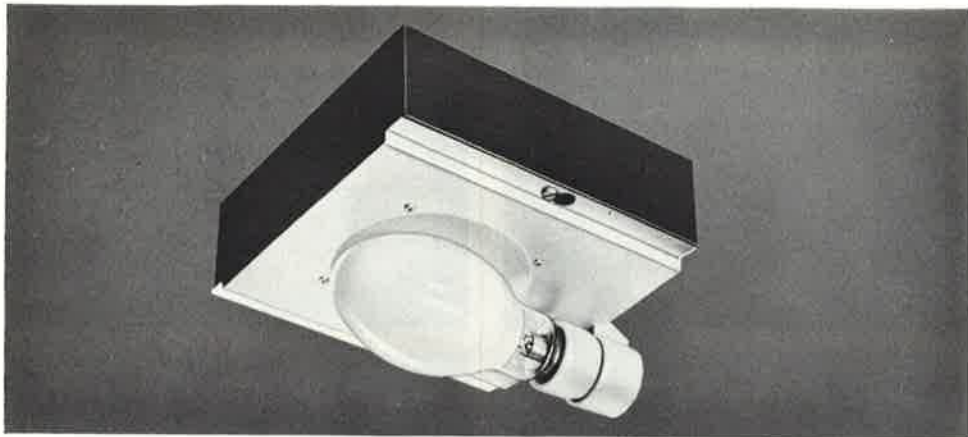
When we announced the new °Kolorlux lamp, we had thousands of enquiries for fittings which could use this revolutionary new concept in commercial lighting. Here is our answer. A package deal. In one pack you get an 80W or 125W °Kolorlux lamp (roughly equivalent in light output to 3 x 100W or 5 x 100W

tungsten lamps), the spine, and the control gear. In the companion pack you have the right reflector or diffuser for the fitting of your choice. In one deal, here is everything one needs to improve lighting, cut running expenses, reduce maintenance cost. And it's designed so that it is particularly easy to install.

°Kolorlux packs for factory lighting

Ever thought that it might be possible to cut the cost of maintenance men's time on lighting replacements to one seventh of what it is now? That's roughly the saving that the increased life of °Kolorlux lamps can show compared with traditional tungsten lighting. Sometimes the lamp needs to be sheltered from normal

viewing. Where that happens, use the industrial reflector shown on page 144
°Kolorlux gives you about a quarter of usual running costs. And it gives you a very pleasant light into the bargain.



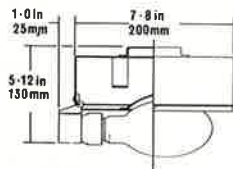
ORDERING GUIDE

Complete fitting		Components		Lamps	
Rating	Cat. no.	Cover	Spine Pack (ex. lamp) Cat. no.		
80W	PKC80	PKC18	PK80	80W	°Kolorlux MBF (packed with Spine Pack)
125W	PKC125	PKC18	PK125	125W	°Kolorlux MBF (packed with Spine Pack)

DIMENSIONS

Cat. no.	Width/Length		Height		Weight	
	in	mm	in	mm	lb	kg
PKC/80	7.87	200	5.12	130	7	3.17
PKC/125	7.87	200	5.12	130	7	3.17

Fixing, Besa box grouping 3" conduit hole centred.



PKC/80
PKC/125

weight 7lb. 3.17kg.

*Kolorlux packs for general offices, public buildings, shops, airports, hotels and restaurants

We've been working for some time on trying to bring indoors the cheerful light of a fine bright morning.

*Kolorlux is probably our nearest to it so far.

*Kolorlux is a high intensity light source, like the sun, so that it gives a pleasant 'contoured' light - with a

nice balance of light and shade. It's an ideal light for interiors, whether they are workaday offices or grand airport terminals.

And *Kolorlux costs less to run, and is easier to maintain than almost any other type of lighting.



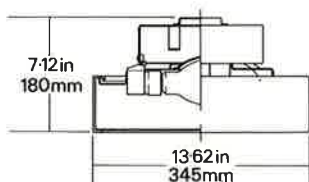
ORDERING GUIDE

Complete fitting		Components			Dimensions					
Rating	Cat. no.	Diffuser Description	Cat. no.	Spine Pack Cat. no.	Width/Length in	mm	Height in	mm	Weight lb	kg
80W	PKA80	Opal Acrylic sided Prismatic base	PKA18	PK80	13-62	345	7-12	180	8	3-62
125W	PKA125	Opal Acrylic sided Prismatic base	PKA18	PK125	13-62	345	7-12	180	8	3-62
80W	PKM80	Metal sided Prismatic base	PKM18	PK80	13-75	350	7-25	185	10	4-53
125W	PKM125	Metal sided Prismatic base	PKM18	PK125	13-75	350	7-25	185	10	4-53

Fixing Base box grouping 3" conduit hole centre

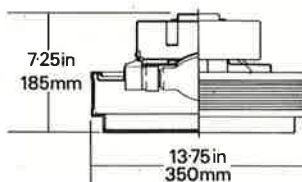
Lamps

80W	*Kolorlux MBF (Packed with Spine Pack)
125W	*Kolorlux MBF (Packed with Spine Pack)



PKA/80
PKA/125

weight 8lb.
3.62 kg.



PKM/80
PKM/125

weight 10lb.
4.53 kg.

atlas

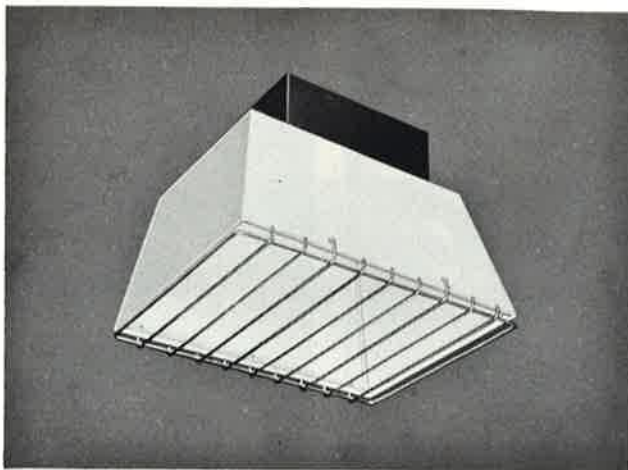
*Kolorlux packs for indoor sports arenas and gymnasiums

*Kolorlux packs are ideal for indoor sports arenas – as they are for all large indoor areas, such as warehouses, loading bays, and other places where good lighting is vital.

Longer life for the lamp means greater reliability.

You're less likely to need to fit a new lamp just before the big match. (Or when factory production would be held up, for that matter.)

Plus lower running costs. And a clear bright light that enables you to concentrate on the job in hand.



ORDERING GUIDE

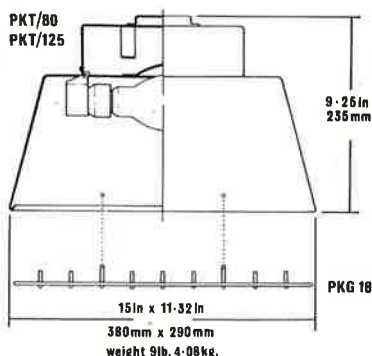
Complete fitting (excluding lamp)		Components		Lamps	
Rating	Cat. no.	Closed end/ metal trough Cat. no.	Spine pack Cat. no.		
80w	PKT80	PKT18	PK80	80w	*Kolorlux MBF (packed with Spine Pack)
125w	PKT125	PKT18	PK125	125w	*Kolorlux MBF (packed with Spine pack)

Optional extra PKG wire guard for use with PKT18 metal trough.

DIMENSIONS

Cat. no.	Width/Length in mm	Height in mm	Weight lb kg
PKT/80	15-0 x 11-32 380 x 290	9-25 235	9 4-08
PKT/125	15-0 x 11-32 380 x 290	9-25 235	9 4-08

Fixing: Besa box grouping 3" conduit hole centred.



atlas

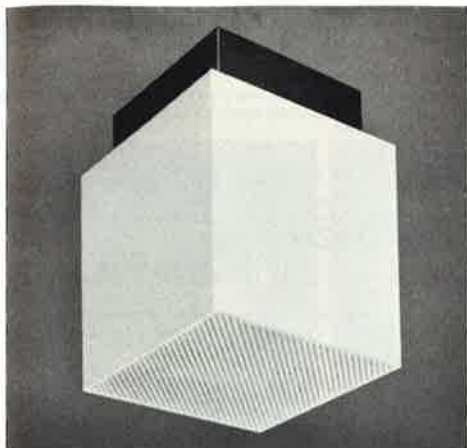
°Kolorlux packs for display purposes in hotels, exhibitions, shops, stores and boutiques

Good display lighting sells.

°Kolorlux gives excellent display lighting. Its modelling effect on products is always pleasant, and its

controlled light improves display value.

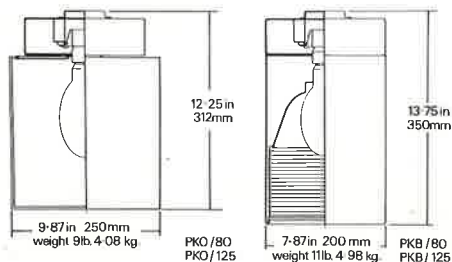
And it's cheap to leave on all night. And it lasts and lasts.



ORDERING GUIDE

Complete fitting (excluding lamp)		Components		Dimensions					
Rating	Cat. no.	Diffuser Description	Cat. no.	Spine Pack (ex. lamp) Cat. no.	Width/Length in mm	Height in mm	Weight lb kg		
80W	PK080	Opal Acrylic sided Prismatic base	PK018	PK80	9-87 250	12-25 325	9 4-08		
125W	PK0125	Baffle unit with reflector	PKB18	PK125	9-87 250	12-25 325	9 4-08		
80W	PKB80	Baffle unit with reflector	PKB18	PK80	7-87 200	13-75 350	11 4-98		
125W	PKB125	Baffle unit with reflector	PKB18	PK125	7-87 200	13-75 350	11 4-98		

Fixing. Bosa box grouping $\frac{3}{4}$ " conduit hole centred.



atlas

Display lighting



Scatterlight Diffuser
VSA.100, VSC.100, VSR.100



Pin Hole VP.100



O' Lighter VO.200



Crystal Glass Dish
VX.100, VX.200



Large Satin Opal
Glass Dish VY.100, VY.200



Louvre
VL.100, VL.200, VL.2100



Small Opal Glass Dish
VZ.100, VZ.200, VZ.2100

The fittings shown in this section of the catalogue are specially designed to meet the demand for the wide variety of techniques employed in modern display lighting. Versatility is achieved by a series of seven attachments that can be applied equally well to any of a range of surface-mounted or recessed fittings and, in some instances, a cylindrical fitting which can be adjusted to be semi-recessed. Many of these fittings will accept the new "Kolorlux" lamp as well as the conventional tungsten filament lamp, thus allowing the user to obtain high levels of light without losing the dramatic effect of the point source and still retaining an acceptable colour on his merchandise. The necessary gear may be mounted remote from the fittings and a gearbox is available, see page 271 for details.

Attachments include:



Surface Mounted Fittings
VS.2060.B, VS.2060.A 2 x 60W
VS.2100.B, VS.2100.A 2 x 100W
VS.2100.BES, VS.2100.AES 2 x 80W "Kolorlux"



Surface or
Semi-Recessed Cylinder
VC.100.A VC.100.B, 100W
VC.100.AES, VC.100.BES "Kolorlux"

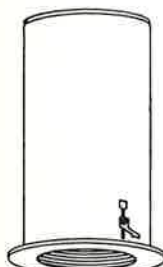


Recessed Fittings
VR.100, 100W
VR.100.ES 80W "Kolorlux"
VR.200, 200W
125W "Kolorlux"



Ceiling Ring Assembly
VCM.100

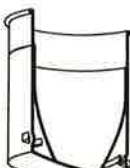
Surface-mounted recessed and semi-recessed fittings which take the attachments are illustrated below. With these basic fittings practically every type of display lighting problem can be solved.



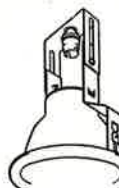
Recessed
Fitting
VU.150,
150W



Surface or
Semi-Recessed
Cylinder
VCB.100, 100W
VCB.150, 150W



Wall Washer
Attachment
VW.150



Junior
Recessed Fitting
VJ.200 100, 150 & 200W
VJ.200ES 80/125W "Kolorlux"

For local emphasis lighting there is a range of recessed and semi-recessed fittings, designed to take internal reflector spotlight, general service lamp with auxiliary reflector, sealed beam reflector lamps, or the new "Kolorlux" lamps. The recessed version (VU.150) can also be fitted with a wall washer attachment, this is a specially designed reflector directing light on to the upper part of the wall. For cost saving the Junior recessed fitting gives maximum reflector illumination from a clear lamp. Adjustable lampholder mounting permits the use of 100, 150 and 200W lamp from the one fitting.

For display lighting that requires adjustment in direction and light distribution, spot and flood fittings are available for operation through mains or a low voltage transformer. The table below shows the illumination level produced at various distances from the lamp. All fittings comply with B.S.3820.

Lamp	Fittings(s)	Peak illumination lumens/sq. ft.			Beam angle	Rated life- hours
		3ft	6ft	9ft		
150W reflector flood	VHB, VH, VQ, VI, VE, VG, DL, VCB	140	35	16	100°	1000
150W reflector spot	VHB, VH, VQ, VI, VE, DL, VG, VU, VCB	400	100	44	69°	1000
100W reflector spot	VHB, VH, VQ, VI, VCB, VE	240	60	27	60°	1000
150W sealed beam reflector flood	VHB, VH, VG, ER, VU, VE	330	80	37	70°	1500
100W crown silvered	VM.100	640	160	70	40°	1000
50W 12V reflector spot†	DAS	1000	250	110	15°	1000
50W 12V crown silvered†	DB, DS	3000	750	330	8°	1000

†For connection to mains via transformer.

atlas

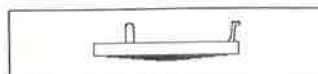
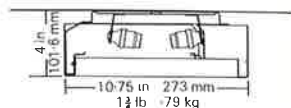
Surface mounted fittings

Basic Units VS.2060

2 x 60w surface mounting ceiling fitting of spun aluminium construction, is available in natural anodized and black painted finishes. Cable entry and fixing holes suitable for 2in B.E.S.A. box centres are provided. All fittings are supplied complete with lampholders.

Cat. no.	Wattage	Finish
VS.2060A	2 x 60w	natural anodized
VS.2060B	2 x 60w	black painted

Three attachments are available each complete with its own support ring and are fitted via three bayonet slots to the basic unit.



Plastic louvre



Small satin etched opal glass bowl



Clear crystal glass dish

Dimensions of complete fitting

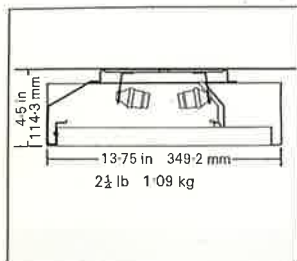
	Complete	Height		Diameter		Weight (ex lamps)	
	Cat. no.	in	mm	in	mm	lb	kg
Plastic louvre	VSL.2060A	4.75	120	10.75	273	2	0.90
	VSL.2060B	4.75	120	10.75	273	2	0.90
Clear crystal dish	VSX.2060A	5.5	139	10.75	273	5 1/2	2.48
	VSX.2060B	5.5	139	10.75	273	5 1/2	2.48
Small satin etched glass bowl	VSZ.2060A	4.75	120	10.75	273	3 1/2	1.47
	VSZ.2060B	4.75	120	10.75	273	3 1/2	1.47

Attachments

	Attachment	Wattage
	Cat. no.	
Plastic louvre	VL.200	2 x 60w
Clear crystal glass dish	VX.200	2 x 60w
Small satin etched opal glass bowl	VZ.200	2 x 60w

atlas

Surface mounted fittings



Basic Units VS.2100 and VS.2100ES

2 x 100w and 2 x 80w [®]Kolorlux surface mounting ceiling fitting of spun aluminium construction, is available in natural anodized and black painted finishes. Cable entry and fixing holes suitable for 2 in B.E.S.A. box centres are provided. All fittings are supplied complete with lampholder.

Basic Unit

Cat. no.	Wattage	Finish
VS.2100A	2 x 100w	natural anodized
VS.2100B	2 x 100w	black painted
VS.2100A.ES	2 x 80w [®] Kolorlux	natural anodized
VS.2100B.ES	2 x 80w [®] Kolorlux	black painted

Two attachments are available each complete with its own support ring and are fitted via three bayonet slots to the basic unit.

Note: [®]Kolorlux lamps can be used on AC circuits only, and each lamp must be controlled by a ballast circuit.



Plastic louvre



Small satin etched opal glass bowl



Dimensions of complete fitting

	Complete Cat. no.	Lamp Cap	Height in	mm	Diameter in	mm	Weight (ex lamp) lb	kg
Plastic louvre	VSL.2100A	BC	5-25	133	13-75	349	2 1/2	1.13
	VSL.2100B	BC	5-25	133	13-75	349	2 1/2	1.13
Small satin etched opal glass bowl	VSZ.2100A	BC	5-5	139	13-75	349	3 1/2	1.7
	VSZ.2100B	BC	5-5	139	13-75	349	3 1/2	1.7
	VSZ.2100A.ES	ES	5-5	139	13-75	349	3 1/2	1.7
	VSZ.2100B.ES	ES	5-5	139	13-75	349	3 1/2	1.7

Attachments

	Attachment Cat. no.	Wattage
Plastic louvre†	VL.2100	2 x 100w
Small satin etched opal glass bowl	VZ.2100	2 x 100w/2 x 80w [®] Kolorlux

†Not available for use with [®]Kolorlux lamps.

atlas

Cylinder range

VCB.100 and VCB.150

A cylindrical unit incorporating low brightness baffles which completely eliminate the glare usually associated with spotlights. Constructed of spun aluminium the fitting has a **brushed silver finish**. The fitting is designed for use with 100w internally silvered lamp or 100w general service lamp with clip-on auxiliary reflector Cat. no. VA.100. A matching unit to the VCB.100 is the VCB.150, for use with 150w internally silvered lamp, PAR.38 sealed beam or 150w general service lamp with auxiliary reflector VA.150. This fitting will also accept the new 80w and 125w "Kolorlux" lamp with auxiliary reflector VA.150.

Three separate mountings can be achieved from the one basic unit.

Semi-recessed - ceiling ring assembly

Basic unit Cat. no. VCB.100 and VCB.150, when used in conjunction with ceiling ring assembly Cat. no. VCM.100 enables projection to be adjusted from 1½" to 5½" below ceiling level. Adjustable support brackets are provided enabling quick fixing to all types of suspended ceilings to be achieved. These are attached from inside the fitting, are out of sight and eliminate the need for any other form of fixing. Anodized aluminium finish with polished rim.

Suspended

By using suspension rod Cat. no. AME.M.6113/18 basic unit can be suspended 18in from ceiling on white rod and ceiling plate.

* See note on previous page.

Basic unit and suspension rod ordered separately.

VU.150 recessed baffle fitting

This fitting is designed for use with 150w internally silvered lamp or 150w general service lamp with clip-on auxiliary reflector Cat. no. VA.150 and for the new 80 or 125w "Kolorlux" lamps whose life of 7,500 hours makes them especially useful when the mounting position of the fitting is not easily accessible. Suitable also for use with the COOL RAY PAR 38 lamp. Black painted finish incorporating low brightness baffles completely eliminating glare, the light source being hidden from the normal angles of view. The fittings are recessed into the ceiling and are fixed in position by adjustable brackets enabling quick fixing to all types of suspended ceiling to be achieved. Being attached within the fitting they are out of sight and also eliminate the need for any other fixings. Fitted E.S. lampholder.

VW.150 wall washer

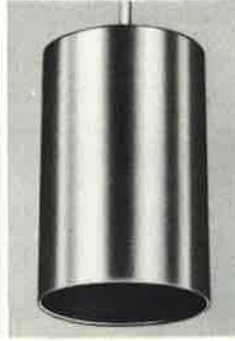
Wall washing has become an important technique in enhancing the size and scale of interiors, creating a feeling of greater space. A special specular reflector directs spilled light from the lamp to the upper part of the wall. The complete assembly fits easily into the base of the VU.150 recessed baffle fitting by means of spring clips and can be rotated to any position.



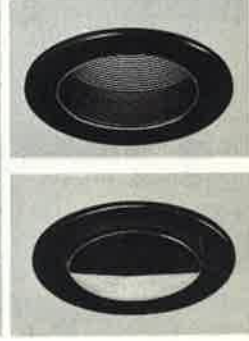
VCB.100 and VCB.150



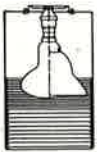
Semi-recessed using VCM.100 ceiling ring assembly



Suspended using AME M6113/18 suspension



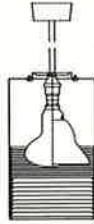
Top VU.150
Bottom VU.150 with VW.150



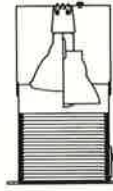
VCB.100 and VCB.150



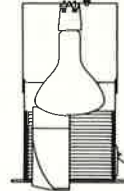
Semi-recessed



Suspended



VU.150



VW.150

Dimensions

Cat. no.	Cap	Height in	mm	Diameter in	mm	Weight (ex. lamp) lb	kg	Ceiling hole size in	mm
VCB.100	BC	10-62	270	6-37	162	1½	0-67	—	—
VCB.150	ES	10-62	270	6-37	162	1½	0-67	—	—
VCM.100†	—	9-37 (max.) 5-37 (min.)	238 (max.) 136 (min.)	8-0	203	2½	1-2	7-25	184
VU.150	ES	13-25	337	8-25	210	4	1-8	6-75	172

† Basic unit and ceiling ring assembly ordered separately.

atlas

Cylinder range attachments

VC.100

A range of cylindrical units spun in aluminium is available in natural anodized or black painted finishes and is designed to accommodate a 100W internally silvered lamp, 100W general service lamp with VA.100 auxiliary reflector or 80W *Kolorlux lamp using VA.150 auxiliary reflector.* Three separate mountings can be achieved from the one basic unit.

- (a) Suspended, by using AME.M.6113/18in suspension rod.
- (b) Semi-recessed, when used in conjunction with ceiling ring assembly Cat. no. VCM.100 detailed on previous page.

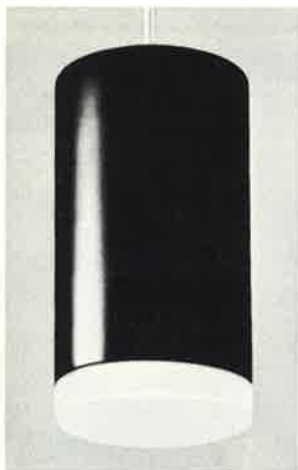
*See note on p.147

- (c) Surface mounted, by fixing direct to the ceiling.

Three attachments are available, a satin etched opal bowl, a plastic louvre and a clear crystal glass dish.

Basic unit

Cat. no.	Wattage	Finish
VC.100A	100	Natural anodized
VC.100B	100	Black painted
VC.100A.ES	80°K	Natural anodized *
VC.100B.ES	80°K	Black painted *



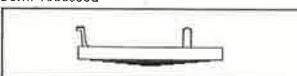
Suspended



Satin etched opal bowl



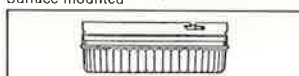
Semi-recessed



Plastic louvre



Surface mounted



Clear crystal glass dish

Suspension

By using white suspension rod and ceiling plate Cat. no. AME.M.6113/18 the basic unit can be suspended 18in from ceiling.

Basic unit and suspension rod ordered separately.

Dimensions of complete fitting

	Cat. no.	Lamp cap	Finish	Height in	mm	Diameter in	mm	Weight (ex lamp) lb	kg
Satin etched opal bowl	VCZ.100A	BC	Anodized	11-87	301	6-37	162	2½	1-1
	VCZ.100B	BC	Black	11-87	301	6-37	162	2½	1-1
	VCZ.100A.ES*	ES	Anodized	11-87	301	6-37	162	2½	1-1
	VCZ.100B.ES*	ES	Black	11-87	301	6-37	162	2½	1-1
Plastic louvre†	VCL.100A	BC	Anodized	11-37	289	6-37	162	1½	0-8
	VCL.100B	BC	Black	11-37	289	6-37	162	1½	0-8
Clear crystal glass dish	VCX.100A	BC	Anodized	12-25	311	6-37	162	4½	2-1
	VCX.100B	BC	Black	12-25	311	6-37	162	4½	2-1
	VCX.100A.ES*	ES	Anodized	12-25	311	6-37	162	4½	2-1
	VCX.100B.ES*	ES	Black	12-25	311	6-37	162	4½	2-1

†Not available for use with *Kolorlux lamp. *Available to customers orders only

atlas

Recessed fittings

Basic units VR.100 and VR.100ES

1 x 100W and 1 x 80W *Kolorlux recessed units of spun anodized aluminium construction with a polished rim. Adjustable support brackets are provided enabling quick fixing to all types of suspended ceiling to be achieved. These are attached from within the fitting, are out of sight and eliminate the need for any other fixings.

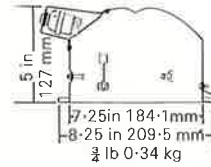
Basic unit

Cat. no.	Wattage
VR.100	100
VR.100ES	80W *Kolorlux*

Six attachments are available each fitted with its own support ring and are fitted via three bayonet slots to the basic unit.

Note: For details of ballasts for *Kolorlux lamps see p. 271

ceiling hole size: 7-25in 184-1mm



plastic louvre



clear crystal glass dish



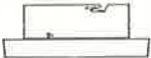
large satin etched opal glass bowl



small satin etched opal glass bowl

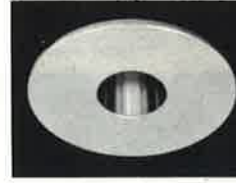


scatterlight disc



New discs of polyester resin in amber, clear and red with internal crazing and polished edges give to this range an attachment that uses the most colourful and exciting material of the year.

pin-hole attachment



Combination of two reflectors concentrates light from upper reflector through lower reflector past a very small aperture (only 2 1/2 in) to produce a wide angle beam from a minimum light source. Spun aluminium construction, finished eggshell white to match ceiling. An auxiliary attachment for use with VR.100.

Dimensions of complete fitting

	Cat. no.	Lamp	Height in	mm	Diameter in	mm	Weight (ex lamp) lb	kg
Plastic louvre	VRL.100	100W	5-75	146	8-25	209	1	0-45
Pin-hole attachment	VRP.100	100W	5-0	127	8-25	209	1 1/2	0-8
Scatterlight disc - amber	VRSA.100	60W	6-5	165	8-25	209	3 1/2	1-45
- clear	VRSC.100	60W	6-5	165	8-25	209	3 1/2	1-45
- red	VRSR.100	60W	6-5	165	8-25	209	3 1/2	1-45
Clear crystal glass dish	VRX.100	100W	6-25	159	8-25	209	3 1/2	1-7
	VRX.100ES	80W *Kolorlux*	6-25	159	8-25	209	3 1/2	1-7
Large satin etched opal glass bowl	VRY.100	100W	6-87	175	8-25	209	2 1/2	1-0
	VRY.100ES	80W *Kolorlux*	6-87	175	8-25	209	2 1/2	1-0
Small satin etched opal glass bowl	VRZ.100	100W	5-87	149	8-25	209	1 1/2	0-68
	VRZ.100ES	80W *Kolorlux*	5-87	149	8-25	209	1 1/2	0-68

Attachments

	Cat. no.	
Plastic louvre	VL.100	
Pin-hole attachment	VP.100	
Scatterlight disc	VSA.100	Amber disc
	VSC.100	Clear disc
	VS.R.100	Red disc
Clear crystal glass dish	VX.100	
Large satin etched opal glass bowl	VY.100	
Small satin etched opal glass bowl	VZ.100	

Available to customers orders only

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Recessed fittings

Basic unit VR.200

1 x 200W and 1 x 125W *Kolorlux recessed units of spun anodized aluminium construction with a polished rim. Adjustable support brackets are provided enabling quick fixing to all types of suspended ceiling to be achieved. These are attached from within the fitting, are out of sight and eliminate the need for any other fixings.

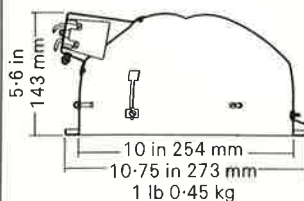
Basic unit

Cat. no.	Wattage
VR.200	200/125W *Kolorlux

Five attachments are available each fitted with its own support ring and are fitted via three bayonet slots to the basic unit.

Note: For details of ballasts for *Kolorlux lamps see page 271

ceiling hole size 10 in 254 mm



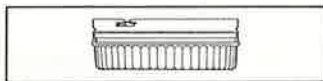
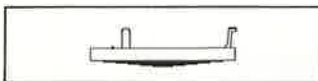
Plastic louvre



Clear crystal glass dish



Large satin etched opal glass bowl



Small satin etched opal glass bowl

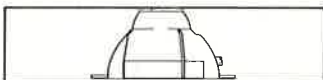


'O' lighter attachment



'O' lighter attachment

Complete new display concept with a downward beam controlled through an annular slot with a centre disc cutting off lamp glare. The result is a glare free light of narrow distribution. Of spun aluminium construction, finished eggshell white to match ceiling. An auxiliary attachment for use with VR.200.



Dimensions of complete fitting

	Cat. no.	Lamp	Height in	mm	Diameter in	mm	Weight (ex. lamp) lb	kg
Plastic louvre†	VRL.200	200W	6.37	162	10.75	273	1½	0.56
'O' lighter attachment†	VRO.200	200W	5.6	143	10.75	273	2½	1.0
Clear crystal glass dish	VRX.200	200/125W *Kolorlux	7.0	178	10.75	273	4½	2.15
Large satin etched opal glass bowl	VRY.200	200/125W *Kolorlux	7.5	190	10.75	273	3½	1.47
Small satin etched opal glass bowl	VRZ.200	200/125W *Kolorlux	6.4	165	10.75	273	2½	1.13

Attachments

	Cat. no.
Plastic louvre†	VL.200
'O' lighter attachment†	VO.200
Clear crystal glass dish	VX.200
Large satin etched opal glass bowl	VY.200
Small satin etched opal glass bowl	VZ.200

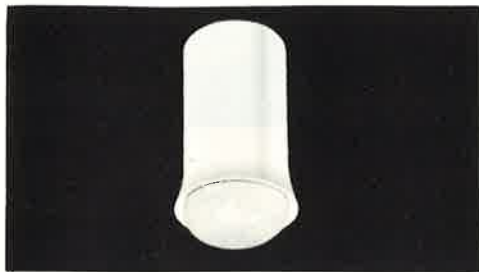
†Not available for use with *Kolorlux lamp.

atlas

Recessed fittings

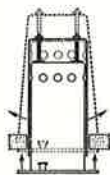
DNM.1040

This very attractive and compact unit is designed for mounting on the ceiling surface. It provides sparkle wherever needed and is also useful as a police light. Finished in white enamel the fitting includes a brass BC batten lampholder for fixing the unit on to a block which should be recessed into the ceiling. For B.E.S.A. box fitting use adaptor plate Cat. no. DNM.4600.

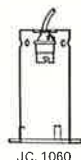


JCA.1060 small recessed unit

These compact units are recessed into the ceiling surface to provide an inconspicuous source. Attachments can be fitted to these units and comprise a metal cylinder (copper anodized finish) and a glass supporting cylinder enabling all 'Chelsea' range wrought glassware and scatterlight diffusers to be fitted. Both the above attachments convert this unit to a semi-recessed one. X.1060 bracket for clamping direct to ceiling board. Adjustment is provided for variations in ceiling thickness. Dimensions and weights of complete fitting are shown below.



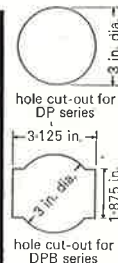
X.1060 fitted to JCA.1060
Showing method of fixing to ceiling board



JCA. 1060

DP.1040 and DPB.1040

These compact units can be recessed into the ceiling surface, to provide an inconspicuous source extremely useful for police lights and can also be used to provide sparkle wherever needed. The range of fittings uses a 40W round bulb and can be provided with fixings for a B.E.S.A. box recessed behind the ceiling (DP.1040) or else fixed to the ceiling surface by means of an additional bracket (DPB.1040).

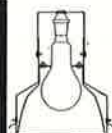
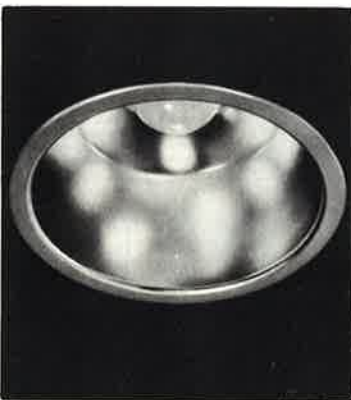


VJ.200 junior recessed vertical lamp fitting for 100/200w lamp

A recessed unit of spun anodized aluminium construction for use with G.L.S. lamp mounted in the vertical position, giving maximum reflector illumination from clear lamp. Adjustable lampholder mounting permits the use of 100, 150 and 200w BC lamps from the same fitting. Adjustable support brackets are provided enabling quick fixing to all types of suspended ceilings to be achieved.

VJ.200ES junior recessed vertical lamp fitting for 80/125w Kolorlux.*

A matching unit to the above fitted with E.S. lampholder for use with Kolorlux lamp. For details of Ballasts for Kolorlux lamp see page 271.



Cat. no.	Lamp Watts	Cap	Mounting	Diameter in mm	Height in mm	Hole size in mm	Weight (ex. lamp) oz kg
DNM.1040	40 mushroom	BC	—	2.5 63	4.0 102	—	8 0.22
DP.1040	40 round bulb	BC	Above ceiling	4.62 117	3.0† 76	—	8 0.22
DPB.1040	40 round bulb	BC	Ceiling surface	4.62 117	3.0 76	—	12 0.33
JCA.1060	60	BC	—	4.25 108	6.5 165	3.25 82	8 0.22
JCA.1060	60	BC	—	4.25 108	11.5 292	3.25 82	10 0.28
VJ.200	100-200	BC	—	8.0 203	12.0 304	7.37 187	16 0.45
VJ.200ES*	80/125W Kolorlux ES	—	—	8.0 203	12.0 304	7.37 187	16 0.45

†2.75in (70mm) projection behind ceiling surface. *Available to customers orders only

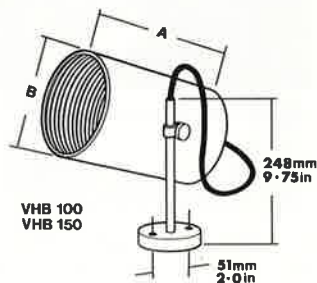
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Mains voltage Spotlights

†VHB.100 and VHB.150 cylindrical spotlights with fitted baffles

A cylindrical spotlight VHB.100 unit incorporating low brightness baffles which completely eliminate the glare usually associated with spotlights. Finished in white (suffix W) and brushed silver (suffix S). Supplied complete with adjustable mounting bracket which allows for swivel and up and down adjustment. Designed for use with 100W internally silvered or general service lamp with auxiliary reflector Cat. no. VA.100. Wired with BC lampholder. The VHB.150 a matching unit to the VHB.100 for use with Cat. no. VA.150 internally silvered lamp or 150W general service lamp with auxiliary reflector Cat. no. VA.150 and PAR.38 lamp. The 80W *Kolorlux lamp may also be used with the VA.150 auxiliary reflector. For details of control gear see p.271. Supplied wired complete with ES lampholder.

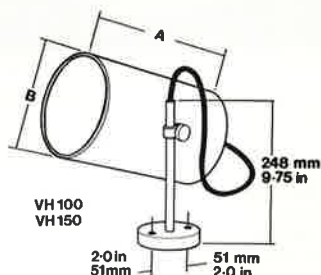
Cat. no.	Cap	Lamp watts	Length		Diameter		Weight (ex. lamp)	
			in	mm	in	mm	lb	kg
VHB.100W	BC	100	7.5	190	4.5	114	1	0.45
VHB.100S	BC	100	7.5	190	4.5	114	1	0.45
VHB.150W	ES	150	10.0	254	5.75	150	1½	0.67
VHB.150S	ES	150	10.0	254	5.75	150	1½	0.67



†VH.100 and VH.150 cylindrical spotlights

Adjustable spotlight VH.100 for use with 100W internally silvered lamp or 100W G.L.S. with auxiliary reflector Cat. no. VA.100. Finished in white (suffix W) and brushed silver (suffix S) fixing is obtained by a clamping block which allows for swivel and up and down adjustment. Supplied wired complete with BC lampholder and bracket for both wall and ceiling mounting. Attachments are available and comprise a metal concentric louvre and glass filter both of which clip in the rim of the cylinder. The VH.150, a matching unit to the VH.100 for use with 150W internally silvered lamp or 150W G.L.S. with auxiliary reflector Cat. no. VA.150 and PAR.38 lamp. The 80W *Kolorlux lamp may also be used with the VA.150 auxiliary reflector. For details of control gear see p.271. Supplied wired complete with ES lampholder.

Cat. no.	Cap	Lamp watts	Length		Diameter		Weight (ex. lamp)	
			in	mm	in	mm	lb	kg
VH.100W	BC	100	7.5	190	4.5	114	1	0.45
VH.100S	BC	100	7.5	190	4.5	114	1	0.45
VH.150W	ES	150	10.0	254	5.75	150	1½	0.67
VH.150S	ES	150	10.0	254	5.75	150	1½	0.67



†Fittings suitable for mounting on Trakline. See page 103

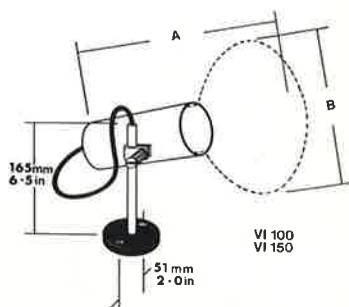
atlas

Mains voltage Spotlights (cont.)

†VI.100 and VI.150 spotlight holders

Spotlight holders for use with 100W and 150W silvered spot lamps, finished in white (suffix W) and natural anodized (suffix A). Fixing is obtained by using a clamping block which allows for swivel and up and down adjustment. Supplied wired complete with lampholder and mounting bracket. Dimensions length 6.0in (152mm); back plate diameter 3.0in (76mm). Provides for both wall and ceiling mounting.

Cat. no.	Cap	Lamp watts	Length in	mm	Diameter in	mm	Weight (ex. lamp) oz	kg
VI.100W	BC	100	4.12	104	2.0	50	9	0.25
VI.100A	BC	100	4.12	104	2.0	50	9	0.25
VI.150W	ES	150	5.25	133	2.25	57	12	0.33
VI.150A	ES	150	5.25	133	2.25	57	12	0.33



†VQ.100 and VQ.150 spotlights

Spotlight holders for use with 100W and 150W internally silvered lamps, finished in white (suffix W) and natural anodized (suffix A). Fixing is obtained by using a clamping block which allows for swivel and up and down adjustment, also provides for both wall and ceiling mounting. Attachments are available and comprise a metal concentric louvre and glass filter both of which clip in the rim of the reflector. Supplied wired complete with lampholder and mounting bracket. Dimensions: Length 6.0in (152mm); back plate diameter 3.0in (76mm).

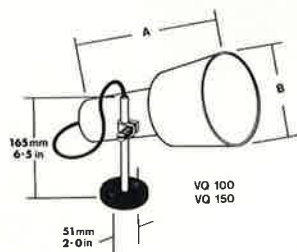
Cat. no.	Cap	Lamp watts	Length in	mm	Diameter in	mm	Weight (ex. lamp) oz	kg
VQ.100A	BC	100	7.5	190	4.5	114	8	0.22
VQ.100W	BC	100	7.5	190	4.5	114	8	0.22
VQ.150A	ES	150	10.0	254	5.75	150	14	0.40
VQ.150W	ES	150	10.0	254	5.75	150	14	0.40

colour filters for use with

VH.100 VW.100			VH.150, VQ.150, DB.1050, ES. 1050		
K.1100B	Blue		K.1150B	Blue	
K.1100R	Red		K.1150R	Red	
K.1100G	Green		K.1150G	Green	
K.1100A	Amber		K.1150A	Amber	

louvre	L.1100	100w for use with VH.100, VQ.100
	L.1150	150w for use with VH.150, VQ.150

†Fittings suitable for mounting on Trakline. See page 102



atlas

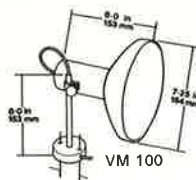
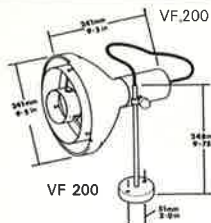
Mains Voltage Spotlights



†VF.200 indoor floodlight

An adjustable floodlighting fitting designed for indoor use with a 200W G.L.S. pearl lamp and 125W "Kolorlux." Manufactured in super purity aluminium. Full focusing adjustment is provided, with adjustable bracket for mounting to a B.E.S.A. box. A black concentric louvre is supplied.

Cat. no.	Cap	Lamp watts	Length in	mm	Diameter in	mm	Weight (ex. lamp) lb	kg
VF.200	ES	200/125 "K	9.5	241	9.5	241	1 1/2	0.67

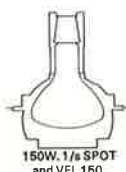
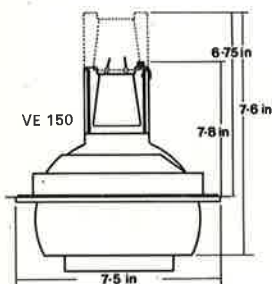


VM.100

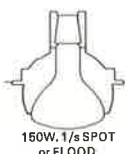
†VM.100 adjustable high intensity spotlight

A versatile spotlight unit designed for use with a 100W crown-silvered three pin BC lamp. The reflector spun in anodised aluminium is fully adjustable for focusing. Fixing is by means of a clamping block fitted to a 6" (153mm) chromium stem which allows for swivel and up and down movement. Mounting for wall or ceiling is also provided. For colour effects in display lighting a range of four fittings are included using coloured anodised reflectors painted egg shell black outside. Used together the right colour mix can be achieved whilst obtaining an overall matching appearance. Supplied wired with lampholder.

Cat. no.	Reflector colour	Lamp cap	Lamp watts	Length in	mm	Diameter in	mm	Weight oz	kg
VM100	Natural	3-pin BC	100	6.0	153	7.25	184	10	0.28
VM100B	Blue	3-pin BC	100	6.0	153	7.25	184	10	0.28
VM100G	Green								
VM100R	Red								
VM100Y	Yellow								



150W. 1/s SPOT
and VEL 150



150W. 1/s SPOT
or FLOOD



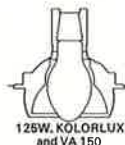
100W. 1/s SPOT



150W. G.L.S.
and VA 150



80W. KOLORLUX
and VA 150



125W. KOLORLUX
and VA 150



150W. PAR38 SPOT



100W. G.L.S.
and VA 100



British Patent
applied for

VE.150

†VE.150 adjustable eyeball spotlight

Semi recessed eyeball spotlight fitting fully adjustable in all directions providing emphasis lighting from an inconspicuous source. An adjustable lampholder support permits the use of a wide range of lamps whilst still maintaining the correct light centre. Supplied complete with Porcelain E.S. lampholder wired with glass braided flying leads. The fitting is designed for use with 150W internally silvered reflector lamp, PAR38 and 150W GLS fitted with VA150 auxiliary reflector as well as 100W E.S. internally silvered reflector lamp and 100W E.S. GLS used with VA100 auxiliary reflector. The 80W and 125W "Kolorlux" may also be used with the VA150 auxiliary reflector with control mounted remotely. For details of control gear see page 271. Three hole fixing is provided to the ceiling ring which is concealed by polished anodised aluminium trim when in position. Body is stove enamelled black. As an optional extra there is also available a black painted clip on louvre Cat. no. VEL.

	Cat. no.	Weight lbs oz	kg
Eye ball fitting	VE.150	1.0	.45
Louvre attachment	VEL	2	.05

†Fitting suitable for mounting on Trakline. See page 102 ‡For details of control gear see p.271.

atlas

Mains voltage spotlights

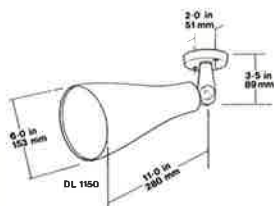


DL1150

DL1150 adjustable spotlight fitting

This spotlight has been designed for use with a 150W reflector spotlight lamp. Fitted with a specially designed swivel joint giving a wide degree of adjustment, it is finished in anodised silver. A matt black louvre is supplied. Also suitable for use with 150W general service lamp with auxiliary reflector Cat. no. VA,150.

Cat. no.	Cap	Lamp watts	Length		Diameter		Weight (ex. lamp)	
			in	mm	in	mm	oz	kg
DL1150	ES	150	12.5	318	6.0	152	14	0.40



DL 1150



VG,150

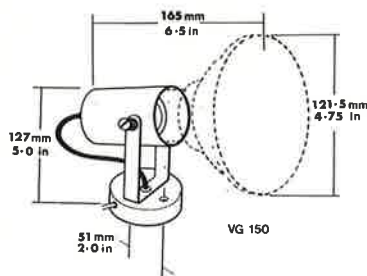
VG.100 adjustable spotlight holder 100W

An adjustable spotlight holder for use with 100W reflector spotlight or general service lamp with auxiliary reflector Cat. no. VA,100. Giving a wide degree of adjustment. Finished matt black it is suitable for all or base mountings and fits unobtrusively into any display. Supplied wired complete with BC lampholder.

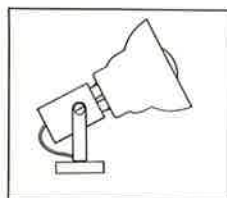
VG.150 adjustable spotlight holder 150W

A matching unit to the VG,100 for use with 150W reflector spotlight or general service lamp with auxiliary reflector Cat. no. VA,150. A cool running fitting ideal for use with COOL-RAY Par 38 lamp (indoors) supplied wired complete with ES lampholder.

Cat. no.	Cap	Lamp watts	Length		Diameter		Weight (ex. lamp)	
			in	mm	in	mm	oz	kg
VG.100	BC	100	3.25	82	2.25	57	8	0.22
VG.150	ES	150	3.25	82	2.25	57	8	0.22



VG 150



VA,150

Accessories

Auxiliary reflectors

Cat. no.	Cap	Lamp watts	Length		Diameter		Weight (ex. lamp)	
			in	mm	in	mm	oz	kg
VA,100	—	100	2.5	63	4.25	108	1	0.028
VA,150	—	150	3.75	95	5.0	127	2	0.056

atlas

Low voltage spotlights



DB.1050

DB.1050

Completely eliminating the possibility of light spill, the DB.1050 fitting uses an internally crown-silvered 12V 50W lamp which directs a very high proportion of its output into a patch of light subtending an angle of only 8°. Although only 6in in diameter, the performance of the fitting is remarkable, providing an average illumination of some 400 lux at a distance of 15ft. Universal adjustment is provided and the lamp can be focused to obtain a small spot of light of roughly twice the normal intensity. It can be fitted with a simple filter holder for use with the wide range of colour filters, enabling effects to be heightened by the use of colour. Details of the filter and holder available as shown on this page.

Cat. no.	Diameter in mm		Overall length in mm		Pillar height in mm		Weight (es. lamp) oz kg	
DB.1050	6	152	4.75	121	4	102	12	0.34



DS.1050L

DS.1050L

This recessed gimbal ring fitting is adjustable through wide angles, and provides very high intensity lighting from an inconspicuous source. The lamp and reflector unit and, therefore, the performance of the fitting, is basically the same as for the DB.1050. A filter and holder is available. Cut-out hole in ceiling 7.5in (190mm). Four fixing holes on 8.375in (212mm) P.C.D.

Cat. no.	Diameter in mm		Overall length in mm		Weight (ex. lamp) lb kg	
DS.1050L	9.5	241	5.0	127	2	0.9



ES.1050

ES.1050 tungsten halogen low voltage display fitting

The ES.1050 low voltage display fitting couples for the first time the advantages of tungsten halogen lamp development to the optical efficiency of the Atlas low voltage reflector fitting. The tungsten halogen lamp is rated at 12V 50W, its extreme compactness enabling a far greater degree of light control to be achieved – peak intensity of 85,000 candelas is over twice that of fittings with conventional lamps. Lamp life, at 2,000 hours, is also doubled, and the simplicity of lamp contact and lampholder ensures trouble-free operation. The fitting also has the advantage of the transformer being an integral part of the design.

Cat. no.	Diameter in mm		Overall length in mm		Height (mounting bracket) in mm		Weight (ex. lamp) lb kg	
ES.1050	6.0	152	5.5	139	5.25	133	4	1.8
Lamp								
TMD/50/12	—	10.5	—	42	—	—	—	—



Glass colour filters

Glass colour filters

Complete with holder for use with DB.1050, DS.1050L and ES.1050.

K.1150B	Blue	K.1150G	Green
K.1150R	Red	K.1150A	Amber

Transformer

It is necessary with all low voltage fittings to use a specially designed transformer to provide the correct working voltage to the lamp. Details of this transformer is given on page 159.

atlas

Low voltage spotlights



DAS.1050

This fitting consists of a neat lampholder housing mounted on a 4in pillar providing complete universal adjustment. The housing is locked into position by a simple clamping screw. A 12v 50w internally silvered, parabolic shaped lamp, with ES cap. is used which gives a narrow beam of light of high intensity. The small size of the fitting enables it to be concealed easily, either within a display, or behind features in a window or room.

Cat. no.	Diameter (lamp dia.)		Overall length (inc. lamp)		Pillar height		Weight (ex. lamp)	
	in	mm	in	mm	in	mm	oz	kg
DAS.1050	2.5	64	4.5	114	4	102	6	0.17



DCS.1050

In order to be able to provide a compact and adjustable light source, the unit has a cylindrical mask, with the result that both the lamp and lampholder are completely enclosed. A 12v 50w internally silvered, parabolic shaped lamp, with ES cap. is used giving a narrow beam of light of high intensity. As with other items in this series of display fittings, the clamp and pillar assembly provide universal adjustment.

Cat. no.	Diameter		Overall length		Pillar height		Weight (ex. lamp)	
	in	mm	in	mm	in	mm	oz	kg
DCS.1050	3.0	76	5.75	146	4	102	8	0.22



Transformer

It is necessary with all low voltage fittings to use a specially designed transformer to provide the correct working voltage to the lamp. Details of this transformer is given below together with the catalogue number of the fitting for which it has been designed.

Cat. no.	Primary tapping	Sec. output	Length		Width		Height		Weight		For use with
			in	mm	in	mm	in	mm	lb	kg	
TRF.											
2338F	240v	12v	4.25	108	3	76	3.63	92	4½	1.9	1-DAS.1050 1-DB.1050 1-DCS.1050 1-DS.1050L

Fixing holes for TRF.2338F – four holes 0.1875 diameter on 2.75in (70mm) x 2.25in (57mm) centres.

Each of the low voltage fittings illustrated in this catalogue is wired complete with 6ft of high temperature cable. Any variation to this length will result in loss of efficiency and premature lamp failure.

atlas

Tungsten halogen interior floodlight

Floodlighting can be applied to any interior where strong emphasis for a relatively large area is required, or where indirect lighting from compact high intensity fittings is appropriate.

The EU.750 floodlight fitting, used either directly or indirectly has been designed for these purposes.

The beam spread is 60° x 130° the former being normal to the axis of the lamp. When mounted horizontally the rear cut-off is near vertical. Maximum spacing of fittings should not exceed the height of mounting, and depths of 6ft can comfortably be catered for by one row of fittings. The distribution characteristics lend themselves ideally to shop window lighting where high intensities with the minimum capital costs – both in lighting equipment and shop fitting – can be achieved. The small size of the lamp provides excellent modelling showing a marked improvement in the definition of a display over more

conventional general lighting systems. The sharp forward cut-off of the fitting may make supplementary fluorescent lighting necessary at the window back.

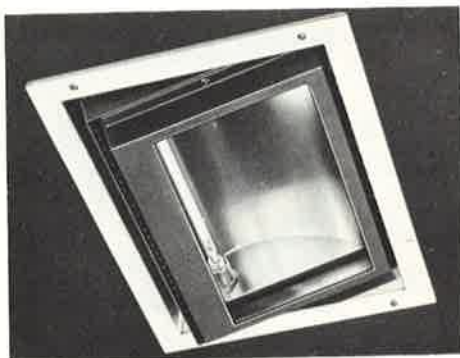
When installed to illuminate a 6ft cube an average illumination of 60 lumens per sq ft will be achieved.

At the same distance fittings on about 8ft centres provide an average illumination of 90 lumens per sq ft.

Description	Beam spread	Rated lamp life
750w	60° x 130°	2,000 hours

When the fitting is surface mounted a stirrup, enabling up to a 15° adjustment, is available – Cat. no. EUB.

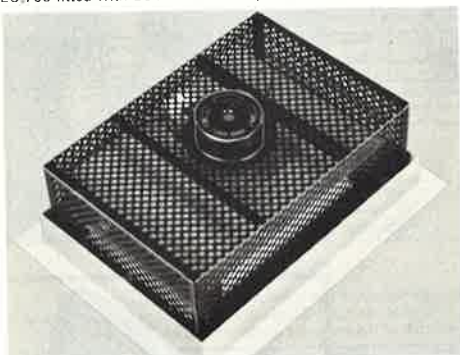
The EU.750 can also be recessed by means of a frame trim assembly – Cat. no. EUT – with provisions for a 15° adjustment. When recessing the fitting care should be taken to ensure that a minimum size void of 7.5in high, 24in long and 18in wide is left round the fitting, to provide equal free space around the fitting.



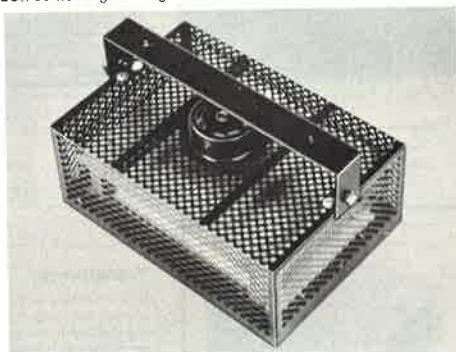
EU.750 fitted with EUT trim assembly, front view



EU.750 floodlight fitting



EU.750 fitted with EUT trim assembly, rear view



EU.750 fitted with EUB swivel bracket assembly

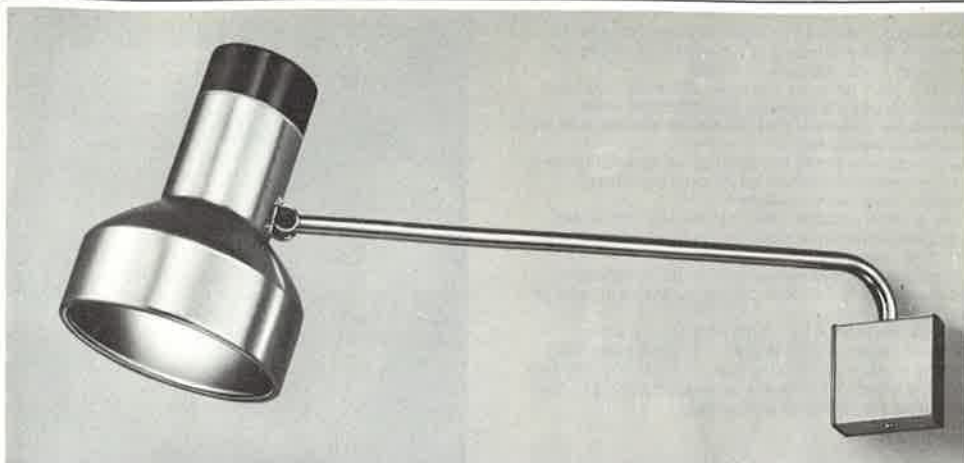
Prices and dimensions

Cat. no.	Lamp watts	Length		Height		Width		Weight (ex. lamp)	
		in	mm	in	mm	in	mm	lb	kg
EU.750	750	12.25	311	7.125	181	8.5	216	8	3.6
EUT trim assembly†		14.75	375	2.00	51	11.25	286		
EUB swivel bracket		12.5	318	2.5 above fitting	62mm				
TDH/750/240 lamp 750									

†Hole size: length 13.25in, width 9.5in.

atlas

Hospital low brightness fittings



OE.0.1060 adjustable wall fitting

OE.0.1060 adjustable wall fitting

Wall fitting for local lighting where function and appearance are important. The efficient design—about 300 lux 4ft away using a 60w lamp—permits bed head lighting wall mounted between 5ft and 6ft from floor. Carefully controlled reflector brightness provides comfortable conditions for opposite and adjacent patients. The reflector is of spun aluminium satin etched and anodized, supported by an anodized duraluminium rod mounted on a cast aluminium back plate Stoved Enamel B.S.9.098. Horizontal adjustment is obtained through an angle of approximately 160° and vertical through an angle of 20° either side. Wired complete with BC lampholder to accommodate one 60w lamp. Arranged for B.E.S.A. mounting.

OE.1.0075 adjustable wall fitting

Matches OE.0.1060 but fitted with watch light with push switch control. (Made to order only.)

OG.1150 low brightness glass fitting

Centre ward lighting fitting for mounting on 18in suspension rod (Cat. no. AME.M 6113/18) or alternatively ceiling mounted using ceiling cap extension (Cat. no. OH/S). With cut off angle of 40° from the horizontal, mounting heights are arranged so that cut off occurs between a third and half-way up length of bed. Mounting height ratios down centre of ward should not exceed 1½:1. The diameter of the cylinder has been chosen to provide acceptable brightness characteristics for a diffusing fitting, and the acid etching of the glass overcomes the problem of lamp reflection on the inside of the glass cylinder creating an area of high brightness. Arranged to accommodate 1 x 150w lamp.

OG.1165 low brightness glass fitting

A matching unit to the OG.1150 but fitted with watch light for 15w Pygmy lamp.



OG.1150

Dimensions

Cat. no.	Diameter		Height		Weight (ex. lamp)		Projection to centre of reflector	
	in	mm	in	mm	lb	kg	in	mm
OE.0.1060 OE.1.0075	6.3*	161*	8.6†	216†	1½	0.8	19.5	470
OG.1150 OG.1165	9.5	241	13.87	352	3½	1.4	—	—

*Reflector diameter. †Reflector height.

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Opalite range

This compact range of fittings has been designed to comply with the Ministry of Education standards for brightness limits and cut-off angles.

Care has been taken to create an efficiently balanced distribution of light between the upper and lower hemispheres to ensure that the overall efficiency of an installation will be high.

The polystyrene shade has been so designed, that any specular reflections which could possibly cause irritation, have been eliminated.

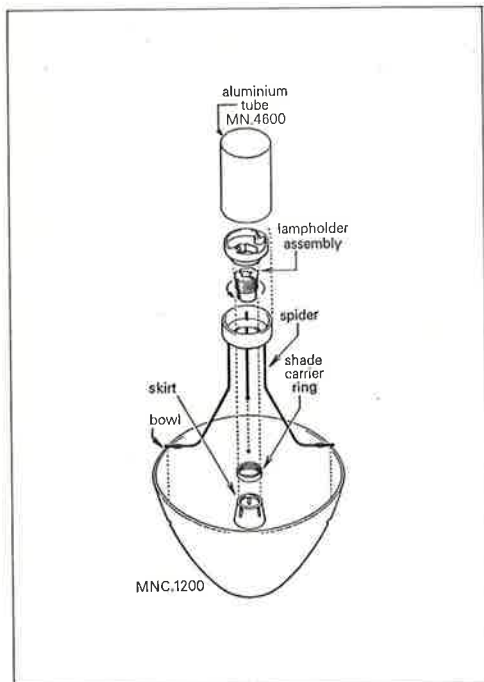
Either a 150w or 200w lamp can be accommodated in this shade which is mounted on to a metal gallery by a three-way spider.

Fittings are supplied complete with BC lampholder and are available for close ceiling mounting as well as cable suspension.

Cable suspension is by means of a black plastic ceiling plate and a 30in length of smooth black flex. A black aluminium cylinder (Cat. no. MN.4600) is also available which fits over the lamp gallery and provides a cover to the lamp cap and holder.



MNC.1200



MNS.1200

Prices and dimensions

Cat. no.	Type	Bowl diameter		Bowl depth		Height overall		Weight (ex. lamp)	
		in	mm	in	mm	in	mm	lb	kg
MNC.1200	Close ceiling	12.0	305	7.0	178	11.0	280	1	0.45
MNS.1200	Cable suspension	12.0	305	7.0	178	30.0	762	1 1/2	0.56
MN.4600	Cylinder	2.87	73	Diameter		3.75	95	2 oz	56 g

HB Range This range of fittings has been designed for use in installations where mounting heights of between 15ft and 60ft are available.

The range comprises Gear and Lampholder assemblies for 250W, 400W, 700W or 1000W lamps having internal reflectors with an additional reflector shield to further increase the useful downwards illumination and to provide a mechanical protection to the lamp. Fitted with wire guard as standard.

There is also a Lampholder assembly for use when control gear is mounted remotely, to service the same lamp range and employing the same reflector shield assemblies.

HBI Range This is a new fitting for a completely new lamp of the Mercury Halide type. We call the lamp the 400W "Kolorarc" because not only do we get some 30% more light but also improved colour rendering. A 1kW clear lamp version is also available.

The fitting consists of a spun anodised aluminium reflector to take a 400W MBIF lamp and give a BZ1 distribution. This reflector, fitted with a wire guard as optional extra, can be attached to a gear and lampholder housing or to a lampholder assembly only when control gear is mounted remotely. A longer reflector for 1kW lamps is also available.

This reflector may also be used with the HB range, in place of the reflector shield, to extend this range for use with MBF, MBF "Kolorlux" and SON lamps in the 250W, 400W, 700W and 1000W ratings.

HBR Range This range of fittings has been designed for use in installations where mounting heights of between 15ft and 60ft are available.

The range comprises of gear and lampholder assemblies for 250W, 400W, 700W and 1000W Kolorlux lamps (MBFR) with internal reflectors.

In addition a reflector shield (HR, HBR) further increases the useful downwards illumination and provides a mechanical protection to the lamp, a wire guard is fitted as standard. There is also a lampholder assembly (HBT) for use when control gear is remotely mounted, to service the same lamp range and employing the same reflector shield assemblies.

HBX Range This is a range of fittings designed specifically to give a high illumination level in installations with a mounting height of 20ft, and over.

The fitting consists of a spun anodised aluminium reflector (HBX) with similar gear and lampholder assemblies (HBG), as used in the HBR range of reflector shield fittings, two reflector sizes 400W and 1000W with optional wire guards, are available.

HBX 400 Kolorlux lamps (MBF) in 250W and 400W ratings can be employed in this reflector. In addition the 400W Kolorarc (MBIF) lamps, with 25% better light output and colour rendering than MBF, is suitable.

There is also a lampholder assembly (HBT) for use when control gear is remotely mounted, to service the same lamp range and employing the same reflector.

HBX 1000 700W and 1000W Kolorlux lamps, can be employed with the reflector.

There is also a lampholder assembly (HBT) for use when control gear is remotely mounted to service the same lamp range and also the 1000W Kolorarc (MBI) lamp. The HBX Range can be modified to order to accept SON lamps and gear or used as standard with its HBT top assembly and remote control gear.

atlas

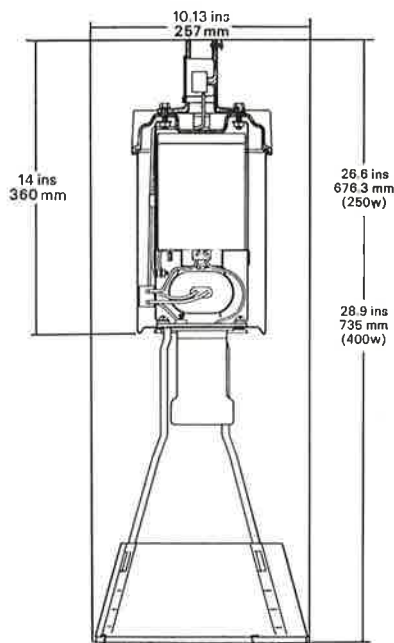
HBR/G250 and G400 fittings

These fittings have been designed for use in installations where mounting heights of between 15ft and 30ft are available and are suitable for use in practically all types of industry where the ambient temperature at fitting level does not exceed 35°C (95°F).

This fitting is particularly recommended for new installations or for replacing existing tungsten fittings where higher illumination values with reduced maintenance are required.

The fittings incorporate relevant switchless start control gear for operating either a 250W or 400W MBFR high pressure mercury vapour reflector lamp on 240V 50Hz supplies. (Other supplies on application.) The fitting

is easily installed via a 1in diameter conduit entry on the top of the fitting into a separate wiring box to facilitate wiring to the mains without dismantling the fitting. A reflector shield is provided as standard to ensure the maximum downward light output and at the same time affording protection to the lamp. A protective wire guard is provided for fitting into the base of the reflector. A version for use with remotely mounted control gear is also available. (See HBT p.168.)



HBR/G400

RANGE

Complete fitting		Components			Dimensions					
Rating	Cat. no.	Control gear housing including gear Cat. no.	Reflector Cat. no.	Wire Guard Cat. no.	Max. diameter in	mm	Max. length in	mm	Weight inc. lamp lb	kg
250W	HBR/G250	HBG.250	HBR.400	Included	10-13	257	26-6	676-3	15-5	7-02
400W	HBR/G400	HBG.400	HBR.400	Included	10-13	257	28-9	735	20-25	9-17
400W	HBR/G400	HBG.400	HBX.400	HB.4601	18-75	476	30-4	772-1	23-75	10-77

Note : The HBR400 reflector shield can be replaced by an HBX400 reflector (see p.166) for use with 400W MBF lamps.

atlas

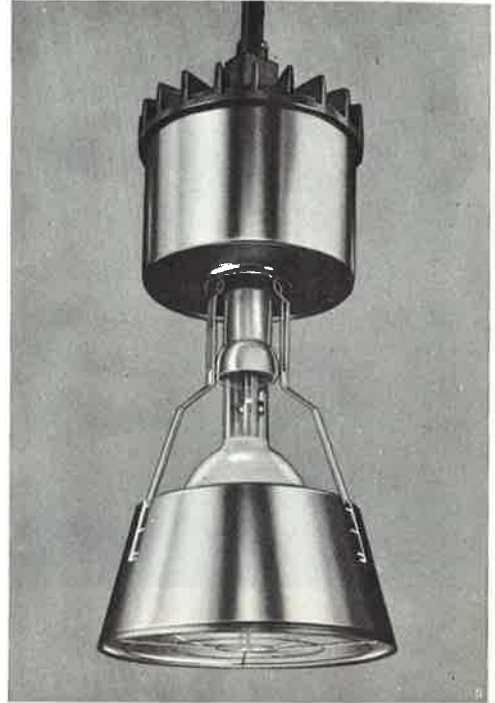
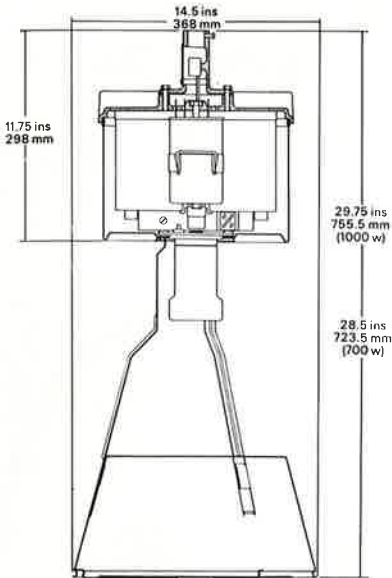
HBR/G700 and G1000 fittings

These fittings have been designed for use in installations where mounting heights of between 30ft and 60ft are available and are suitable for use in practically all types of industry where the ambient temperature at fitting level does not exceed 30°C (86°F).

This fitting is particularly recommended for new installations or for replacing existing tungsten fittings where higher illumination values with reduced maintenance are required.

The fittings incorporate relevant switchless start control gear for operating either a 700w or 1000w MBFR high-

pressure mercury vapour reflector lamp on 240v 50Hz supplies. (Other supplies on application.) The fitting is easily installed via a 1in diameter conduit entry on the top of the fitting into a separate wiring box to facilitate wiring to the mains without dismantling the fitting. A reflector shield is provided as standard to ensure the maximum downward light output and at the same time affording protection to the lamp. A protective wire guard is provided for fitting into the base of the reflector. A version for use with remotely mounted control gear is also available. (See HBT p.168)



HBR/G1000

RANGE

Complete fitting		Components		Dimensions			
Rating	Cat. no.	Control gear housing including gear Cat. no.	Reflector 700/1000w Cat. no.	Max. diameter in	Max. length mm	Weight lb	Weight kg
700w	HBR/G700	HBG.700	HBR.1000	14.5 368	28.5 723.5	37.75	17.1
1000w	HBR/G1000	HBG.1000	HBR.1000	14.5 368	29.75 755.5	40.25	18.2

atlas

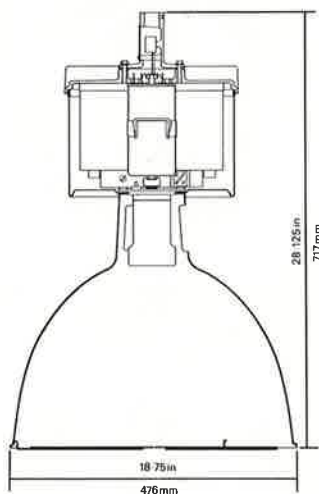
HBIX/G400 °Kolorarc fitting

This new fitting has been designed for use in installations where mounting heights between 20ft and 50ft are available and is suitable for use in practically all types of industry and is particularly recommended for new installations or for replacing existing tungsten fittings where higher illumination values with reduced maintenance are required.

The fitting incorporates switchless start control gear to operate a 400w MBIF °Kolorarc lamp on 240v 50Hz (220v 50Hz on application). The fitting is easily installed via a 1 in. diameter conduit entry, on the top of the fitting, into a

separate wiring box to facilitate wiring to the mains without dismantling the fitting.

A reflector in anodised aluminium is provided to give a BZ1 high efficiency downward light output, slots are provided at the top of the reflector to provide a small proportion of upward light to prevent a 'tunnel' effect and also to allow a flow of air over the lamp and reflecting surfaces which helps to reduce maintenance. A protecting wire guard is available as an optional extra. (Cat. No. HB.4601.)



HBIX/G400

RANGE

Complete fitting

Components

Dimensions

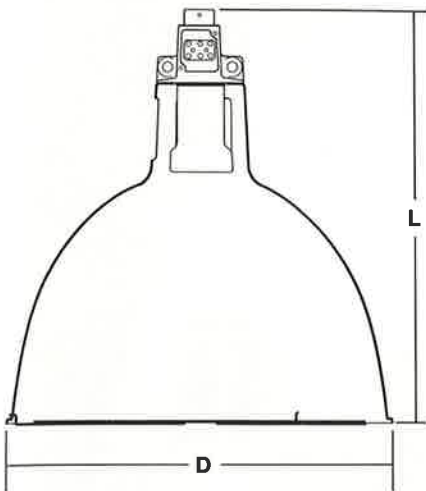
Rating	Lamp type	Cat. no.	Control gear housing incl. gear Cat. no.	Reflector Cat. no.	Optional Wire Guard Cat. no.	Max. diameter in mm	Max. length in mm	Weight inc. lamp lb kg
400w	MBIF	HBIX/G400	HBIG.400	HBX.400	HB.4601	18-75 476	28-125 717	40-5 18-3

atlas

HBT/X250-1000 fittings

These fittings have been designed for use in installations where mounting heights of 15 ft and over are required. They are suitable for use in practically all types of industry and are particularly recommended for new installations or for replacing existing tungsten fittings where higher illumination values with reduced maintenance is required. A reflector in anodised aluminium is provided to give a

BZ1 high efficiency downward light output, slots are provided at the top of the reflector to allow a flow of air over the lamp and reflecting surfaces which helps to reduce maintenance. A protecting wire guard is available for both versions of reflector (Cat. No. HB4601 for HBX400 reflector, Cat. No. HB4602 for HBX1000 reflector). Remotely mounted gear is required for this fitting.



HBT/X400

RANGE AND DIMENSIONS

Complete fitting

Rating	Lamp type	Cat. No.	D		L		Weight inc. lamp	
			in.	mm.	in.	mm.	lb.	kg.
250W	MBF	HBT/X250*	18.75	476	19.88	505	5.04	2.27
400W	MBF or MBIF	HBT/X400*	18.75	476	19.88	505	5.25	2.38
700W	MBF	HBT/X700†	27.6	700	29.75	756	8.15	3.70
1000W	MBF or MBI	HBT/X1000†	27.6	700	29.75	756	9.25	4.2

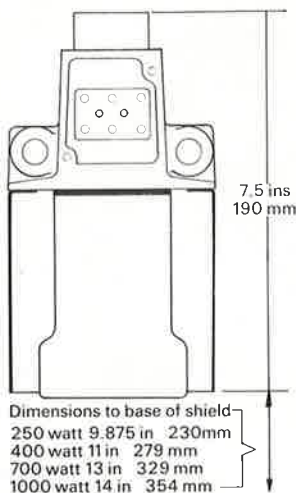
*This fitting may also be used with 300, 500, 750, 1000W G.L.S. lamps

†This fitting may also be used with 500, 750, 1000W G.L.S. lamps.

atlas

HBT fittings

These fittings have been designed for use in installations where mounting heights of between 15ft and 60ft are available, and are particularly recommended for installations where a high illumination value with low maintenance is required. This fitting will accept either a 250W, 400W, 700W or 1000W MBFR high pressure mercury vapour reflector lamp for use with remotely mounted control gear. The fitting is easily installed via a 1in diameter conduit entry on top of the fitting.



A reflector shield is provided as standard to ensure the maximum downward light output and at the same time affording protection to the lamp. A protective wire guard is provided for fixing to the base of the reflector. A version incorporating switchless start H.P.F. control gear is available. (See HBR/G, p. 165.)
Note: The HBR reflectors can be replaced by HBX reflectors (See p. 166.)



HBT/R1000

RANGE

Complete fitting

Rating	Lamp type	Cat. no.	Components		Dimensions		Weight (less lamp)	
			Top Cat. no.	Reflector including Guard Cat. no.	Max. diameter in mm	Max. length in mm	lb	kg
250W, 400W	MBFR	HBT/R400	HBT	HBR.400	4.2 106.4	7.5 190	1.75	0.79
700W, 1000W	MBFR	HBT/R1000	HBT	HBR.1000	10.13 257	— —	1.5	0.68
					14.5 368	— —	1.75	0.79

INCANDESCENT AND DISCHARGE— EXTERIOR

Introduction

Here is a range of outdoor lighting equipment designed to suit every need.

Floodlighting and street lighting equipment using the latest types of tungsten and discharge lamps ; a range of weatherproof fittings for use in walkways, pedestrian precincts ; floodlights for gardens and forecourts are all included.

Incandescent and Discharge Exterior Index

Page no.

Escort

- 170 Index
- 171 LGI Tungsten Bulkhead
- 172 MBF Prismatic Bulkhead
- 172 Division 2 wellglass
- 173 OB Fluorescent Bulkhead
- 174 EKF, EMF Tungsten/mercury wellglass
- 175 WPC, WPW Patio

Floodlighting

- 176 ER, M36 Miniflood
- 177, 178 SUN 500 Tungsten halogen Sunflood
- 179, 180 Haline HAS 500/750/1000/1500/2000w Floods
- 181 M25 Junior Floodlight projector
- 182 M25F Floodlight projector
- 183 M28 Light duty floodlight projector
- 184 400 Area floodlight
- 185 M30 Linear sodium flood
- 186 OD Linear halide flood

Street Lighting

187-190

Index

Group A

- 191 Alpha One - SOX sodium
- 192 Alpha Two - 5ft fluorescent
- 193 Alpha Three - SCO
- 194 Alpha Three - mercury fluorescent
- 195 Alpha Three - mercury fluorescent and SCO with gear
- 196 Alpha Five - linear sodium
- 197 Alpha Six - linear sodium
- 198 Alpha Seven - mercury fluorescent
- 199 Alpha Seven - with gear
- 200 Alpha Nine - SCO sodium
- 201 Alpha Nine - with gear
- 202 Alpha Ten - SOX sodium

Group B

- 203 Beta One - top entry GLS/mercury
- 204 Beta Four - top entry GLS/mercury
- 205 Beta Five -
- 206 Beta Six - side entry 2ft fluorescent
- 207 Beta Seven - side entry mercury
- 208 Beta Eight - side entry sodium
- 209 Beta Nine - side entry mercury

Group A

- 210 Gamma One - post top 5ft fluorescent

Group B

- 211 Gamma Two - post top 2ft fluorescent

Group A

- 212 Gamma Three - post top mercury fluorescent
- 213 Gamma Four - post top three-lamp mercury

Group B

- 214 Gamma Five - post top GLS/mercury
- 215 Gamma Six - post top GLS/sodium/mercury
- 216 Gamma Seven - post top GLS/mercury/fluorescent
- 217 Gamma Eight -
post top GLS/sodium/mercury/fluorescent
- 218 Gamma Nine -
post top GLS/sodium/mercury/fluorescent

Miscellaneous

- 219 High Tower - high mast lantern
- 220 Footway fluorescent fittings
- 222 Leader columns

Escort tungsten bulkhead fittings

Application Bulkhead fittings for incandescent light source in a pleasing style. Well made and efficient, sets new standards of simplicity in installation and servicing, with prolonged periods between maintenance. The shallow, square styling is simple and attractive, blending well with any wall finish or decorative scheme.

Low initial cost is a feature of the miniature incandescent bulkhead fittings, which are particularly suitable for installations where manual or time switch control is in operation.

Description Sturdily built in aluminium alloy they will withstand abnormal wear and tear, being completely weatherproof and protected against corrosion and theft. Every fitting is fully tested before leaving the factory and is supplied individually packed, complete with instructions for installation and maintenance.

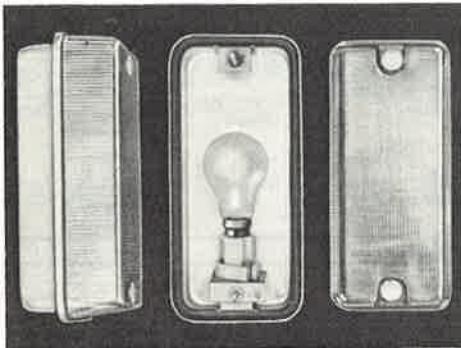
These fittings have pleasing lattice glass diffusers and are much shallower than most. They accommodate 40, 60 or 100w lamps, and incorporate an anti-theft locking device.

Lamps 40–100w GLS BC (ES to order).

Glass diffuser A replaceable prismatic diffuser is supplied which is retained in position by two special captive vandal proof nylon screws. The diffuser fits inside the lip of the body pressing and closes on to a soft foam plastic gasket for weather proofing.

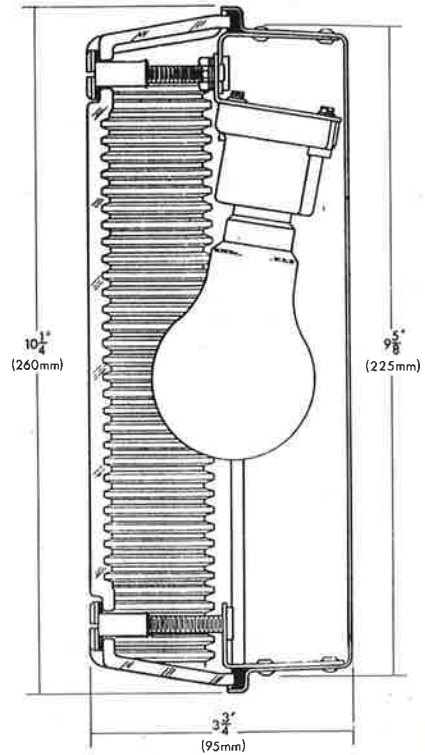
Body pressing This is in aluminum alloy, anodised finish which is highly corrosion resistant. Conduit 'knockouts' are provided at each end. There is also provision for Besa box and conduit in the back. The units can either be semi-recessed or surface mounted.

Cat. no. LGI.1100

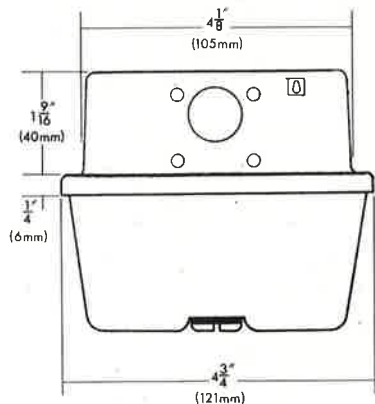


Escort bulkhead

CROSS SECTION AND DIMENSIONS



NOTE: MAXIMUM RECOMMENDED LAMP WATTAGE 100W



Division 2 wellglass fitting and MBF bulkhead fitting



Division 2 wellglass fitting

Division 2 wellglass

Application

This fitting (approved for use in Division 2 areas) is for indoor or outdoor use in petrol refineries, chemical plants, mines and similar situations where inflammable gases could occur accidentally in the atmosphere. It is specifically designed for use near, but outside those areas in which flameproof fittings must be used. Made in a corrosion resistant alloy it is particularly suitable for coastal areas with a salt laden atmosphere.

Description

The top canopy is manufactured from LM6-M aluminium alloy. The casting is tapped 1in E.T. top entry-with alternative entries available to special order; side entry, 1in E.T. and 45° angle entry 1in E.T. A heat-resisting wellglass is held in position by a galvanised wire guard which has a glass centring ring. The wellglass is fixed securely by pressure applied through the wire guard which is clamped to the canopy by screwed pads with brass wing screw fastening. Neoprene gaskets seal the wellglass to the canopy.

To re-lamp the fitting the pressure pads wing screw is released and the wire guard lifted and rotated anti-clockwise sufficiently to release three of the wire guard support lugs from the top casting. The glass and guard may be removed completely by continuing to support the guard, rotating anti-clockwise and unhooking.

The unit is complete with a special ES lampholder. Weight: fitting 5½lb (2.49kg), reflector 1lb (0.45kg).

Lamps

150/200w GLS tungsten (ES cap)
160w MBTL (ES cap)

Dimensions

Height 14¼in (37.5cm)
Diameter 10¼in (26.4cm)
Reflector diameter 14in (35.6cm)

Cat. no. 31/93024

50w MBF/U bulkhead

This modern styled bulkhead has a body cast in corrosion resistant LM6 aluminium alloy with light control provided by a prismatic glass held firmly in position by a hinged glazing ring. The glass itself is held against the ring by clips. This ring seats on to a tubular neoprene gasket cemented firmly into a special recess in the cast body. (The cast metalwork has a sprayed aluminium finish on the exterior and the interior is painted white.)

Description

The control gear is fixed directly to the back of the casting inside, together with a porcelain terminal block suitable for looping 7 x 0.036in cable. A separate earth terminal is provided. An ES porcelain lampholder is mounted in front of a diffused aluminium reflector. The reflector is slotted at one end and has a keyhole slot at the other so that it can be easily removed from its two locating screws. A separate earth wire is provided to earth the reflector.

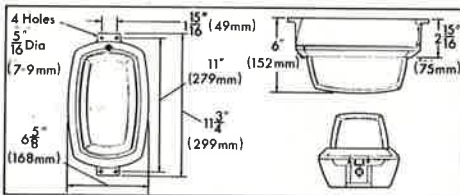
An alternative gearless version suitable for 150w GLS has a porcelain ES lampholder mounted on an easily removable bracket with a separate earth terminal provided on the casting. Insulating sleeves are provided to protect the incoming cable.

Division 2 type

Generally as above but fitted with enclosed break ES lampholder. Mains connector has clamp type terminals. Maximum 100 watts.



MBF/U bulkhead fittings



RANGE

Cat. No.	Description	Type	Lamp
TG3049	MBF/U prismatic bulkhead complete with 240v gear	Standard	50w MBF/U ES cap
TG3050	GLS prismatic bulkhead less gear	Standard	100/150w GLS ES cap
TG3355	MBF/U prismatic bulkhead complete with 240v gear	Div. 2	50w MBF/U ES cap
TG3356	GLS prismatic bulkhead less gear	Div. 2	100w ES cap
TG3053	Wire guard	—	—
Weights — with gear 10½lb (4.76kg) less gear 5½lbs (2.50kg).			
Entry — ¾" ET conduit top and bottom.			

Escort fluorescent bulkhead

Application

An elegant, tough, stormproof fitting for surface or recess mounting anywhere outdoors. In factories, barracks, goods yards or docks; in precincts, transport cafes, tunnels or car parks. This Escort fitting is a security guard that can stay on duty till dawn, with no time off.

Description

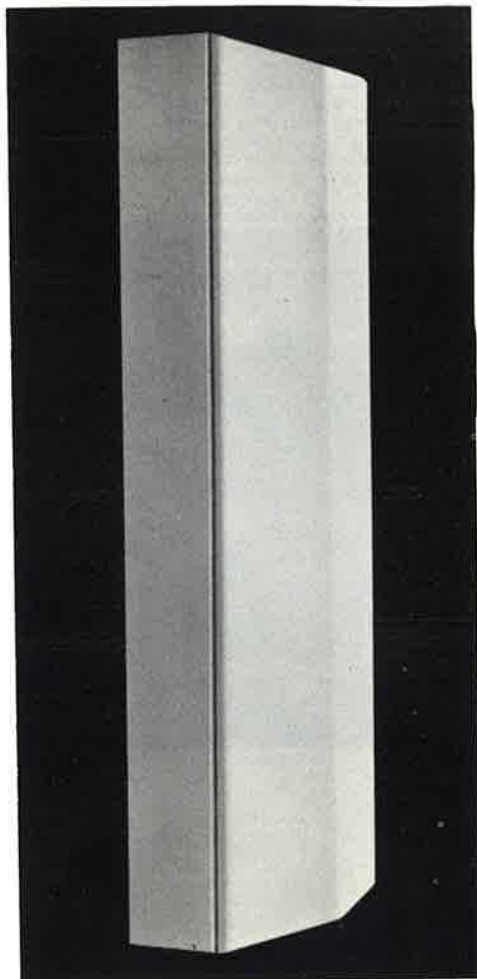
A tough fitting comprising pressure die cast aluminium body with high impact acrylic cover (wire guards are not a necessary accessory with this unit).

The opal cover is secured with two captive screws opened only by special key provided with each fitting and retained when open with a plastic toggle.

Switchstart gear for 2 or 3 8w 12in fluorescent T5 lamps is mounted under a hinged reflector tray. Stock fittings are L.P.F. (single lamp versions and H.P.F. 2 lamp versions are available to special order). A plug isolates lamp circuits on opening the hinged tray.

For easy installation the die cast body includes 1/2in E.T. entries at ends and 1/2in knockout in centre back (2 plugs are provided). Wireways are cast in from the end entries to the central terminal block as well as alternative drill indents for fixing holes.

Tubes are packed with each fitting for convenience. A bezel trim is available for use when the bulkhead is recessed.



Escort fluorescent bulkhead

RANGE

Cat. no.	Description
OB.2008	2 lamp parallel wired SS circuit L.P.F. 2 x 8w 12in fluorescent tubes
OB.3008	3 lamp series and single SS circuit L.P.F. 3 x 8w 12in fluorescent tubes
OBB	Bezel trim
OBD	Spare opal cover
OBK	Key

Escort wellglass fittings

These attractive Wellglass fittings meet a wide range of industrial and municipal needs. Available in two sizes, suitable for 60/200w tungsten lamps and 80/125w mercury vapour lamps, the series utilises a screw neck gallery of cast aluminium alloy construction suitable for either side or top entry. The latter is also suitable for direct Besa box mounting. The two sizes of glass cater for 100w or 200w ratings but employ a common screw neck detail to match the galleries, is internally etched and is fitted complete with a weatherproof seal. A white nylon reflector may be fitted if required over the screw neck of the glassware and is available to both sizes. For wall or corner mounting, bracket assemblies are available for use with the side entry gallery.



EKF.1100 side entry using AMEM6114 corner bracket



EMF.1200 top entry with AMEM6121 reflector and AMEM6122 bracket



EKF.1200 side entry using AMEM6122 wall bracket

RANGE

Wellglass fittings

Cat. no.	Type	Lamp watts	Lampholder
EKF.1100	Side entry	60/100	BC
EMF.1100	Top entry	60/100	BC
EKF.1200	Side entry	150/200 80/125 MBF/U*	ES
EMF.1200	Top entry	150/200 80/125 MBF/U*	ES

* For use with external control gear.

Attachments

Cat. no.	Type	Lamp watts	Dimensions		Weight	
			in	mm	oz	g
AMEM6120	Reflector	60/100	7.25	184 dia.	3	85
AMEM6121	Reflector	150/200	8.62	219 dia.	2	56
AMEM6122	Wall bracket	—	4.75	120 length	4	113
AMEM6114	Corner bracket	—	6.0	152 square	12	340
			4.75	120 projection		

Fitting dimensions

Cat. no.	Diameter		Height		Weight	
	in	mm	in	mm	lb	kg
EKF.1100, EMF.1100	4.5	114	7.37	187	2	0.90
EKF.1200, EMF.1200	5.75	146	9.25	235	2½	1.12

All fittings comply with B.S.3820.

atlas

Escort patio fittings

Lighting outside the house is becoming more popular and allows the building and its surroundings to be fully utilised. An air of well-being is created for visitors and occupants. Besides providing functional lighting for driveways and paths, paved areas adjacent to the house can be exploited for cocktails on a summer evening.

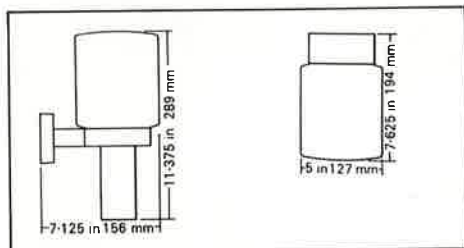
The Patio light can either be wall mounted or mounted under a canopy and clear ribbed or plain opal glasses are available. The fitting has a dark grey, weather-resistant and non-corrosive finish and takes a 60W lamp.



WPC1060/R Canopy with clear ribbed glass



WPW1060/R Wall bracket, clear ribbed glass



RANGE

Cat. no.	Fitting description
WPC1060/D	Canopy, opal glass
WPC1060/R	Canopy, clear ribbed glass
WPW1060/D	Wall bracket, opal glass
WPW1060/R	Wall bracket, clear ribbed glass
Glasses	
WPD	Opal glass
WPR	Clear ribbed glass

atlas Minifloods

Application The Miniflood is a weatherproof lampholder housing and mounting assembly for exterior application.

Designed for use with the 150w mains voltage Sealed Reflector Spot or Flood lamp it may be used for general area floodlighting and is particularly suitable for all forms of emphasis lighting such as bill boards, directional signs, forecourts, entrances, car parks, drive-ways, gardens, lawns, shrubberies, etc.

Description The basic units supplied with various forms of mounting comprise a satin finished extruded aluminium case housing ready wired ES lampholder. Weather-proofing is completed by a silicone rubber sealing ring between case and lamp. Adjustment and locking by means of a slotted thumb screw.

The ER.1150 is wired for connection to conduit installations alternative wall mounting brackets AMEM6122 and corner mounting bracket AMEM6114 being available.

The M36.1150 is supplied with 6ft of PVC 3-core cable and a black polythene coated steel bracket which allows fixing to conduit or by woodscrew, as well as free standing.



ER.1150 miniflood lamp



M36.1150 miniflood

RANGE

Cat. no.	Description
ER.1150	Miniflood (less brackets, less lamp)
M36.1150	Miniflood (with brackets, less lamp)
AMEM6122	Wall mounting bracket
AMEM6114	Corner mounting bracket

DIMENSIONS

Cat. no.	Length in mm	Height in mm	Diameter in mm
ER.1150 incl. lamp	7-5 191	—	4-75 121-5
M36.1150 incl. lamp	7-5 191	—	4-75 121-5
M36.1150 mounting bracket	4 105	5-3 132	—

	Type	Watts	Voltage	Cap
Sealed beam reflector lamps (Par 38)	Spot	150	220/230, 240, 250	ES
Sealed beam reflector lamps (Par 38)	Flood	150	220/230, 240, 250	ES
Colour-Ray sealed beam reflector lamps (Par 38)	Spot	150	220/230, 240, 250	ES
Standard colours: blue, green, red and yellow.				

Sunflood - 300/500w tungsten halogen floodlight

Special features

Size and performance. The main body is 8in long, 6 $\frac{1}{2}$ in wide and 4in deep overall. The separated cool terminal chamber is 4 $\frac{1}{2}$ in long by 1 $\frac{1}{2}$ in wide and 1 $\frac{1}{2}$ in deep, overall. The complete fitting weighs 2lb. From this compact unobtrusive unit a better distribution for area lighting is obtained than from the conventional forward throw, open type, area fitting, which is some four times as large and costs much more.

Application The Sunflood is a general purpose open floodlight for outdoor area lighting. This includes car parks, factory yards, building sites, forecourts, playgrounds, flower beds and many others.

Note: In outside locations the canopy cover must not be aimed above the horizontal position and it is essential that the lamp be operated with its long axis within 4° of the horizontal. For interior use it is recommended that advice be obtained from the Lighting Engineering Department at your local regional office. For addresses see back cover.

Description The main body is pressure die-cast in LM6-M aluminium alloy and has specially designed external cooling fins.

A reflector, of magnesium aluminium alloy, is hammer finished, chemically brightened and anodised and is secured to the main body, by a single stainless steel screw.

Completing the main housing is the lampholder bracket assembly and wiring to the terminal block housing.

The lampholders consist of single fine silver 'button' contacts, mounted on nickel-silicon-copper alloy leaf springs, tempered and plated and housed in porcelain shrouds. Wiring from each holder to the terminal block is carried out with 23-0076 silicon rubber cable additionally protected with varnished glass sleeving.

A pressure die-cast, LM6-M aluminium alloy, terminal block housing completes the fitting, and provides cable-entry and mounting through a $\frac{3}{8}$ in E.T. tapped boss. The housing is secured to main body by means of a specially designed knuckle joint, which allows for downward vertical aim and provides an effective heat-shield between wiring chamber and main body. Inside the housing there is a two-way porcelain terminal block insulated completely by a moulded polypropylene shield and an earth terminal connector.

Accessories Designed for simple fixing, see page 414.

Spigot For 2in o.d. tubing an aluminium alloy spigot cap can be used. Cat. no. AMEM6106. Finish: black.

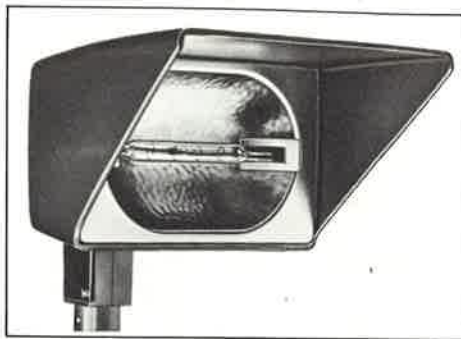
Bracket For piers, walls, etc., an aluminium cast bracket can be added. Cat. no. AMEM6107.

Finish: black. For clamping to poles of diameters ranging from 1in to 2in. A U bolt $\frac{3}{8}$ in diameter M.S. finished zinc plate can be supplied for use with the AMEM6107 bracket. Cat. no. AMEM6108.

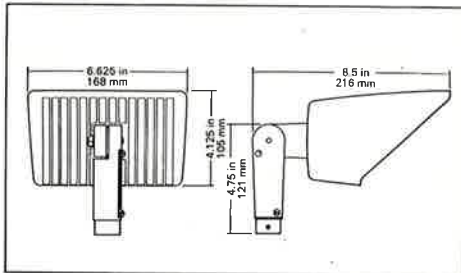
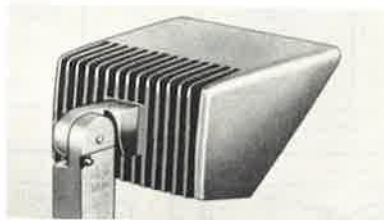
Corner wall bracket Cat. no. AMEM6112.

Finish: black.

Wireguard (lamp protection) Cat. no. AMEM6156 stainless steel. Clip hinge fixing.



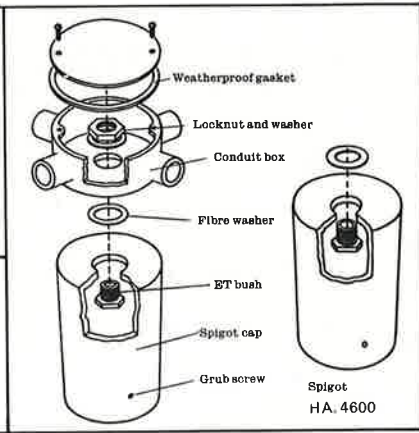
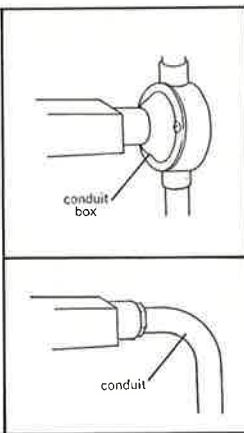
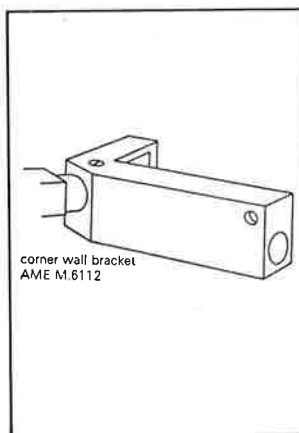
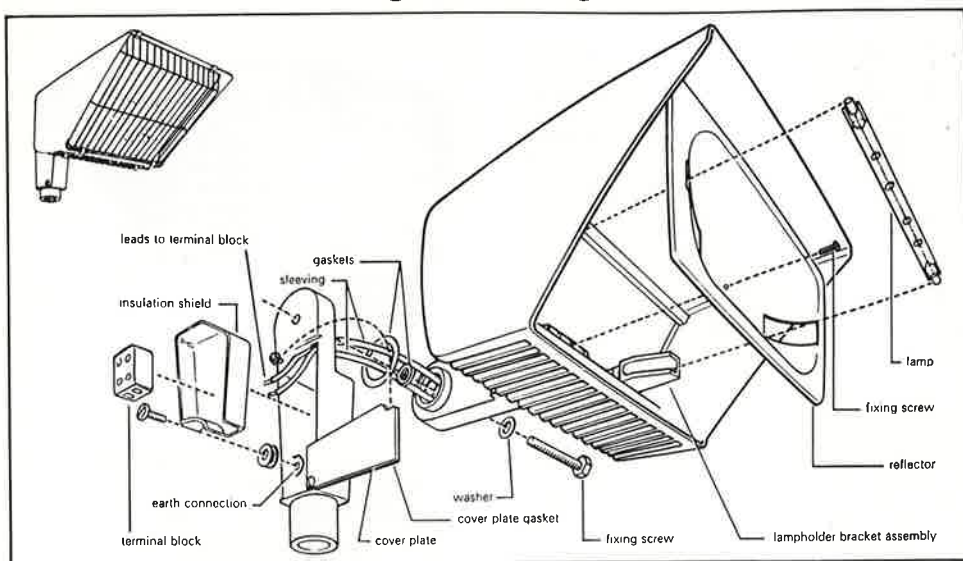
Sunflood 500w



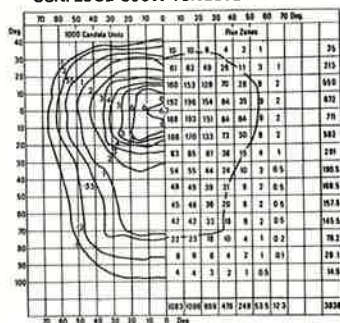
RANGE

Cat. no.
SUN 500 Floodlight
500w TH Linear 200/250v, 110/120v or 300w, 240/250v lamp
AMEM6156 Wireguard
AMEM6106 Spigot
AMEM6107 Bracket
AMEM6108 U bolt and clamps
AMEM6112 Corner bracket

Sunflood - 500W tungsten halogen floodlight



SUNFLOOD 500W TUNGSTEN HALOGEN



LAMP

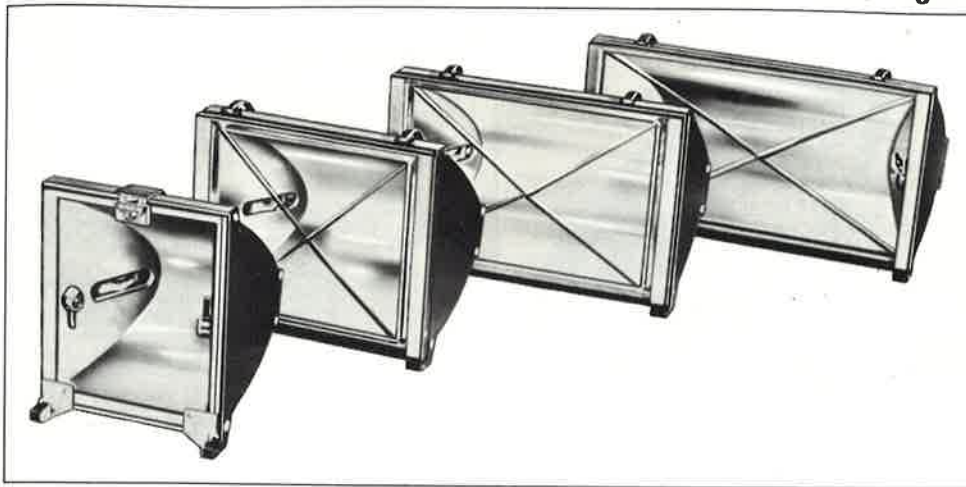
Cat. no.	Type	Class	Watts	Lumens
SUN.500	Tungsten halogen	THD	500	10,000

FITTING

Beam angle	1/10 peak illumination	Vert. Horiz.	70° 88° 38° 58°	0-63	6,200	Extra wide
1/10 peak illumination	Vert. Horiz.	70° 88° 38° 58°	0-63	6,200	Extra wide	

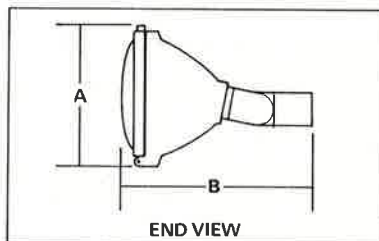
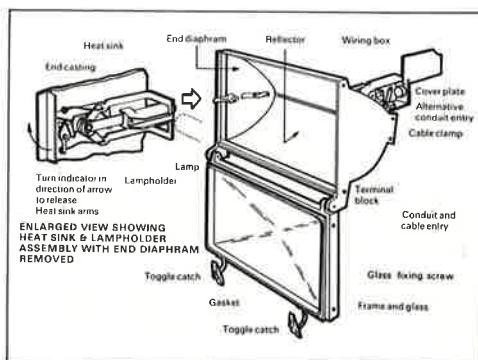
Beam lumens = Lamp lumens × beam factor.

'Haline' 500/750/1000/1500/2000W Tungsten-Halogen Flood Lights



Application Suitable for area lighting, buildings, precincts, stadia, car parks, forecourts or any purpose where a wide horizontal beam spread and accurate vertical beam control are required.

Description One-piece reflector/body of extruded aluminium featuring asymmetrical, faceted reflector profile. This construction gives rigidity and accuracy for best and most consistent optical performance. Reflectors are finished polished (specular) or matt (diffuse) and provided with polished aluminium end diaphragms for improved light distribution. Die-cast LM6 aluminium alloy end plates enclose the fitting and carry lamp holders and heat sinks. Back support, knuckle joint and cool wiring box are also die-cast in LM6. The wiring box is fitted with easy access terminal block, cable clamp and neoprene gasketed lid, and the knuckle joint is calibrated in 5° steps for easy aiming in elevation. Heatsinks are lever operated and arranged so that they must be engaged before the fitting is closed. Access for relamping is obtained via hinged silicone rubber gasketed front frame, with toggle catches on 750–2000W sizes (500W gasketed frameless with thumbscrew fixing). Full weatherproofing is provided by dished borosilicate glasses on 750–1500W sizes and by flat glasses on 500W and 2000W sizes. Finish-reflector/body matt aluminium, castings matt black, glazing trim anodised aluminium, screws stainless steel. Cool wiring box provided with tapped $\frac{1}{4}$ " ET entry and knock-out boss for one additional $\frac{1}{4}$ " ET thread if required. Suitable for 110–240V supply in 500/1000W–240V only in 1500W and 2000W.



RANGE

Catalogue No.	Watts	Weight lb kg	Height A in mm	Length in mm	Depth B in mm
HAS/D500	500	4½ 2.15	8.5 215.9	6.843 193.81	11.5 292
HAS/D1000	750/1000	6½ 3.06	8.5 215.9	9.687 246.05	12.0 305
HAS/D1500	1500	7½ 8.52	8.5 215.9	12.25 311.15	12.0 305
HAS/D2000	2000	8½ 8.98	8.5 215.9	15.25 487.35	11.5 292

HAS = Specular Reflector

HAD = Diffuse Reflector

'Haline' 500/750/1000/1500/2000W Tungsten-Halogen Flood Lights

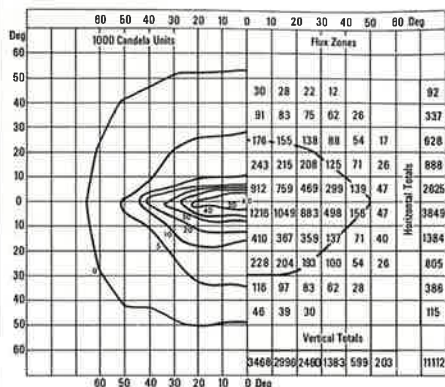
RANGE

Catalogue No	Lamp Description
HAS500	500W Specular Reflector
HAD500	500W Diffuse Reflector
HAS1000	750/1000W Specular Reflector
HAD1000	750/1000W Diffuse Reflector
HAS1500	1500W Specular Reflector
HAD1500	1500W Diffuse Reflector
HAS2000	2000W Specular Reflector
HAD2000	2000W Diffuse Reflector

ACCESSORY PACKS COMPLETE

HA4600	2" x 2" Spigot Cap
HA4601	Multi-use Mounting Bracket
HA4602	Pair of 2" Pole Clamps
HA4603	Cross-Arm Mounting
HA4604	Floor Mounting
HA4606	Hood 750/1000W, For HAS/HAD1000
HA4607	Hood 1500W, For HAS/HAD1500
HA4608	Hood 2000W, For HAS/HAD2000
HA4609	Wing Universal All Sizes

TYPICAL PHOTOMETRIC DATA HAS.1500 1500W.SPECULAR



'HALINE' 1500W SPECULAR FITTING

Cat. No	Lamp Watts	Lamp Type	Lamp Lumens	Beam angles to 1/2 peak			Beam angles to 1/3 peak			Beam Factor	Beam Lumens	Peak Candela	Beam angles to cut-off		
				Vertical Above Pk.	Below Pk.	Horiz.	Vertical Above Pk.	Below Pk.	Horiz.				Below Peak	Above Peak	Horiz.
HAS1500	1500W	THD	33000	24°	30°	100°	5°	8°	64°	-53	17500	60000	49°	53°	132°

Accessories

Accessories are supplied packed in plastic bags containing all necessary components as follows :-

HA4600 POLE TOP MOUNTING

Pack contains 2" x 2" spigot cap and 3/4" E.T. Hex. Head Steel Bush. Cap is attached to cool wiring box with bush and wiring fed through it.

HA4601 MULTI-USE MOUNTING

Pack contains Bracket and Bush used for wall or floor mounting. Add HA4602 pair of U-clamps for 2" o/d pole mounting.

HA4602 U-CLAMPS FOR 2" O/D POLE

Pack contains one pair of Clamps with Nuts and Washers. Galvanised finish.

HA4603 CROSS-ARM MOUNTING

Pack contains Bracket, two Bushes and one pair HA4602 Clamps used for mounting two fittings, one above the other, on a single horizontal 2" o/d bracket arm.

HA4604 FLOOR MOUNTING

Pack contains Footplate plus HA4600 Spigot Cap and Bush. Cap fits over Footplate permitting rotation on the vertical axis. Used where aiming or swivelling in azimuth is required.

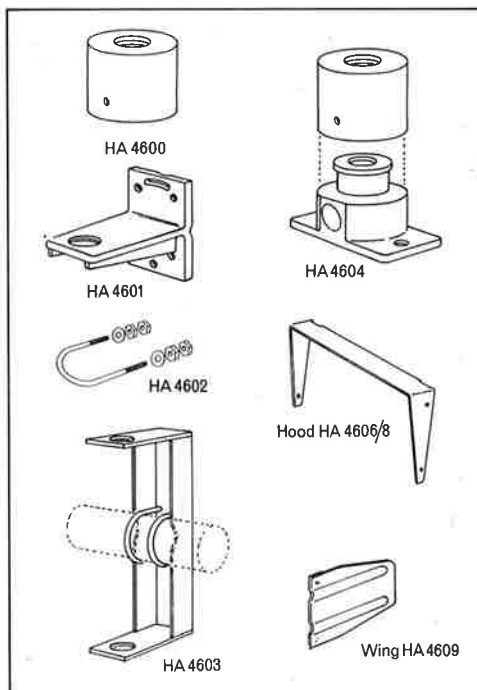
HA4606/8 HOOD

Pack contains Hood and Four Stainless Steel Screws. Used to control upward light. Attached to glazing-frame with longer screws provided.

HA4609 WING

Pack contains One Wing and Two Screws. Used to control side light. Attached to glazing-frame with longer screws provided.

NOTE: NOT AVAILABLE FOR 500W



M25 junior floodlight projector

Application For major floodlighting including airfield aprons, railway sidings, marshalling yards and sports stadia on tower or column mountings. A specialised use is the lighting of city centre squares and precinct lighting from the roof of high tower blocks.

Lamps 300/500w GLS or B2 projector 250/400w MBF/U.

Description The projector is of robust construction and made from first quality materials, selected to withstand corrosive atmospheres found in industrial locations.

The projector comprises six major components. A reflector spun from super purity aluminium, polished and anodised is secured internally to an aluminium alloy ring casting which itself is pivoted in a galvanised steel stirrup assembly. A heat-resisting front glass cover secured into the reflector by a neoprene gasket, makes a weatherproof seal.

Gasketed and fastened to the body casting by stainless steel studs and wing nuts through slotted cast-on lugs, is an easily removable lampholder housing at the base of which is a detachable cast cover plate.

To complete the assembly, an auxiliary reflector is fixed between main reflector and main body casting; a GES lampholder, on a plated steel bracket, is fixed to the appropriate pre-set focus position; and the cover plate end cap encloses a cool wiring chamber containing porcelain terminal block, earth connection and cable gland.

The stirrup assembly provides locking bolts, with plastic coated heads and handles, D.V. bearing quadrant marked 0°-180°. All castings are aluminium alloy, LM6-M.

Available, modified for use in Division 2 areas to special order.

Special features and maintenance The floodlight once aimed need not be moved for re-lamping, which is effected by removing lampholder housing complete with lamp, from body casting.

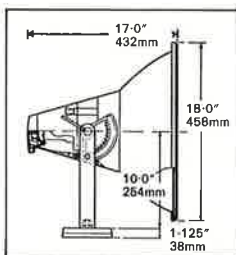
The terminal block, earth screw and supply cable are located within the cool wiring chamber at base of lampholder casting, affording easy access along with protection from lamp heat.

The neoprene gasket and method of glazing provide a very effective weatherproof seal.

Details of discharge lamp control gear and weatherproof boxes on separate pages.



M25 junior floodlight



RANGE

Cat. no.	Mounting	Reflector	Weight	
			lb	kg
M25.S 500	2 x $\frac{1}{8}$ " diameter clear holes at 6" centre	specular	20	9.07
M25.D 500	2 x $\frac{1}{8}$ " diameter clear holes at 6" centre	diffuse	20	9.07

*Complete with Baseplate.

mazda

M25F floodlight projector

Application For major floodlighting including airfield aprons, railway sidings, marshalling yards and large sports stadia; high tower mounting.

Lamps 750/1500w GLS or B2 projector: 1000w MBF/U or MB/U : 1000w MBI.

Description The projector is of robust construction and made from first quality materials, selected to withstand corrosive atmospheres found in industrial locations.

The projector comprises six major components. A reflector spun from super purity aluminium, polished and anodised is secured internally to an aluminium alloy body casting which itself is pivoted in a galvanised steel stirrup assembly. A heat-resisting front glass cover secured into the reflector by a neoprene gasket, makes a weatherproof seal. Gasketed and fastened to the body casting by stainless steel studs and wing nuts through slotted cast-on lugs, is an easily removable lampholder housing at the base of which is a detachable cast cover plate.

To complete the assembly, an auxiliary reflector is fixed between main reflector and main body casting; a GES lampholder is provided and the cover plate end cap encloses a cool wiring chamber containing porcelain terminal block, earth connection and cable gland.

The stirrup assembly provides locking bolts, with plastic coated heads and handles and D.V. bearing quadrant marked 0°-90° at 2½° intervals. A cast baseplate, marked with azimuth bearing angles, 0°-180°, is available as an optional extra. All castings are aluminium alloy, LM6-M.

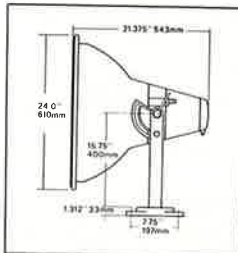
Special features and maintenance Provision is made for accurate lamp focusing by adjustment of three thumbscrews with screwdriver slot. The floodlight once aimed need not be moved for re-lamping, which is effected by removing lampholder housing complete with lamp, from body casting. A re-setting stop situated in the quadrant makes it possible to swivel the fitting on its horizontal axis for cleaning front glass. The fitting then returns to its predetermined aiming position.

The terminal block, earth screw and supply cable are located within the cool wiring chamber at base of lampholder casting, affording easy access along with protection from lamp heat.

The neoprene gasket and method of glazing provides a very effective weatherproof seal. For replacement of glass front cover a special glazing tool is available (M25 Glazing Tool).



M25F Floodlight projector



RANGE

Cat. no.	Reflector	Weight		Mounting
		lb	kg	
M25.D 1500*	Diffuse	28	12.7	1 x 5/8 in hole
M25.S 1500*	Specular	28	12.7	1 x 5/8 in hole
M25.BP	Baseplate (optional extra)			2 x 1/4 in diameter, 7/8 in centre

*Excluding Baseplate.

M28 light duty floodlight

Application The M28 is designed for general purpose light duty floodlighting for 150/500 watt tungsten GLS lamps.

Description The M28,150 and M28,200 floodlights in this range are identical in construction, varying only in overall dimensions. Mains wiring is fed via a fixed nylon gland direct into the back of the lampholder. The M28,500 has a removable back cover with cable gland, single screw fixing, giving access to a terminal block for mains connection.

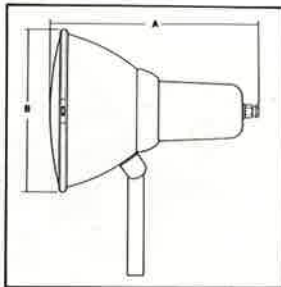
Re-lamping on all sizes is carried out by removal of front glass and glazing ring. Removal of the $\frac{3}{4}$ " packed gland on 150W and 200W sizes allows easy withdrawal of lampholder and yoke assembly for wiring. All three types have fixed focus. Floodlight bodies are manufactured from sheet steel, the whole assembly being given anti-corrosion treatment and finished stoved aluminium lacquer.

The complete assembly is supplied mounted in an adjustable steel stirrup.

Mounting All mounting stirrups have a centre fixing hole $\frac{3}{16}$ in (10.3mm) diameter plus two holes $\frac{3}{32}$ in (5.5mm) diameter on 2in (50.8mm) centres.



M28 light duty floodlight M28, 200



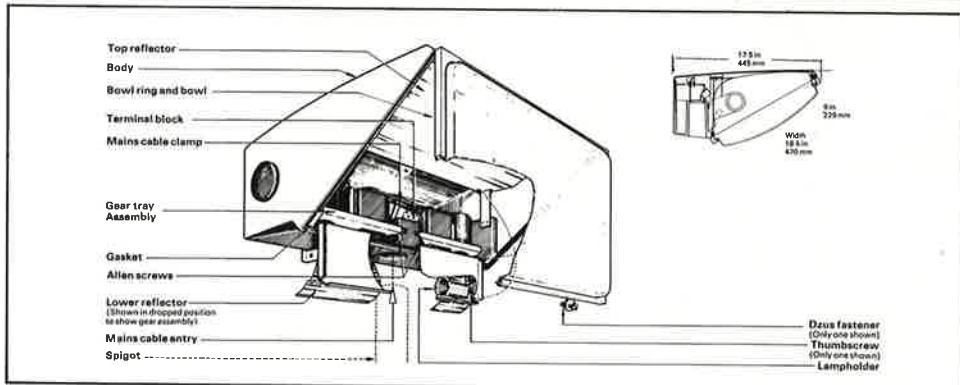
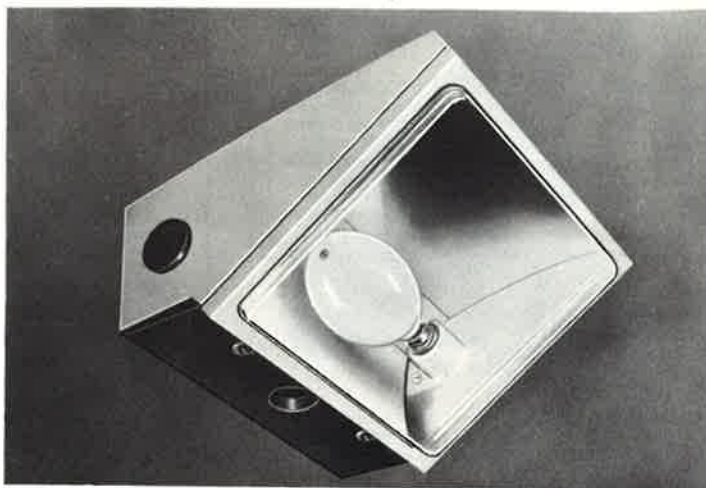
RANGE

Cat. no.	Lamp	Cap	Weight lb	Dimensions	
				A	B
M28.150	150 GLS	BC	3½	10.1in 273mm	8.0in 204mm
M28.200	200W GLS	ES	5½	15.75in 400mm	10.0in 254mm
M28.500	300W/500W GLS	GES	10½	21.75in 552mm	12.0in 305mm

atlas

400w area floodlight

The floodlight, **winner of the 1969 E.L.F.A. Design award**, is a sophisticated, totally enclosed flood for post top mounting and is supplied complete with either "Kolorlux" or "Kolorarc" integral precision wound control gear. It achieves a high light output with good optical control and asymmetric light distribution which makes it ideal for area floodlighting. The 400w area floodlight is suitable for use in car-parks, garage forecourts, industrial situations, security lighting, some road lighting, and many other applications.



Construction The 400w area flood is basically an LM6M silicon-aluminium alloy support casting with central spigot cap. The casting supports the appropriate precision wound control gear.

Body The fitting body of G.R.P. is moulded in one piece and incorporates a channel section carrying a silicone rubber gasket which provides a seal between body and casting.

Bowl A one-piece vandal-resistant "MAKRALON" clear Polycarbonate moulding.

Bowl Ring A G.R.P. moulding with corrosion-resistant hinges at the top for easy access. Fastening

is by two DZUS coin-slot clips and the bowl ring seats on a silicone rubber gasket for full weatherproofing.

Spigot A 2" diameter x 4 1/2" long spigot cap is clamped to the pole by two Allen screws for easy mounting.

Reflector Two-piece, of chemically polished aluminium, giving an asymmetric light distribution. The lower portion hinges down to give easy access to the control gear and the Allen screws.

Wiring Mains wiring is fed via a cable clamp to a 3-way 10 amp terminal block taking up to twin 7/-036 cable and earth.

RANGE

Cat. no.	Lamp	Cap.	Type	Weight lb	kg
OA.C.400	400w "Kolorarc"	GES	MBIF/U	47	22
OA.K.400	400w "Kolorlux"	GES	MBF/U	34	15.4

Cat. no.	Description
OAB.6	6" Outreach Wall Bracket
OAB.10	10" Outreach Wall Bracket

* Contract Price.

mazda

M30 linear sodium floodlight

Application The M30 Floodlight is designed for general area lighting and for illuminating building facades and signs. Floodlights of this type are also used extensively to provide increased illumination at major road junctions and similar locations.

Description Projector body – heavy gauge zinc coated sheet steel with internal specular reflector of aluminium. Armour plate glass front secured in a rubber weatherproof sealing gasket. Access for servicing and lamp replacement is effected by removing the die-cast aluminium end cap which has three way quick release key hole slots.

Finish – stove enamel grey.
Mounting cradle, wall brackets and pole clamps – mild steel strip cast aluminium LM6 and steel rod.
Control gear box – heavy gauge galvanised steel fitted with a hinged lid, fully gasketed. A removable tray for control gear is supplied complete with mains terminal block.

Finish – stove enamel grey.

The range of equipment comprises the following:

M30 140w or 200w linear sodium floodlight

complete with control gear box and side straps for floor mounting. Weight 62lb (28.12kg).*

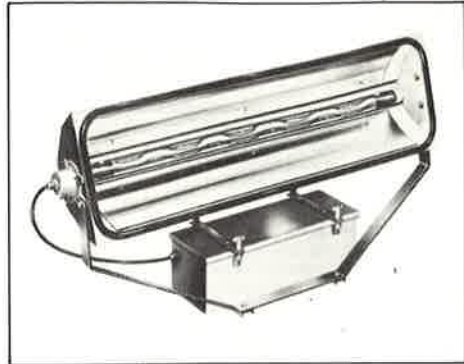
M30/F floodlight body only complete with brackets for wall mounting. Weight 26½lb (16.55kg).

M30/FP floodlight body only complete with cradle and clamps for pole mounting on 2in to 5½in (51mm–147mm) diameter poles. Weight 34lb (15.42kg).

M30/GB gear box only for wall or surface mounting. Weight 33lb (14.96kg).*

M30/GBP gear box only with pole clamps for 2in to 5½in (51mm–147mm) diameter poles. Weight 37lb (16.78kg).*

*The floodlights and gear boxes are not supplied with gear, but the weights shown include gear.



M30 linear sodium floodlight

RANGE

Cat. no.

M30 (excluding gear)

M30/F

M30/FP

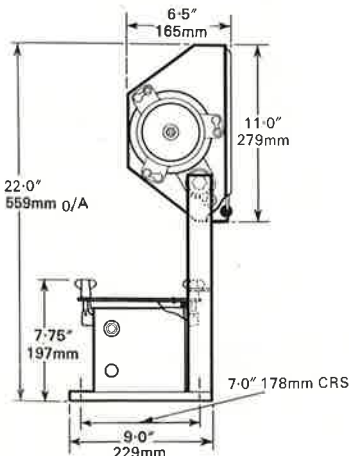
M30/GB (excluding gear)

M30/GBP (excluding gear)

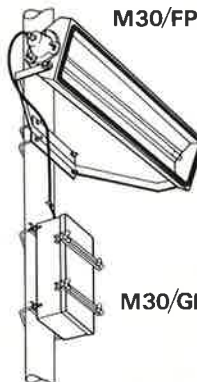
Set of 140w SLI gear 220/250v

Set of 140w SLI gear 190/220v

Set of 200w SLI gear 220/250v

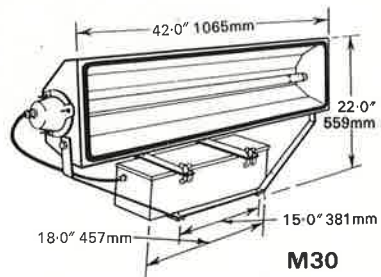


M30

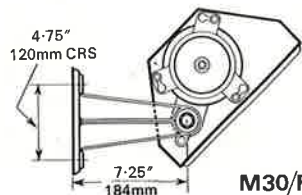


M30/FP

M30/GB/P



M30



M30/F

atlas

750w linear mercury halide floodlight

Application

An entirely new lamp, fitting and control gear concept from TLL Research laboratories engineered to produce a high efficiency controlled distribution floodlight of good colour.

The Asymmetric light distribution obtained from the OD.0750 floodlight gives a very sharp run-back with a wide fan distribution. This is suitable for high tower lighting, apron floodlighting, marshalling yard lighting, dockyard lighting, container berth lighting, and general floodlighting of buildings and areas.

750w MBIL/H Lamp

The appearance and physical size of the new 750w "MBIL/H" linear mercury halide lamp is similar to that of a 1500w tungsten halogen lamp, in that it is approximately 10" long and $\frac{3}{8}$ " in diameter with a single contact at each end. Whereas most discharge lamps have an outer envelope to maintain a uniform thermal equilibrium around the arc tube, the fused silica MBIL/H lamp relies on the lighting fitting to act as the "envelope".

Description

The complete unit is in two interconnected parts:

Floodlight: Aluminium cast body finned to give maximum heat dissipation.

Specially designed aluminium reflector to obtain an asymmetric light distribution.

A toughened borasilicate glass front for maximum safety. This is opened to maintain lamp by releasing four Allen type screws and by operating a Castell lock. A stirrup from the Floodlight to the control gear box enables full adjustment in the vertical plane to be made to the Floodlight.

Control Box: This is similar in design to the Floodlight, cast in aluminium and finned for maximum heat dissipation.

A removable top cover for access to the terminal block is provided.

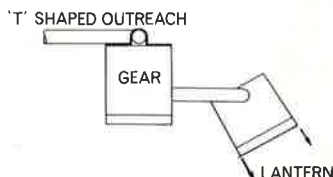
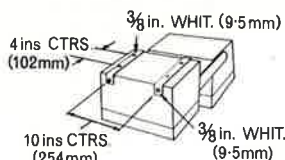
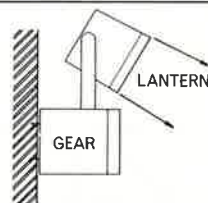
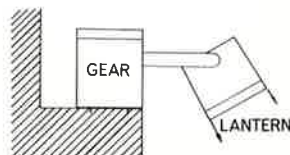
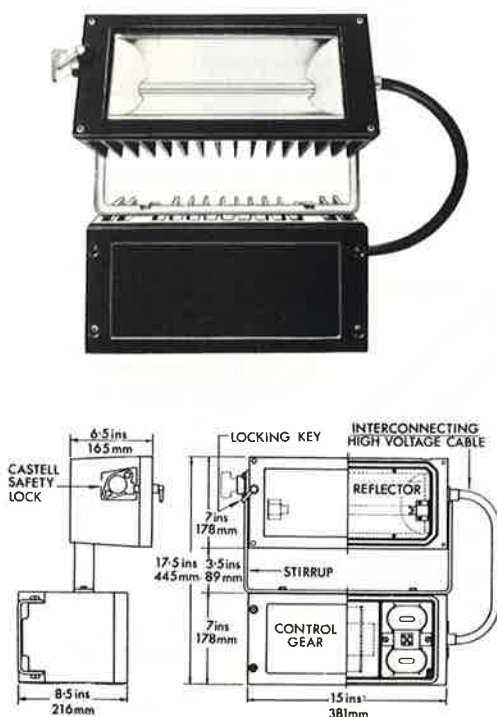
The control gear is integral with the box and is power factor corrected.

There is an inter-connecting flexible PVC covered high voltage cable between the two units.

RANGE

OD.0750	Floodlight complete with Control gear	70 lbs
750w	MBIL/H Lamp	

750w linear mercury halide floodlight



description	catalogue number
-------------	------------------

alpha one

Semi-cut-off for 55w SOX	<i>complete fitting</i> QA1.E/D1055
Semi-cut-off for 90w SOX	QA1.E/D1090

alpha two with gear

Lantern for 3 x 5' – 80w MCEA/U	<i>complete fitting</i> QA2.D/B3080.4
Lantern for 4 x 5' – 80w MCEA/U	QA2.D/B4080.4

alpha three

Semi-cut-off 250/400w MBF/U °Kolorlux	<i>complete fitting</i> QA3S/1400
Cut-off 400w MBF/U °Kolorlux	QA3C/1400
Cut-off 250w MBF/U °Kolorlux	QA3C/1250

alpha three with gear

<i>complete fitting</i>	
Semi-cut-off 400w	
MBF/U °Kolorlux 240v 50Hz	QA3S.L/D/B.1400.4
Semi-cut-off 250w	QA3S.L/D/B.1250.4
Cut-off 400w	QA3C.A/L/G/B1400.4
Cut-off 250w	QA3C.A/L/G/B1250.4

alpha five

<i>complete fitting</i>	
For 140/200w Linear Sodium Lamp	QA5.1200
For 135w SOX lamp	QA5.1135

alpha six less or with gear

<i>complete fitting</i>	
CO Lantern for 140/200w SLI/H	QA6.D/1200
CO Lantern with Gear 140w SLI/H 240v 50Hz	QA6.D/B1140.4
CO Lantern with Gear 200w SLI/H 240v 50Hz	QA6.D/B1200.4

alpha seven

<i>complete fitting</i>	
400w or 250w MBF/U °Kolorlux	QA7.G/1400

alpha seven with gear

<i>complete fitting</i>	
Lantern complete for 400w MBF	
°Kolorlux 240v 50Hz	QA7.G/B1400.4
Lantern complete for 250w MBF	
°Kolorlux 240v 50Hz	QA7.G/B1250.4

alpha nine less or with gear

<i>complete fitting</i>	
SCO Lantern (less gear) 90w SOX	QA9.190
SCO Lantern (with gear) for 90w SOX	
240v 50Hz	QA9.B190.4

alpha ten

<i>complete fitting</i>	
CO Lantern for 90w SOX	QA10.190
CO Lantern for 55w SOX	QA10.155

atlas

Street Lighting Index

description	catalogue number
-------------	------------------

beta one

complete fitting

For 100/150w G.L.S.	QB1.Y/1150.B22
For 150w G.L.S. or 80/125w MBF/U °Kolorlux	QB1.Y/1150.E27

beta four

complete fitting

For 60/150w G.L.S.	QB4J /Y/1200.B22
For 80w MBF/U °Kolorlux	QB4J /Y/1200.E27
For 60/150w G.L.S.	QB4J /M/Y/1200.B22
For 200w G.L.S. or 80/125w MBF/U °Kolorlux	QB4J /M/Y/1200.E27
For 60/150w G.L.S.	QB4.O/1200.B22
For 200w G.L.S. or 80/125w MBF/U °Kolorlux	QB4.O/1200.E27

vandal resistant versions

complete fitting

60/150w G.L.S.	QB4.V/1200.B22
200w G.L.S. or 80/125w MBF/U °Kolorlux	QB4.V/1200.E27

beta five less or with gear for 35w SOX

complete fitting

Side entry standard $\frac{3}{4}$ " spigot 240v 50Hz	QB5.D/B1035.4
Side entry standard $\frac{3}{4}$ " spigot with vandal resistant bowl 240v 50Hz	QB5.V/B1035.4
Side entry $\frac{3}{4}$ " spigot (less gear)	QB5.D/1035.4
Side entry $\frac{3}{4}$ " spigot (less gear) with vandal resistant bowl	QB5.V/1035.4
Side entry standard 1" spigot 240v 50Hz	QB5.1"/D/B1035.4
Side entry standard 1" spigot with vandal resistant bowl 240v 50Hz	QB5.1"/V/B1035.4
Side entry 1" spigot (less gear)	QB5.1"/D.1035.4
Side entry 1" spigot (less gear) with vandal resistant bowl	QB5.1"/V.1035.4
Top entry standard $\frac{3}{4}$ " spigot 240v 50Hz	
Top entry standard $\frac{3}{4}$ " spigot with vandal resistant bowl 240v 50Hz	
Top entry $\frac{3}{4}$ " spigot (less gear)	
Top entry $\frac{3}{4}$ " spigot (less gear) with vandal resistant bowl	
Top entry standard $\frac{3}{4}$ " spigot 240v 50Hz	QB5.T/D/B1035.4
Top entry standard $\frac{3}{4}$ " spigot with vandal resistant bowl 240v 50Hz	QB5.T/V/B1035.4
Top entry $\frac{3}{4}$ " spigot (less gear)	QB5.T/D.1035.4
Top entry $\frac{3}{4}$ " spigot (less gear) with vandal resistant bowl	QB5.T/V.1035.4

atlas

Street Lighting Index

description	catalogue number
beta six with gear	<i>complete fitting</i>
Two 2 ft. 40w Fluorescent Tubes 240v 50Hz	QB6.D/B2240.4
Two 2 ft. 40w Fluorescent Tubes 240v 50Hz vandal resistant lantern	QB6.V/B2240.4
beta seven	<i>complete fitting</i>
For 80/125w MBF/U °Kolorlux Glass refractor	QB7.G/1125.E27
For 80/125w MBF/U °Kolorlux vandal resistant bowl	QB7.V/1125.E27
beta eight less gear or with gear	<i>complete fitting</i>
Lantern for 55w SOX	QB8.D/1055
Lantern (with gear) for 55w SOX 240v 50Hz	QB8.D/B1055.4
beta nine less gear or with gear	<i>complete fitting</i>
For 100/150w GLS	QB9.M/1200.B22
For 80/125w MBF/U °Kolorlux or 200w GLS	QB9.M/1200.E27
For 80w with gear 200/250v 50Hz	QB9.M/B1080T
For 125w with gear 200/250v 50Hz	QB9.M/B1125.T
gamma one	<i>complete fitting</i>
For four 5ft. 80W MCFE/U 200-250V 50Hz tubes	QG1.O/B4080T.
gamma two	<i>complete fitting</i>
For 4 x 2' 40w MCFE/U 200/250v 50Hz Tubes	QG2.O/4240.T
For 2 x 2' 40w MCFE/U 200/250v 50Hz Tubes	QG2.O/2240.T
gamma three	<i>complete fitting</i>
For 250/400w MBF/U °Kolorlux	QG3.1400
gamma four (3ft dia)	<i>complete fitting</i>
<i>diffuse bowl less reflector</i>	
For 2 x 250w MBF/U °Kolorlux/SON or 2 x 400w MBF/U °Kolorlux/Kolorarc/ SON or 2 x 500w GLS	QG4.O/F/2500
For 3 x 250w MBF/U °Kolorlux/SON or 3 x 400w MBF/U °Kolorlux/°Kolorarc/ SON	QG4.O/F/3400
<i>pinpoint bowl with reflector</i>	<i>complete fitting</i>
For 2 x 250w MBF/U °Kolorlux/SON or 2 x 400w MBF/U °Kolorlux/°Kolorarc/SON or 2 x 500w GLS	QG4. A/M/F2500
gamma four (4ft dia)	<i>complete fitting</i>
For 3 x 250w MBF/U °Kolorlux/SON or 3 x 400w MBF/U °Kolorlux/°Kolorarc/ SON	QG4.O/W/N3400
For 3 x 140/200w SLI/H	QG4.O/W/3200
For 3 x 135w SOX	QG4.O/W/3135
gamma five	<i>complete fitting</i>
For 100/150w G.L.S.	QG5.J/D/Y.1150.B22
For 200w G.L.S. or 80/125w MBF/U °Kolorlux	QG5.J/D/Y.1200.E27
For 100/150w G.L.S.	QG5.J/D/X.1150.B22
For 200w G.L.S. or 80/125w MBF/U °Kolorlux	QG5.J/D/X.1200.E27
For 100/150w G.L.S.	QG5.O/1150.B22

atlas

Street Lighting Index

description	catalogue number
gamma five (contd)	
For 200w G.L.S. or 80/125w MBF/U "Kolorlux	QG5.0/1200.E27
<i>with vandal resistant bowl</i>	
For 100/150w G.L.S.	QB5.J/V/Y.1150.B22
For 200w G.L.S. or 80/125w MBF/U "Kolorlux	QB5.J/V/Y.1150.E27
<i>with vandal resistant bowl</i>	
For 100/150w G.L.S.	QG5.J/V/Y/1150.B22
For 200w G.L.S. or 80/125w MBF/U "Kolorlux	QG5.J/V/Y/1150.E22

gamma six less gear or with gear

Packages only

Post-top base assembly – less gear (excluding lampholder)	QG6.1200
Post-top base assembly – 80w MBF with gear 240v 50Hz	QG6.B1080.4
Post-top base assembly – 125 MBF with gear 240v 50Hz	QG6.B1125.4
Post-top base assembly – 35w SOX with gear 240v 50Hz	QG6.B1035.4
Post-top base assembly – less gear C/W PE cell socket ex-lampholder	QG6.P1200
Post-top base assembly – 80w with gear C/W PE cell socket 240v 50Hz	QG6.P.B1080.4
Post-top base assembly – 125w with gear C/W PE cell socket 240v 50Hz	QG6.P.B1125.4
Post-top base assembly – 35w with gear C/W PE cell socket 240v 50Hz	QG6.P.B1035.4
20" Diameter canopy	QG6.W
10 $\frac{1}{2}$ " Diameter canopy	QG6.F
Acrylic opal bowl	QG6.O
Anti-vandal opal bowl	QG6.V
Assymetric glass dome refractor	QY
2BC lampholder	AMEL 1085.B22
3BC lampholder	
ES lampholder	AMEL 1087.E27
By mixing the above components as <i>required</i> a complete lantern can be ordered (see leaflet)	

gamma seven

complete fitting

For 100w G.L.S.	QG7.1100.B22
For 80w MBF/U "Kolorlux	QG7.1080.E27

gamma eight

complete fitting

For 60/150w G.L.S. (triangular spigot)	QG8.K/1150.B22
For 200w G.L.S. or 80/125w MBF/U "Kolorlux (triangular spigot)	QG8.K/1200.E27
For 60/150w G.L.S. (3" x 3" spigot)	QG8.1150.B22
For 200w G.L.S. or 80/125w MBF/U "Kolorlux (3" x 3" spigot)	QG8.1200.E27

gamma nine less gear or with gear

complete fitting

For 100/150w G.L.S.	QG9/1150.B22
For 200w G.L.S. or 80/125w MBF/U "Kolorlux	QG9/1200.E27
For 35w/55w SOX	QG9.1055
For 4 x 2' 40w MCFE/U 240v 50Hz	QG9.4240.4
For 2 x 2' 40w MCFE/U 240v 50Hz	QG9.2240.4

high mast lantern with gear

complete fitting

For 1000w MBF/U "Kolorlux 240v 50Hz	HT.1000
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footway fluorescent fittings with gear

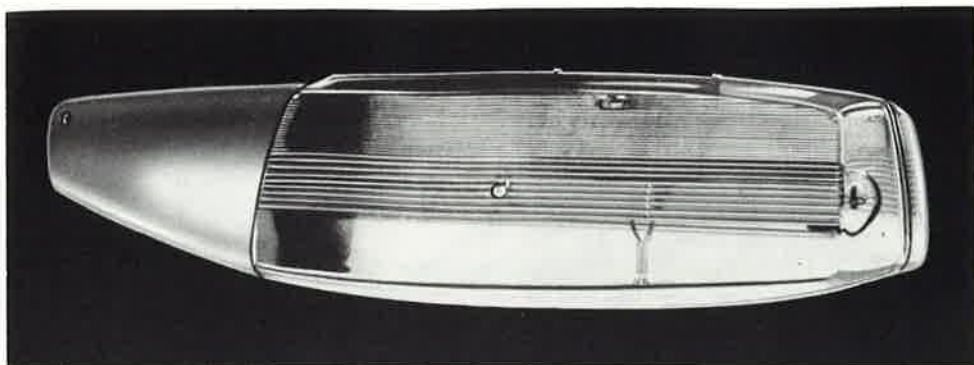
complete fitting

Surface mounted 2 x 2' – 40w	SF12119/Q2240
Recessed subway 2 x 2' – 40w	PUQ/2240.T
Ceiling mounted 2 x 2' – 40w	SF12120/Q2240

leader columns

atlas

Alpha one/semi-cut-off sodium lantern



For the lighting of main highways and motor-roads, this sodium lantern is particularly suitable. Street lighting engineers everywhere will appreciate its unique features, such as the Opticell described right, its superb construction and its clean, modern appearance and excellent efficiency (71% D.L.O.R). It was awarded a Gold Medal at The Eleventh Milan Triennale of Architectural and Industrial Art and has been accepted by the Council of Industrial Design for Design Index. The lantern meets the requirements of Street Lantern Specification BS.1788: 1964 in conjunction with Street Lighting Code of Practice CP.1004:1963.

QA1.E/D1090 on an LC.M0851 steel column



specification

Special features. The hermetically sealed lamp enclosure and light control system – the Opticell, is a unified assembly of two plastic mouldings, a reflector with the lamp support and two support pins. The sodium lamp is inserted through an aperture at one end which is then tightly closed by a combined lampholder and sealing cap held in place by two quick-release clips. By this method the interior is completely sealed and very considerable periods will elapse before attention other than lamp replacement is necessary.

The support pins engage with slots in the end support. Releasing a special retaining toggle allows the Opticell to be easily hinged down to give ready access to the sealing cap. The end support is corrosion resisting.

Optical system. Based on the principle that, to achieve maximum efficiency, light from the source should be redirected as little as possible to achieve the desired distribution, the Light Control system ensures a highly satisfactory optical performance. It is achieved by careful siting of the various elements of the Opticell. The use of a high proportion of reflecting prisms ensures effective control with the lamp in this position.

Because the globe is hermetically sealed the prisms do not, of course, require additional protection and are therefore moulded on the interior surface of the Opticell.

Materials. The Opticell is made from a special heat- and weather-resisting grade of clear plastic which has been developed specifically for this application. The end support is corrosion-resisting aluminium alloy and other metal components are of carefully selected grades of stainless steel or aluminium.

Finish. The plastic globe is treated with an antistatic compound. Aluminium parts are either anodised or subjected to a 'Bonderite' process before being stoved to a matt aluminium.

Installation. The end support has an entry for a $4\frac{1}{2}$ " (114mm) length of $1\frac{1}{8}$ " B.S.P. ($1\frac{1}{8}$ " – 43mm O/D) unthreaded barrel. A spirit level platform is incorporated in the Opticell to obtain accurate levelling. This is achieved by the adjustment of the three $\frac{3}{8}$ " B.S.W. hardened socket set screws that grip the barrel.

Wiring is brought to a heavy-duty porcelain terminal block and from this a flexible P.V.C. cable, clamped at each end, passes to the sealing cap.

Catalogue numbers.

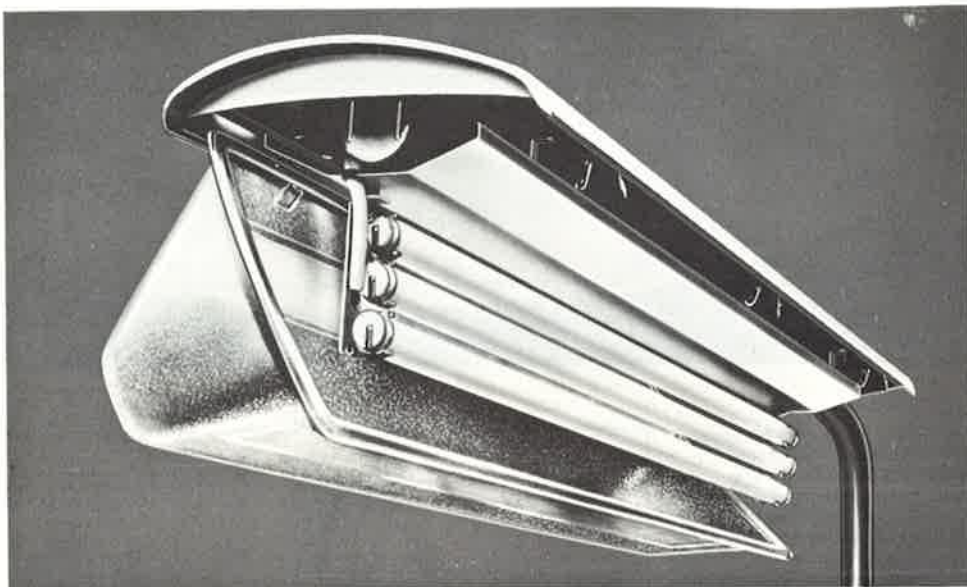
QA1.E/D1055 lantern for 55W SOX
QA1.E/D1090 lantern for 90W SOX

Lamps. 55W or 90W SOX.

For complete catalogue numbers and ordering guide see separate list included in street lighting catalogue.

atlas

Alpha two/fluorescent lantern



This is a refractor lantern for three or four 5' 80W fluorescent lamps (Type MCFE/U). It provides good light distribution on the road. It is economical in use with reliable components which keep maintenance costs to the minimum. It has a good daytime appearance. The lantern is supplied wired complete with Quick Start Control gear.

QA2.D/B3080.4 on a steel column



APPLICATION For Group A roads. This lantern is particularly suitable for lighting city centres, boulevards, promenades, car parks and similar places of assembly.

specification

Light distribution is as recommended in the British Standard Code of Practice CP.1004:Part 1:1952. The canopy is made from magnesium aluminium alloy sheet which is cemented and screwed to silicon aluminium alloy end castings. The lamps are protected by an acrylic bowl which hinges sideways on acrylic hinge blocks cemented to the bowl. Quick release catches secure the bowl, and maintain an even pressure on the sponge rubber gasket, thus making a weatherproof seal. All external parts are of non-corrosive material. A slight tapering of the bowl, with the absence of welded joints in the canopy contribute to the clean, functional appearance of the lantern. The Quick Start Control gear is mounted on a tray which is concealed by a hinged sheet metal cover. The gear is wired for 'half-night' burning but

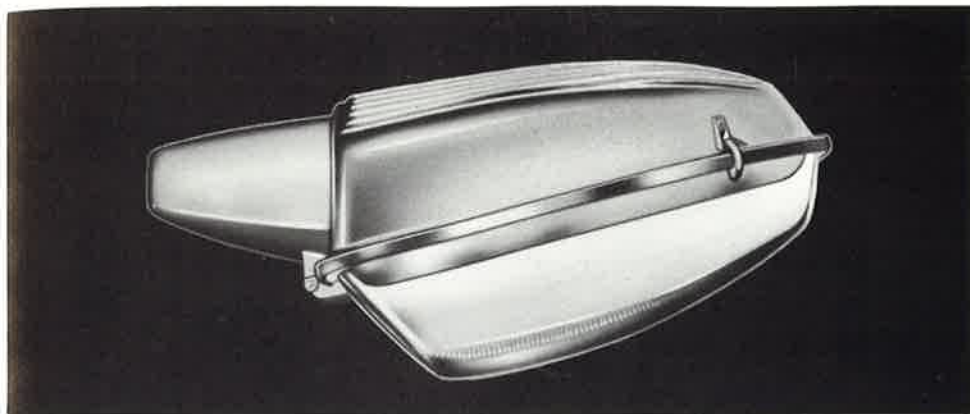
is looped at terminal block, which makes circuit 'full-night' burning. To convert to 'half-night', the loop should be removed. The brackets carrying the lampclips are bolted to the cover at either end. Push-on Bi-pin lampholders are fitted.

Light control. Optical control is by means of sealed-in acrylic refractor plates on the inside of the bowl.

Mounting. Side entry cantilever for $1\frac{1}{2}$ " B.S.P. ($1\frac{1}{2}$ " - 48mm O/D) plain tube, $19\frac{1}{2}$ " (489mm) max. length. The lantern is designed for mounting at an angle of 10° above the horizontal.

Catalogue numbers.
QA2.D/B3080.4
3 x 5' 80w MCFE/U lamps. 240V 50Hz.
QA2.D/B4080.4
4 x 5' 80w MCFE/U lamps. 240V 50Hz.

Alpha three/semi-cut-off mercury-fluorescent lantern



The outcome of a long investigation into the needs of modern street lighting, this lantern fully meets the requirements of Street Lantern Specification B.S.1788:1964 for semi-cut-off distribution in conjunction with Street Lighting Code of Practice CP.1004:1963. Excellent visibility for drivers and pedestrians, absence of glare and good light colour are provided by a lantern of most advanced design. It has been accepted by the Council of Industrial Design for Design Index. The good light colour is achieved by the use of "Kolorlux" and "Kolorarc" lamps in this lantern, flesh tones, in particular, becoming natural. Both lamps also give improved lumen output, 21,500 and 27,000 respectively, with correspondingly increased luminous efficacy. This fitting will also take the new 250 and 400 watt high pressure Sodium lamps (SON 250 and SON 400) in which case, in addition to the normal control gear, an Ignitor (Cat. No. AME 53250) must be provided.

QA3S.1400 on a Q3071DB steel column



specification

Special features. The lantern consists of two parts comprising:-
(a) canopy and support assembly.
(b) injection-moulded, prismatic bowl.
The former embodies fixed lampholder and mains terminal block. The bowl is secured to the canopy by means of hinge and toggle catches, on release of which the bowl opens to gain access to lamp and terminal block. A neoprene gasket acts as a seal between canopy and bowl, which, because of its rigidity, forms a most effective seal with the gasket against ingress of moisture and dirt.

Optical system. The effectiveness of an optical system is primarily determined by its relative size compared with the source, thus the light from a fluorescent mercury lamp cannot be efficiently controlled by a system designed for the much smaller plain mercury lamp although the converse does not apply. Moreover, since the fluorescent lamp will tend to obscure any specular reflector at the high angles and any other control system does not normally give a sharp enough run back from the peak, it is difficult to achieve a peak intensity at a reasonably high angle and yet provide the good cut-off so necessary with these high brightness lamps. These difficulties are completely overcome in this lantern by using a reflector system in which a large proportion of the light sent into the peak is directed around the end of the lamp instead of underneath.

The injection moulded refractor bowl redistributes downward light into the main beam and controls light in the $0^\circ - 30^\circ$ zone.

Materials. The reflector is made from a special high purity aluminium alloy, and the bowl is injection-moulded from U.V. stabilised acrylic. Other parts are cast in corrosion resisting aluminium alloy or fabricated from stainless steel. Great care has been taken to avoid any possibility of electrolytic corrosion.

Finish. The reflector is anodised, other aluminium parts are subjected to a "Bondrite" process and stoved. The plastic bowl is treated by an antistatic compound.

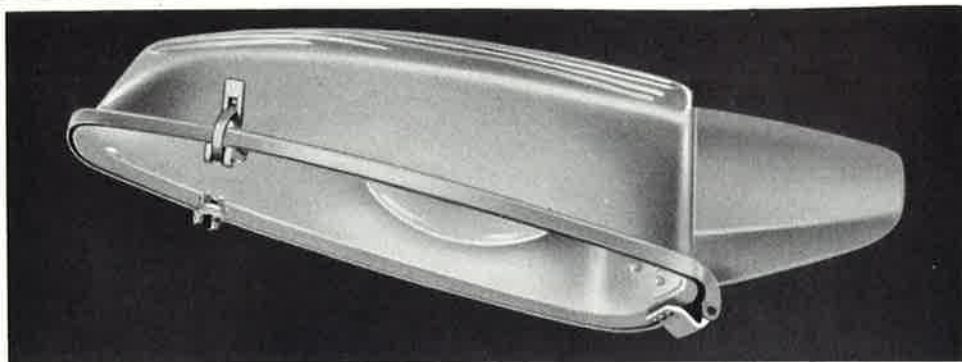
Installation. The end support has an entry for a $5''$ (127mm) length of $1\frac{1}{4}''$ B.S.P. ($1\frac{1}{8}'' - 43$ mm O/D) unthreaded barrel. The lantern may be levelled by the adjustment of the three $\frac{3}{8}''$ B.S.W. hardened socket set screws that grip the barrel. Wiring is brought to three insulated and protected terminals in the canopy. A cable clamp is provided for the incoming leads.

Lamps. 250w or 400w MBF/U "Kolorlux" or 400w "Kolorarc" mercury-fluorescent lamps and SON lamps

Catalogue numbers.
QA3S.1400 Semi-cut-off lantern for 250/400w MBF/U or SON lamps.
QA3S.1400Semi-cut off lantern for 250/400w SON lamps
Aero screened lanterns are available to order

Replacement bowl.
QA3.D Semi-cut-off.

Alpha three/cut-off mercury-fluorescent lantern



The outcome of a long investigation into the needs of modern street lighting, this lantern fully meets the requirements of Street Lantern Specification B.S.1788:1964 for cut-off distribution, in conjunction with Street Lighting Code of Practice CP.1004:1963. Excellent visibility for drivers and pedestrians, absence of glare and good light colour are provided by a lantern of most advanced design. It has been accepted by the Council of Industrial Design for Design Index. The good light colour is achieved by the use of °Kolorlux and °Kolorarc lamps in this lantern, flesh tones, in particular, becoming natural. Both lamps also give improved lumen output, 21,500 and 27,000 respectively with correspondingly increased luminous efficacy. This fitting will also take the new 250 and 400 watt high pressure Sodium lamps (SON 250 and SON 400) in which case, in addition to the normal control gear, an ignitor (Catalogue No. AME 53250) must be provided.

QA3.C/1400 on a steel column



specification

Special features. The lantern consists of two parts comprising :-

- (a) canopy (incorporating light control system) and support assembly.
- (b) Flat-glass bowl.

The former embodies fixed lampholder and mains terminal block. The glass bowl is clamped to the canopy by means of hinge and toggle catches, on release of which the bowl can be hinged to gain access to the lamp and terminal block.

A neoprene gasket acts as a seal between canopy and bowl.

Optical system. The effectiveness of an optical system is primarily determined by its relative size compared with the source, thus the light from a fluorescent mercury lamp cannot be efficiently controlled by a system designed for the much smaller plain mercury lamp although the converse does not apply.

Moreover, since the fluorescent lamp will tend to obscure any specular reflector at the high angles and any other control system does not normally give a sharp enough run back from the peak, it is difficult to achieve a peak intensity at a reasonably high angle and yet provide the good cut-off so necessary with these high brightness lamps. These difficulties are completely overcome in this lantern by using a reflector system in which a large proportion of the light sent into the peak is directed around the

end of the lamp instead of underneath. The distribution is then built up by the contribution from a series of facets and reflector surfaces and excellent performance is achieved. This is indicated by the distribution diagram and optical data.

Materials. The reflector is made from a special high purity aluminium alloy, and the bowl from heat-resisting glass. Other parts are cast in corrosion resisting aluminium alloy or fabricated from stainless steel. Great care has been taken to avoid any possibility of electrolytic corrosion.

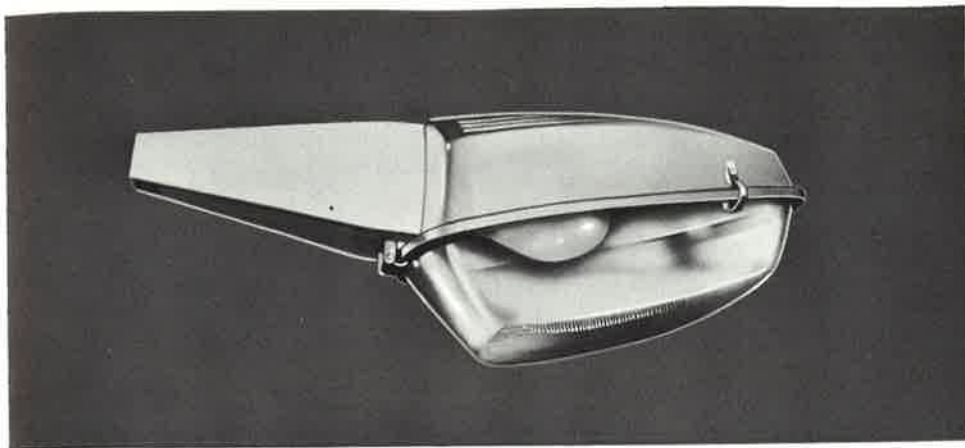
Finish. The reflector is anodised, other aluminium parts are subjected to a 'Bonderite' process and stoved.

Installation. The end support has an entry for a 5" (127mm) length of 1½" B.S.P. (1½" - 43mm O/D) unthreaded barrel. The lantern may be levelled by the adjustment of the three ¾" B.S.W. hardened socket set screws that grip the barrel. Wiring is brought to three insulated and protected terminals in the canopy. A cable clamp is provided for the incoming leads.

Lamps. 250W or 400W lamp.

Catalogue numbers.
QA3C/1400 cut-off lantern for 400W MBF/U, °Kolorlux or °Kolorarc lamps, and 400W SON lamps.
QA3C/1250 cut-off lantern for 250W MBF/U or °Kolorlux lamps and 250W SON lamps
Replacement bowls QA3.G

Alpha three/semi-cut-off with gear slipper mercury-fluorescent lantern



This design with gear slipper is a reflector lantern for 1 – 400w or 250w mercury fluorescent lamp. The accurately formed reflector canopy ensures optimum performance and semi-cut-off light distribution to BS.1788:1964, and provides excellent visibility for both drivers and pedestrians with absence of glare, a notable feature. For Group A roads at mounting heights 8, 10 or 12 metres.



specification

This lantern is manufactured in strict accordance to the requirements of BS.1788:1964.

The canopy is a single piece pressing of high purity aluminium alloy (BA213), with the interior surfaces polished and anodised to provide an efficient reflector. Securely fixed to the canopy is an end support casting of LM6-M aluminium alloy, which also provides a housing for auxiliary control gear, lampholder bracket and terminal block, and/or fuses as required. This end support casting accepts a 5" (127mm) length of 1½" B.S.P. (1½" – 43mm O/D) plain tube for mounting and a removable anodised aluminium alloy panel facilitates access to the control gear for inspection and maintenance.

To form a completely weatherproof enclosure a U.V. stabilised injection moulded, acrylic bowl is securely hinged and fastened to the canopy with four substantial toggle catches. The bowl itself seats evenly onto a neoprene gasket, giving easy compression and a highly effective seal. It is a common and negative practice, to reduce the intensity of light in the 0°-30° Downward Zone, as required by BS.1788:1964, by opalising the bowl underneath the light source. This new injection-moulded bowl, with a prismatic base makes a positive contribution to the optical efficiency of the lantern.

Materials. LM6-M and BA213 aluminium alloys used in this lantern are highly corrosion resistant to all atmospheres except those heavily charged with acid chemicals. For these latter atmospheres

an external protective paint finish applied on site will greatly increase the life of the lantern.

The bowl material is U.V. stabilised acrylic carefully designed and manufactured to a volume/heat ratio which eliminates the possibility of bowl distortion and opalising from U.V. radiation.

Toggle-catch spring and pins are made from corrosion resisting stainless steel. Exhaustive tests have been made with a variety of auxiliary control gear and where necessary built-in heat sinks avoid over heating in high ambient temperatures.

Light control. Semi-cut-off distribution is achieved by specular reflectors, allied to accurate lamp positioning.

Mounting. Side-entry requiring 5" (127mm) x 1½" B.S.P. (1½" – 43mm O/D) plain tube.

Lamps. 250w and 400w MBF/U "Kolorlux" mercury fluorescent lamps and SO/N lamps

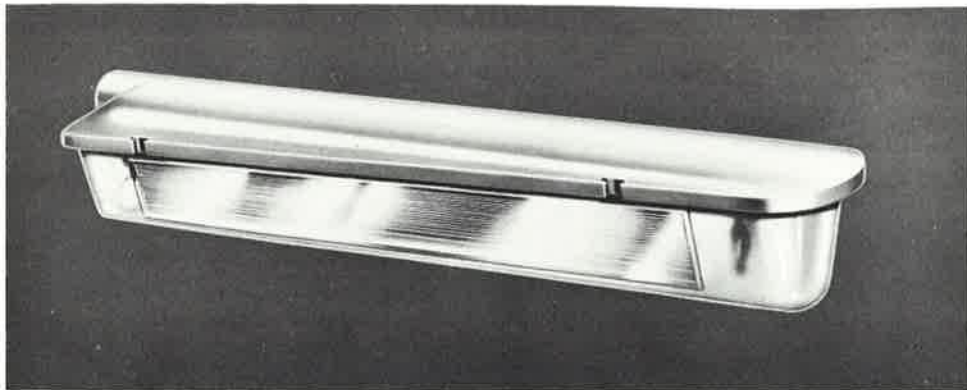
Catalogue numbers.

For MBF/U "Kolorlux" lamps.	
QA3S.L/D/B.1250.4	240v. 50Hz., 250w
QA3S.L/D/B.1400.4	240v. 50Hz., 400w

N.B. A cut-off version of this lantern with flat glass cover in place of acrylic bowl is available, Catalogue Numbers as above but with /C.A in place of /SS.

atlas

Alpha five/semi-cut-off sodium lantern



The sodium discharge source is accepted as ideal for the lighting of traffic routes. Now, in the large 140W and 200W linear versions and 135W SOX lamp version, a source is available that meets the higher lighting levels demanded by the steadily increasing traffic on the roads and meets the requirements of Street Lantern Specification BS.1788:1964 in conjunction with Street Lighting Code of Practice CP.1004:1963. The lantern takes full advantage of the characteristics of this source providing an ideal distribution with the sharp run back above the peak now considered so desirable if glare is to be minimised.

QA5.1200 on LC.M0887 steel column



specification

The unit comprises a cast aluminium canopy with acrylic enclosing bowl and conforms to the requirements of BS.1788 for street lighting lanterns. The canopy is a single piece silicon aluminium alloy casting incorporating a separate internal reflector of polished aluminium. At the bracket entry end of the linear versions a single support and bracket carries a push-on type lampholder and terminal block. At the roadway end, a bi-pin lampholder mounted permanently on an oil-impregnated leaf spring ensures positive lamp location.

On the 135W SOX lantern a single support and bracket, at the bracket entry end, carries a porcelain lampholder and terminal block. At the roadway end a fixed lamp support is provided.

Reflector plates are sealed to the inside of the one piece acrylic enclosing bowl. The bowl seats evenly on a hollow section neoprene gasket located within the canopy. Easy compression of the gasket ensures

a weatherproof seal between the enclosing bowl and the canopy. The enclosing bowl is hinged sideways from the canopy by means of stainless steel hinge pivots which allow the bowl to be swung down or completely removed for servicing and maintenance. Two stainless steel fasteners and retaining clips secure the bowl in position.

Light control, Light distribution is controlled by an internal reflector of polished aluminium in conjunction with refractor plates sealed to the inside of the acrylic enclosing bowl.

Mounting. Side entry for $4\frac{1}{2}$ " (108mm) maximum length $1\frac{1}{4}$ " B.S.P. ($1\frac{1}{8}$ " - 43mm O/D) plain tube.

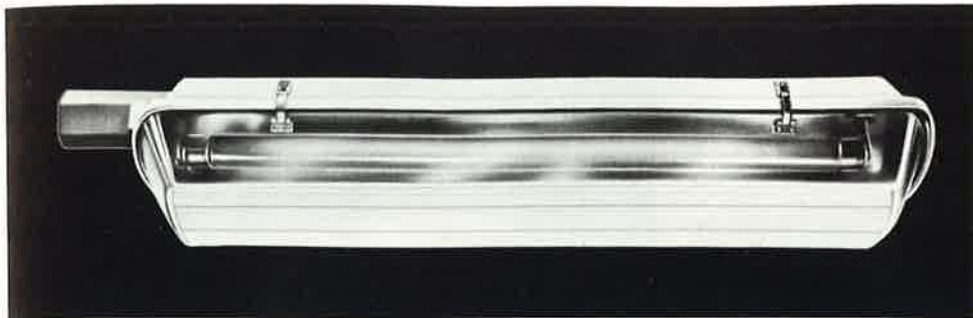
Lamps.
140/200W SLI/H.
135W SOX.

Catalogue numbers.
QA5.1200-140/200W linear sodium lamps.
QA5.1135-135W SOX lamp.

Replacement bowls.
QA5 D-140/200W SLI/H.
QA5.D135-135W SOX.

atlas

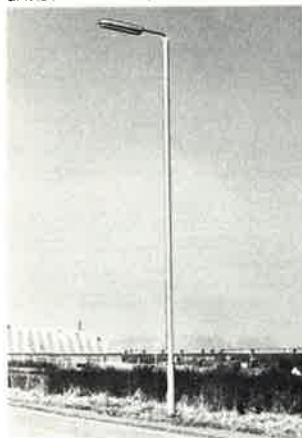
Alpha six/cut-off sodium lanterns



QA6.1200

Following the highly successful lantern used on the M4, 3-lane, motorway, this subsequent development of the design accommodates the well-proven, highly efficient, 20,000 lumen, 140W SLI/H, or the 25,000 lumen, 200W SLI/H lamp and provides a cut-off distribution to BS.1788:1964. The glass-fibre reinforced plastic canopy, acrylic bowl and high silicon content, aluminium alloy end support, combine to provide a high strength/weight ratio lantern, suitable for mounting on 10, 12 or 15 metre columns of smaller cross-sectional area and light construction. Single-lamp 140/200W version and end supports accommodating control gear give a variety of types to fulfil all requirements demanded by Groups A1, C, D and F of the Code of Practice CP.1004:1963.

QA6.D.B1200 on LC.M0887 column



specification

The canopy is a pressure-moulding from polyester pre-impregnated glass-fibre mat and has a high strength/weight ratio with high impact resistance and excellent weathering properties. The modern technique employed in the production of these canopies, eliminates completely, "operator error".

The mix of polyester resin and glass-fibre is laboratory-controlled, to extremely fine tolerances, in a pre-prepared form for pressure-moulding, thus removing from operators the onus of mixing, quality control, storage of resins, fillers, reinforcement, etc., and results in a first-class product.

The bowl enclosing the canopy is of formed acrylic, side-hinged to the main body and secured by corrosion resistant toggle catches. The enclosure is gasketed to prevent ingress of dust and moisture. The base of the lantern bowl is reeded which contributes to the light control. End supports are die-cast LM6-M aluminium alloy providing "with gear" or "less gear" versions, as listed. In the "with gear" supports, the gear compartment is enclosed by a polypropylene cover. A raised channel formed in the pressure-moulded canopy,

locates accurately within a spine on the end support casting, which is firmly secured to the canopy by stainless steel bolts, reinforcing plates and neoprene washers. Cable access to the canopy is via a neoprene grommet/gasket, which prevents ingress of dust and moisture.

Optical System. Light Control is by accurately formed and positioned reflectors and to give a cut-off distribution in accordance with BS.1788:1964.

Installation. A side-entry spigot-bore is incorporated in the end support and requires 5" (127mm) x 1 1/4" B.S.P. (1 1/8" - 43mm O/D) plain tube for mounting. Designed attitude is 0°-10° uplift. *Note:* Provision is made for the fixing of all known types of Photo-Electric Control Units.

Catalogue numbers

QA6.D.1200 for 140/200W SLI/H lamps,
QA6.D.B1140.4 for 140W SLI/H lamp—
gear included, 240V 50 Hz
QA6.D.B1200.4 200W SLI/H lamp—gear
included, 240V 50 Hz

Replacement bowl —
QA6.D

atlas

Alpha seven/mercury-fluorescent lantern

The fluorescent bulb of the lamp reduces inherent brightness of the light source and so reduces the likelihood of glare from the lantern.

The prism design in combination with the lamp produces a main beam at 76° from the downward vertical which is designed to provide a good road surface brightness in relation to modern practice in mounting heights and spacing.

QA7.G/1400 on a Q8F concrete column



specification

Special features. One-piece cast light alloy body combines end support and Opticell into one unit, with smooth outer glass refractor bowl hinged to give easy access to interior on releasing two captive screws. An asbestos gasket between body and refractor bowl ensures full weather protection. The smooth outer surface of refractor bowl resists grime and dirt accumulation, thus requiring less cleaning attention. The bowl is of heat resisting glass.

Optical system. The internally moulded prisms of the refractor bowl are designed to give a concentrated beam of high intensity at peak level. Re-directing as much light as possible to the road surface, the optical system ensures that the maximum light from the mercury lamp is distributed to the lower hemisphere.

Materials. The lantern body is made from a silicon aluminium casting, specially selected for its resistance to

corrosion. The gasket is made from asbestos. Other components are non-ferrous metals.

Finish. The internal surface of the body is finished in white enamel and the outer in aluminium.

Installation. The end support has an entry for a $5\frac{3}{8}"$ (136mm) length of $1\frac{1}{4}"$ B.S.P. ($1\frac{1}{4}"$ - 43mm O/D) plain barrel. This is gripped by three $\frac{3}{8}"$ B.S.W. set screws to the column bracket. Wiring is brought to a heavy duty porcelain terminal block. A cable clamp is provided for the incoming leads.

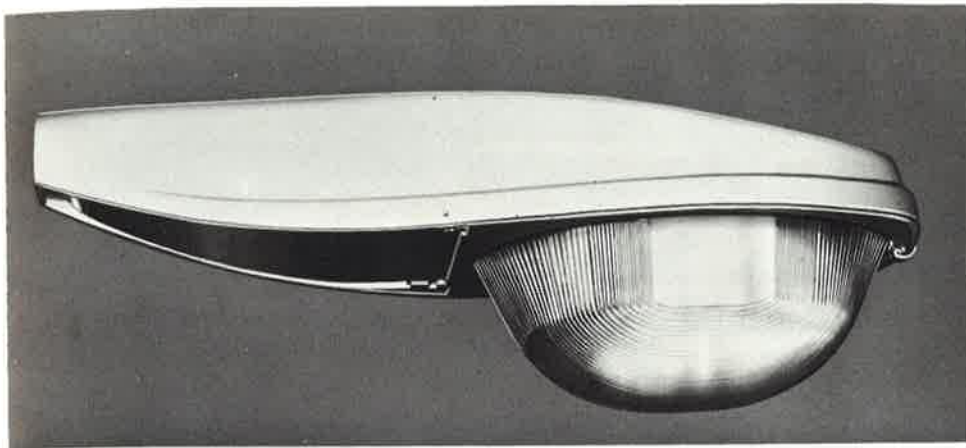
Lamps. 250W or 400W colour corrected mercury type MBF/U "Kolorlux or 400W "Kolorarc or SO/N lamps

Catalogue number. QA7.G/1400

Replacement bowls. QA7.G

For complete catalogue numbers and ordering guide see separate list included in street lighting catalogue.

Alpha seven/with gear mercury-fluorescent lantern



This is an enclosed refractor lantern for 1 – 400W or 250W Mercury fluorescent lamp, and offers a fully integrated lantern complete with lamp auxiliary control gear. For Group A roads.

specification

The lantern comprises a canopy including gear housing and glass bowl mounted in a bowl supporting ring.

The canopy and gear housing is a single piece casting of LM6-M aluminium alloy, and provides a housing for auxiliary control gear, lampholder bracket and terminal block and/or fuses as required. The end support casting is designed to accept a 5" (127mm) length of 1½" B.S.P. (1½" – 43mm O/D) plain tube, and an easily removable anodised aluminium alloy panel facilitates access to the control gear for inspection and maintenance.

The heat resisting glass refractor bowl has a smooth exterior surface to minimise the collection of dirt and is securely fixed into the bowl ring by four robust retaining clips. The bowl ring cast from LM6-M aluminium alloy, is hinged to the canopy at one end and secured by a stainless steel toggle catch at the other. Asbestos gaskets located between the glass bowl ring, and the bowl ring canopy ensure full protection from the weather. The whole bowl ring assembly can be removed quickly from the canopy, if required, to assist maintenance.

Instant and easy access may be gained to the control gear by the hinged gear housing cover.

Materials. LM6-M and BA213 aluminium alloys used in this lantern are highly corrosion resistant to all atmospheres except those heavily charged with acid chemicals. For these latter atmospheres an

external protective paint finish applied on site will greatly increase the life of the lantern.

The internally moulded prisms of the glass refractor bowl are designed to give a concentrated beam of high intensity at peak level, re-directing a large amount of light onto the road surface, thus ensuring that the maximum amount of light output from the lamp is used. The bowl itself is of heat resisting glass.

Exhaustive tests have been made with a variety of auxiliary control gear and where necessary built-in sinks avoid overheating in high ambient temperatures.

Light Control. Light distribution is controlled by the glass refractor bowl.

Mounting. Side entry for a 5" (127mm) length of 1½" B.S.P. (1½" – 43mm O/D) plain barrel.

Lamps. 250W or 400W MBFU °Kolorlux mercury fluorescent lamps

Catalogue numbers.

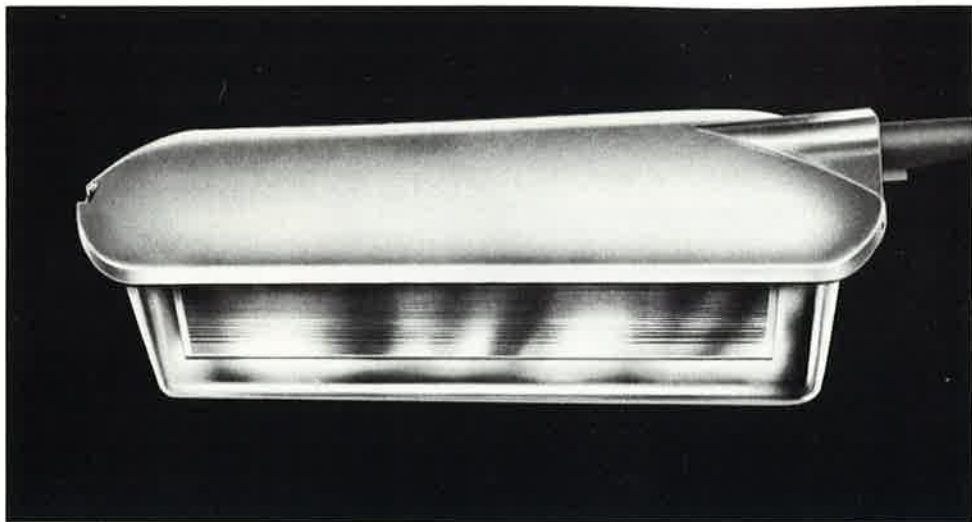
QA7, G/B1400.4 for MBF/U

QA7, G/B1250.4 for MBF/U



atlas

Alpha nine/semi-cut-off sodium lantern



A semi-cut-off lantern for use on traffic routes Group A2 and A3 of Code of Practice CP.1004:1963 Parts I and II.

QA9, 190 on an L.C.M0887 steel column



specification

The unit comprises a cast aluminium canopy with acrylic enclosing bowl and conforms to the requirements of BS.1788 for street lighting lanterns.

The canopy is a single piece silicon aluminium alloy casting with a special paint finish to assist light distribution. At the roadside end a single support bracket carries a 2-pin BC porcelain lampholder whilst a fixed lamp support, cable clamp, terminal block and separate earth terminal are located at the bracket-mounting end of the canopy.

Refractor plates are sealed to the inside of the one piece acrylic enclosing bowl. The bowl seats evenly on a neoprene gasket located within the canopy.

Easy compression of the gasket ensures

a weatherproof seal between the enclosing bowl and the canopy. The enclosing bowl is hinged from the canopy by means of stainless steel hinge pivots which allow the bowl to be swung down or completely removed for servicing and maintenance. A stainless steel fastener and retaining clip secure the bowl in position.

Light control, Light distribution is controlled by refractor plates sealed to the inside of the enclosing bowl.

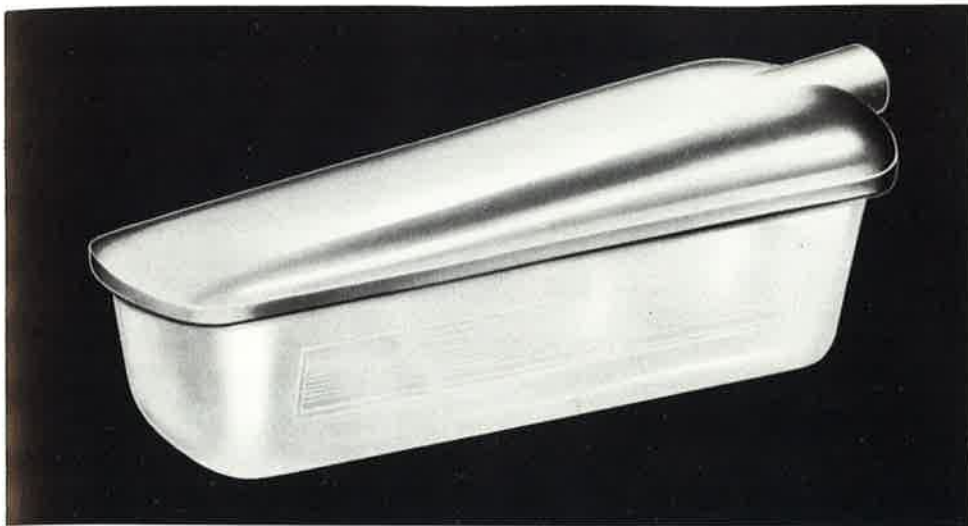
Mounting, Side-entry requiring 4" (102mm) x 1 1/2" B.S.P. (1 3/16" - 43mm O/D) plain tube.

Catalogue number, QA9.190

Lamp, 90W SOX.

atlas

Alpha nine/semi-cut-off with gear sodium lantern



A semi-cut-off lantern for use on traffic routes Group A2 and A3 of Code of Practice CP.1004:1963 Parts I and II.

QA9, B190,4 on heavy gauge column



specification

The unit comprises a cast aluminium canopy with perspex enclosing bowl and conforms to the requirements of BS.1788 for street lighting lanterns.

The canopy is a single piece silicon aluminium alloy casting which includes suitable auxiliary control gear ready wired and fixed to the canopy.

Refractor plates are sealed to the inside of the one piece perspex enclosing bowl. The bowl seats evenly on a hollow section neoprene gasket located within the canopy. Easy compression of the gasket ensures a weatherproof seal between the enclosing bowl and the canopy.

The enclosing bowl is hinged side-ways from the canopy by means of stainless steel hinge pivots which allows the bowl to be swung down or completely removed for servicing and maintenance.

Two stainless steel fasteners and retaining clips secure the bowl in position.

The unit includes a terminal block, earth terminal and cable clamp located adjacent the bracket entry.

At the roadside end a single support bracket carries a 2-pin BC porcelain lampholder, whilst a fixed lamp support is located at the bracket-mounting end of the canopy.

Light control. Semi-cut-off distribution is effected by refractor plates.

Mounting. Side-entry requiring 4" (102mm) x 1 1/2" B.S.P. (1 1/8" - 43mm O/D) plain tube.

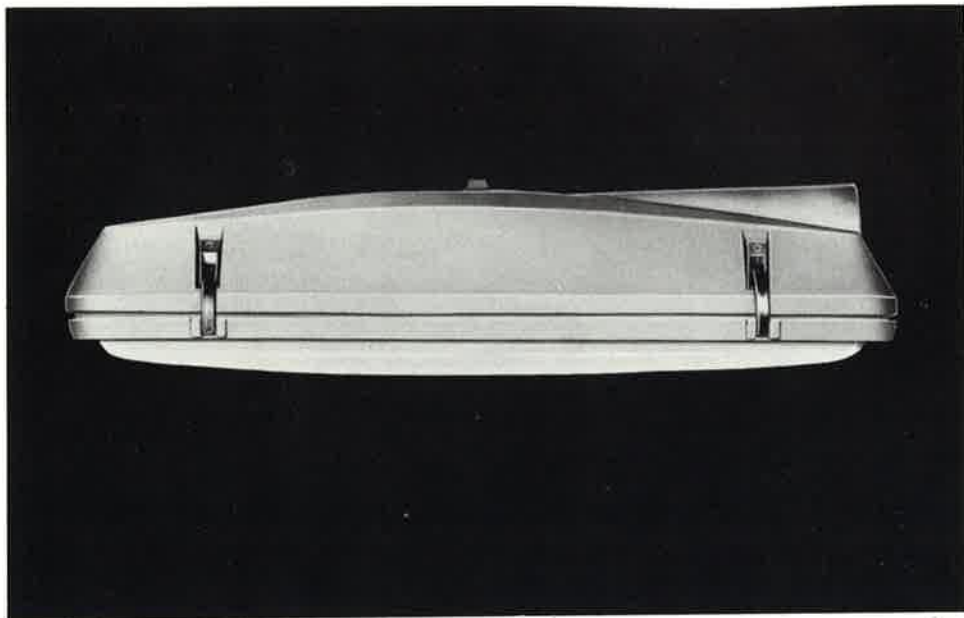
Catalogue number, QA9, B190,4

Lamp. 90W SOX

Supply. 220/250V 50Hz.

atlas

Alpha ten/cut-off sodium lantern



This lantern was specifically designed to house a 90w SOX lamp and give a cut-off distribution to BS.1788:1964, for motorway slip-road lighting.

QA10, 190 on 8 metre steel column



specification

The broad canopy of LM6-M aluminium alloy is designed to give efficient cut-off distribution from a shallow cross-sectional area, thus reducing windage area and allowing its use on slender steel columns.

A shallow 'dished' acrylic bowl encloses the canopy by means of a substantial bowl-ring side-hinged to the main body and secured by corrosion-resistant toggle catches. The enclosure is gasketed to prevent ingress of dust and moisture.

Optical system. A polished, anodised aluminium overlamp reflector provides cut-off distribution to BS.1788:1964 with a Downward Light Output Ratio of 61% giving 7,470 lumens lower hemispherical flux from a 90W SOX lamp.

Materials. The canopy and bowl-ring are cast from LM6-M aluminium alloy, a well tried and proven alloy for exterior use; reflector is formed from high-duty aluminium and the bowl is vacuum-formed clear acrylic.

Finish. The canopy and bowl-ring are 'as cast' to allow the natural formation of a protective oxidised skin. The reflector is 'Phosbrite' brightened, to give a specular surface, anodised to BS.1615 Grade AA5 and sealed.

Installation. A side-entry spigot-barrel is incorporated in the canopy and requires $4\frac{1}{2}"$ (108mm) long x $1\frac{1}{2}"$ B.S.P. ($1\frac{1}{8}"$ - 43mm O/D) plain tube. Tangentially opposed $\frac{3}{8}"$ Whit. locking grub screws secure the lantern to the column spigot and parallel alignment to the road surface is achieved by spirit level. Incoming cables are threaded through the spigot-barrel to a heavy porcelain terminal block via a fibre-plate cable-clamp, which will accept extra cable when photocell control is used.

Catalogue numbers. QA10, 190 for 90w SOX lamp.
AA10, 155 for 55w SOX lamp.

atlas

Beta one/open lantern

This lantern is designed for Group B lighting and is therefore very simple, robust and inexpensive. Its distribution makes it equally suitable for footways or the urban street. It has been accepted by the Council of Industrial Design for Design Index. This lantern meets the requirements of Street Lantern Specification BS.1788:1964. When used with *Kolorlux lamps colour-rendering is enhanced, flesh-tones in particular becoming natural.

QB1.Y/1150.B22 on a 1506 steel column.



specification

Special features. The refractor is a two-part assembly of clear plastic injection mouldings, attached by a single-turn thread to a robust diecast aluminium gallery. The exterior is perfectly smooth and the interior vertical prisms have well rounded tips. Thus dirt accumulation is discouraged and the lantern remains remarkably clean for long periods. The refractor is located correctly by a single 'click' spring.

Optical system. The refractor has been specially designed for both tungsten filament lamps and mercury discharge lamps, and gives a broad distribution particularly suited to modern Group B lighting. Since the refractor design was based on a relatively large source from the outset it is recommended that pearl lamps be used although they are not essential. The refractor intercepts an unusually large amount of light from the source, some of which is emitted in the upward direction to avoid a sharp shadow line on buildings and trees. A feature of the refractor is that it is to some extent self-compensating for changes of source position and the normal manufacturing tolerances of lamps have little effect on the distribution of this lantern. A two way non axial distribution is provided which is particularly suitable for Group B roads

and which meets the requirements of CP.1004 code of practice.

Materials. The injection moulded refractors, cover and gallery cap are manufactured in a special heat and weather-resisting grade of plastic. The interior of the gallery is pressure diecast in aluminium-silicon alloy. The locking spring is stainless steel and the lampholder is porcelain.

Finish. The gallery cap is made from black plastic and the refractor treated with an anti-static compound.

Installation. The gallery has a top entry which is tapped $\frac{3}{8}$ " B.S.P. thread. A locking set screw is incorporated and the road side is clearly indicated.

Lamps, 100w or 150w tungsten filament lamps or 80w or 125w mercury discharge lamps.

Catalogue numbers.

Lantern with Sealed Refractor.

QB1.Y/1150.B22 100-150w GLS
QB1.Y/1150.E27 150w GLS
80w/125w MBF/U *Kolorlux

For complete catalogue numbers and ordering guide see separate list included in street lighting catalogue.

atlas

Beta four/top entry lantern

An unobtrusive lantern ideal for many applications, it can be used with new columns, wall brackets, conversion schemes, or as a replacement unit. This lantern meets the requirements of Street Lantern Specification BS.1788:1964. When used with °Kolorlux lamps colour-rendering is enhanced, flesh tones in particular becoming natural.

3-pin BC versions are also available for 80/125w MBF/U °Kolorlux lamps – amend cat. nos. of ES versions to read 3BC, e.g. PEB/Y/3BC 1200.

QB4 J/M/Y/1200.B22 on LC1/LC9
Leader column



specification

The one-piece body is die-cast from silicon aluminium alloy.

The bowl is supported by a stainless steel hinge-pin and toggle catch. An effective seal between canopy and bowl is provided by a neoprene gasket.

The lantern is suitable for use with tungsten filament lamps from 60w to 200w G.L.S. or mercury-fluorescent lamps 80w or 125w MBF/U °Kolorlux. A focusing adjustment to cater for all lamp wattages is incorporated in the lampholder support, behind the internal reflector of anodised aluminium.

Materials. The canopy is die-cast from LM6M silicon aluminium alloy and the reflector is anodised aluminium. The opal and stippled bowls are vacuum-formed from acrylic sheet, whilst the refractor bowl is injection-moulded polycarbonate.

Finish. The body is finished inside and out with aluminium paint.

Installation. Top entry is provided, tapped $\frac{3}{8}$ " B.S.P. with a grub screw for connection to bracket.

Optical systems. There are four types of lantern, offering a variety of light distributions, as follows –

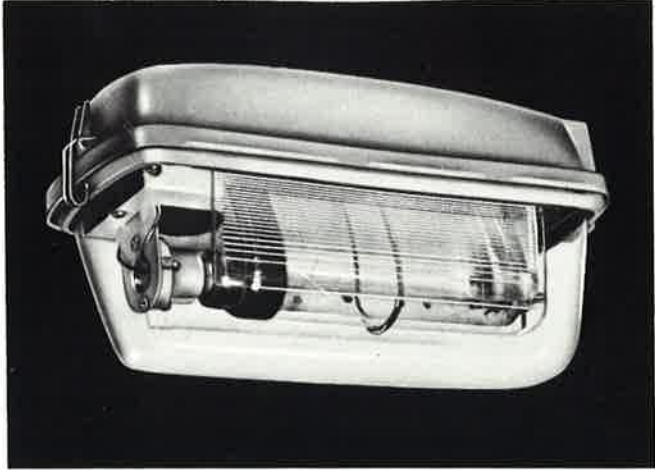
	Lamps.	Catalogue numbers.
1. Injection-moulded, asymmetric refractor bowl.	60/150w G.L.S. 80w MBF/U °Kolorlux	QB4.V/1200.B22 QB4.J/1200.E27
2. Vacuum-formed, opal acrylic bowl giving general distribution.	60/150w G.L.S. 150/200w G.L.S. 80/125w MBF/U °Kolorlux	QB4.O/1200.B22 QB4.O/1200.E27
3. Vacuum-formed, stippled acrylic bowl with asymmetric glass dome refractor.	60/150w G.L.S. 150/200w G.L.S. 80/125w MBF/U °Kolorlux	QB4.J/M/Y.1200.B22 QB4.J/M/Y.1200.E27
4. Open type, with asymmetric glass dome refractor only.	60/150w G.L.S. 150/200w G.L.S. 80/125w MBF/U °Kolorlux	QB4.J/Y.1200.B22 QB4.J/Y.1200.E27

For breakdown of packages see ordering guide list in street lighting catalogue.

atlas

Beta five/sodium lantern

This lantern is designed for Group B road lighting at a mounting height of approximately 15 ft and a spacing of 90-120 ft. This lantern meets the requirements of Street Lantern Specification BS.1788:1964.



QB5.D/1035 on a QLC1/QLCE column bracket



specification

Special features. A special feature of the lantern is the bowl design which improves the speed and efficiency of lantern cleaning. Being quickly detachable, it can be removed completely from the lantern without releasing retaining screws, for complete immersion in a container of detergent – a far more satisfactory method than cleaning with a wet cloth.

Because of this feature, it is also an attractive proposition for users who change and clean refractor bowls in bulk at their depots. An increasing number of the larger Public Lighting Authorities are now adopting this method.

The standard lantern is supplied with a vacuum-formed acrylic bowl with sealed-in refractor plates.

A vandal-resistant bowl moulded from high-impact resistant material is available and may be ordered as a replacement item or as a special feature of a complete lantern.

Materials. The canopy and bowl retaining ring are made in die-cast aluminium alloy having a high resistance to corrosion. Mounting for side entry is $\frac{3}{4}$ " B.S.P. (1 $\frac{1}{8}$ " – 27mm O/D) or 1" B.S.P. (1 $\frac{5}{16}$ " – 33mm O/D) x 3 $\frac{1}{2}$ " (89mm) and for top entry 1" B.S.P. (25.4mm) threaded, to BS.1788. The top entry version will accept 1 $\frac{1}{2}$ " (38mm) length of thread.

Lamps. All lanterns catalogued /1060.4 have the lamp control gear housed within the lantern canopy – an essential feature when the lantern is used on the latest types of slim steel, concrete and aluminium columns, which have smaller base compartments than the older, more bulky, column designs. Adequate space is then available for mounting time switch fuses and sealing chamber and for maintaining this equipment.

Where it is preferred to mount the control gear in the column, lanterns catalogued /135 are available.

Lamp. 35w SOX.

Catalogue numbers.

QB5.D/B1035 $\frac{3}{4}$ " B.S.P. (1 $\frac{1}{8}$ "/27mm O.D.) side entry, 240v 50Hz.
QB5.1"/D/B1035 1" B.S.P. (1 $\frac{5}{16}$ "/33mm O.D.) side entry, 240v 50Hz.
QB5.1"/D.1035 1" B.S.P. (1 $\frac{5}{16}$ "/33mm O.D.) side entry.
QB5.D Refractor bowl
QB5.V Vandal-resistant bowl

For complete catalogue numbers and ordering guide see separate list included in street lighting catalogue.

atlas

Beta six/fluorescent lantern



An enclosed side entry lantern for use with 2-40w 24" MCFE/U fluorescent lamps. For Group B roads, this lantern conforms to the requirements of the revised BS.1788:1964.

QB6, B2240, 4 on a steel column



specification

The canopy consists of a one piece aluminium die-casting which houses the auxiliary control gear mounted on a sheet steel gear tray, finished in stove enamel white. Easy access to the control gear and socket entry can be obtained as the gear tray is removable by simply slackening the two keyhole slot fixings.

The enclosure is made by a formed perspex bowl, with sealed-in refractor plates. Side hinging is achieved by means of stainless steel hinged pivots which allow the bowl to be swung down or completely removed during servicing or maintenance. Two robust toggle catches secure the bowl in position against a square section neoprene gasket to achieve the necessary weatherproof joint.

The unit includes a cable clamp, terminal block and earth screw situated adjacent to the bracket entry.

Positive positioning is achieved at both ends by $1\frac{1}{2}$ " diameter lamp clips mounted on steel support brackets. Electrical contact is made through 'push-on' Bi-pin lampholders, the supply leads to which

are colour coded for ease of identification during lamp changes.

A vandal-resistant bowl is available for this lantern.

Auxiliary control gear housed inside the canopy consists of an instant start ballast unit, and capacitor for operation on a 240v 50Hz a.c. supply. Bracket entry is for a $1\frac{1}{2}$ " B.S.P. ($1\frac{11}{16}$ " - 43mm O/D) plain x 4" (102mm) long spigot.

Special features. (a) The cover bowl is quickly removable from the lantern for cleaning or during routine maintenance. The actual cleaning operation can, therefore, take place at a more convenient level.

(b) For maintenance or in the event of a control gear failure, the gear tray can be easily removed from the lantern by simply slackening the two keyhole slot fixings and disconnecting the supply at the terminal block.

(c) Slim neat appearance.

Weight. 15½ lb (7kg) including control gear.

Catalogue number. QB6,D/B2240.4 with reflector bowl. QB6,V/B2240.4 with vandal-resistant bowl.

atlas

Beta seven/side-entry mercury fluorescent lantern



This sturdily built and compact Group B lantern of neat and attractive appearance is particularly suitable for the lighting of residential streets and other Group B roads. The optical system has been carefully designed to illuminate the foot-ways, kerb lines and carriage-ways to the standards required by the Code of Practice. Either the 80 watt or 125 watt lamp may be used and with ^oKolorlux lamps colour-rendering is enhanced, flesh-tones in particular becoming natural.

QB7.G/1125.E27 1125 on an QLCG
Leader aluminium column.



specification

Special features. The refractor bowl is held firmly in the bezel ring which in turn is hinged to the one-piece cast light alloy body to give access to the interior on release of the toggle catch. A gasket forms the seal between the refractor bowl and body. A deep flange on the cast body gives added weather protection. The smooth surface of the refractor bowl resists grime and dirt accumulation.

Optical system. The refractor bowl has been designed to direct as much light as possible to the lower hemisphere without the use of reflectors and from the photometric performance this, it will be noted, has been achieved.

Alternatively the lantern can be fitted with a vandal-resistant bowl made from high impact resistant material.

Materials. The lantern body is made from a silicon aluminium casting,

specially selected for its resistance to corrosion. The gasket is made from felt.

Finish. Internal surface: stove enamel white. Outer surface: natural.

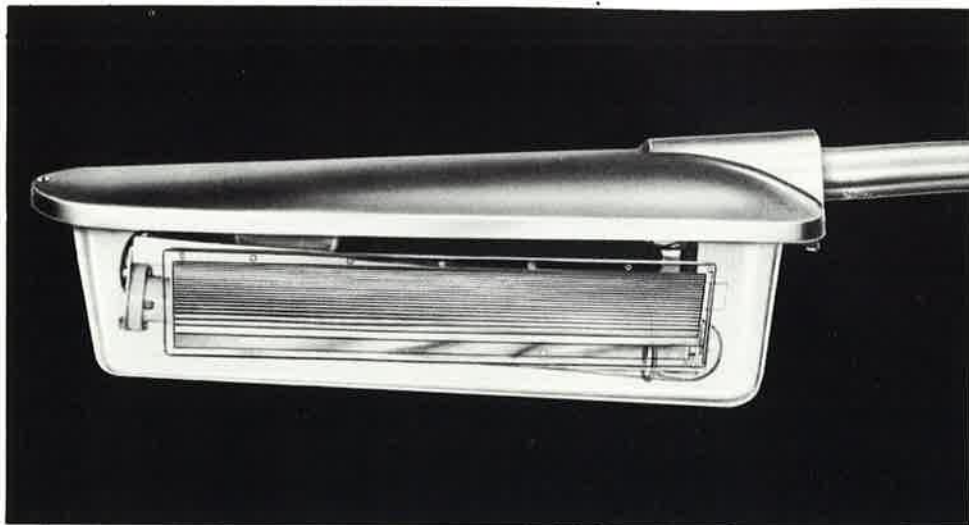
Installation. The end support has an entry for a $3\frac{1}{2}$ " (89mm) length of 1" B.S.P. (1 $\frac{1}{8}$ " - 33mm O/D) plain barrel. This is gripped by two $\frac{1}{4}$ " B.S.W. set screws to the column bracket. Heat resistant glass braided sleeves are provided for the protection of incoming leads which are connected to the terminal block and gripped by a cable clamp.

Lamps. 125 watt or 80 watt MBF/U ^oKolorlux fluorescent-mercury lamps.

Catalogue numbers (complete fittings).
QB7.G/1125.E27 80/125w MBF/U
^oKolorlux with glass refractor bowl.
QB7.V/1125.E27 80/125w MBF/U
^oKolorlux with vandal-resistant bowl.

atlas

Beta eight/sodium lantern



The lantern which meets the requirements of BS.1788:1964 is suitable for Group B1 lighting, using 55w SOX lamps and comprises a one-piece silicon aluminium alloy canopy with end hinged acrylic refractor bowl.

COID back headed QB8.D/1055 with LCM.



specification

The canopy is die-cast from silicon aluminium alloy and is enclosed by a vacuum-formed acrylic bowl with sealed-on refractor plates. The bowl is hinged at the road-side end and a stainless steel clip secures it at the bracket end. The bowl seats evenly on to a neoprene gasket to ensure a rain-proof enclosure.

A stove-enamelled sheet-steel channel carries the lampholders and supports and screws on to the top casting.

The Beta 8 can be provided complete with control gear.

Light control. Sealed-in refractor plates in the bowl provide a near semi-cut-off distribution.

Materials. The canopy is die-cast from LM6M aluminium alloy and the vacuum-formed bowl and refractor plates are from acrylic sheet.

Finish. The interior of the canopy and sheet-steel channel/tray are stove-enamelled white.

Installation. Side-entry is provided requiring 4" (102mm) of 1" B.S.P. (1 ⁵/₈" - 33mm O/D) plain tube.

Lamps. 55w SOX.

Catalogue numbers.

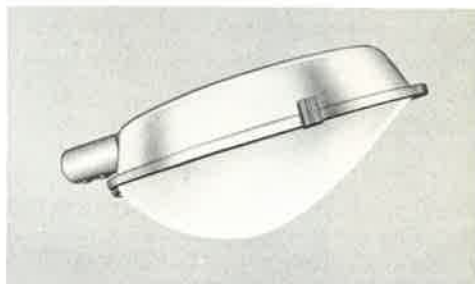
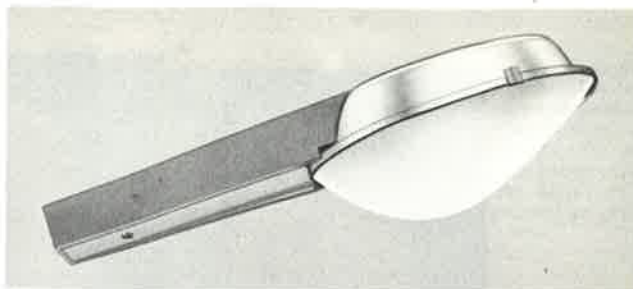
QB8.D/1055 for 55w SOX.
QB8.D/B1055.4 for 55w SOX - with 240v 50Hz gear.

Vandal-resistant bowl versions are available, 'V' instead of 'D' in catalogue number.

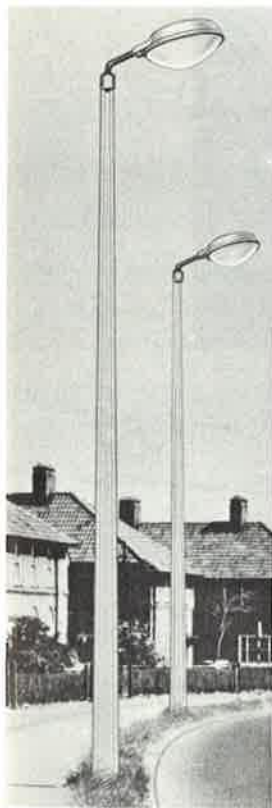
atlas

Beta nine/side-entry mercury fluorescent lantern

An enclosed lantern for Group B roads, where good colour and appearance are important. Materials and construction to BS 1788. When used with 'Kolorlux' lamps, colour rendering is enhanced, flesh tones in particular, becoming natural.



QB9.M/1200.2BC on LC1/LCG
Leader Aluminium Column.



specification

A lightweight lantern of pleasing appearance, designed and manufactured with easy maintenance a prime factor, it consists of two main parts:

- canopy and support assembly
- patterned plastic bowl.

Construction Both less and with gear end supports are joined to the canopy by the same means. An internal casting, carrying cable clamp, earth terminal and lampholder, is bolted through the canopy, to the end support casting, the joint being gasketted to form an effective seal. The bowl is secured to the canopy by means of a 'hook-off' hinge and two plastic toggles, an effective seal being maintained by a neoprene gasket.

Optical System Highly specular parabolic reflectors formed by the elliptical plan shape of the canopy and an overlamp reflector, redirect the major portion of the light flux along the road axis.

Materials All castings are of LM6 aluminium alloy and the canopy is a high purity aluminium pressing.

The bowl is vacuum-formed from 'pinpoint' acrylic. The 'hook-off' hinge and external screws are of stainless steel and bowl toggles are high impact plastic.

Finish Castings are 'as cast' to allow the natural formation of a protective oxidised skin. The canopy interior is 'Phosbrite' brightened and the canopy entirely anodised and sealed.

Installation A side-entry spigot bore in the end supports, requires $3\frac{1}{2}$ " (89mm) length of 1" BSP ($1\frac{1}{8}$ " - 33mm OD) plain tube for mounting. Two $\frac{3}{8}$ " BSW socket grub screws secure the lantern to bracket arm.

Lamps 100/200w GLS or 80/125w fluorescent mercury discharge MBF 'Kolorlux'.

Catalogue Numbers.

QB9.M/1200.B22 2BC 100/200w GLS
QB9.M/1200.E27 ES 150/200w GLS

80/125w MBF/U 'Kolorlux'.
QB9.M/B.1080.T Geared 80w, 200/250v
50Hz.

QB9.M/B.1125.T Geared 125w, 200/250v
50Hz.

Available to order:—

Vandal bowl versions.

"V" instead of "M"

Clear bowl versions

"D" instead of "M"

220v Geared versions.

"2" instead of "T"

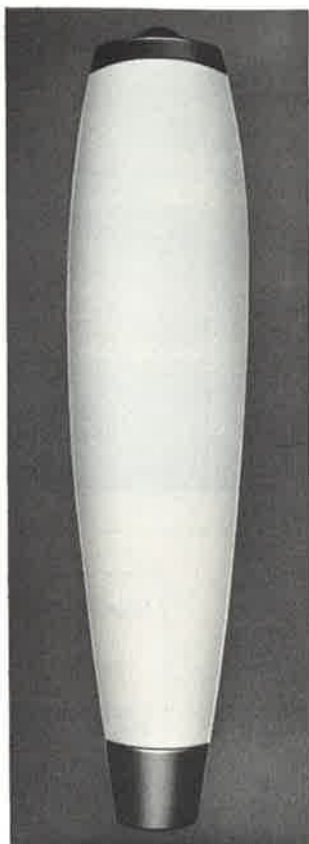
Lanterns with P.E. Cell sockets.

MF11871/Cat. No.

atlas

Gamma one/vertical fluorescent lantern

Appearance, elegance and slim modern lines are the dominant features of this lantern. With its all-round distribution of light, its main use will be for lighting avenues, promenades, ornamental gardens and those streets which are the object of particular civic pride.



QG1.0/B4080T on a steel column



specification

Special features. In this lantern the plastic diffuser and caps are manufactured as one piece which stands on a small ring gasket at its lower end. By means of a large clamping screw, which passes through a gland attached to the cap, the diffuser is tightened down on to the gasket, thus virtually achieving an hermetic seal. In this way, no attention is needed between tube changes – an infrequent operation with the long, reliable life of fluorescent tubes.

The lantern incorporates quick start control gear (except the PF capacitor) for four 5ft 80w tubes.

Materials The diffuser is manufactured from opal plastic sheet, the cap being of the same material but coloured and

cemented to it. The base is a substantial casting of corrosion-resisting aluminium silicon alloy.

Finish. The diffuser and cap are treated with an anti-static compound. The base is 'Bonderite' processed and stove enamelled grey.

Installation. The lantern requires a spigot 3" (76mm) in diameter by 5" (127mm) long which is gripped by three 3/4" B.S.W. set screws in the base.

Lamps. Four 5ft 80w white MCFE/U tubes. Catalogue number. QG1.0/B4080T.

Note. Two AMEC2216 capacitors are required for remote mounting.

For complete catalogue numbers and ordering guide see separate list included in street lighting catalogue.

atlas

Gamma two/vertical fluorescent lantern

Appearance, elegance and slim modern lines are the dominant features of this lantern. With its all-round distribution of light, its main use will be for lighting avenues, promenades, ornamental gardens and those streets which are the object of particular civic pride.



QG.O/4240.T on a 1510 steel column



specification

Special features. In this lantern the plastic diffuser and cap are manufactured as one piece which stands on a small ring gasket at its lower end. By means of a large clamping screw, which passes through a gland attached to the cap, the diffuser is tightened down on to the gasket, thus virtually achieving an hermetic seal. In this way, no attention is needed between tube changes – an infrequent operation with the long, reliable life of fluorescent tubes. The lantern incorporates starter switches only, for two or four 2ft 40w tubes. The remainder of the control gear (less P.F.C. capacitor) is supplied on a ballast tray for mounting in the base of the column.

Materials. The diffuser is manufactured from opal plastic sheet, the cap being of the same material but coloured and cemented to it. The base is a substantial casting of corrosion-resisting aluminium silicon alloy.

Finish. The diffuser and cap are treated with an anti-static compound. The base casting is 'Bonderite' processed and stove-enamelled grey.

Installation. The lantern requires a 3" (76mm) by 3" (76mm) diameter spigot. The gear tray, to which the chokes only are fitted, and the capacitor should be mounted remote from the lantern.

Lamps. Four 2ft 40w MCFE/U tubes.

Catalogue numbers.
QG2.0/4240.T 4 tube lantern and gear tray. 200/250v 50Hz.
AMEC2216 capacitor.
QG2.0/2240.T 2 tube lantern and gear tray. 200/250v 50Hz.
AMEC2234 capacitor.

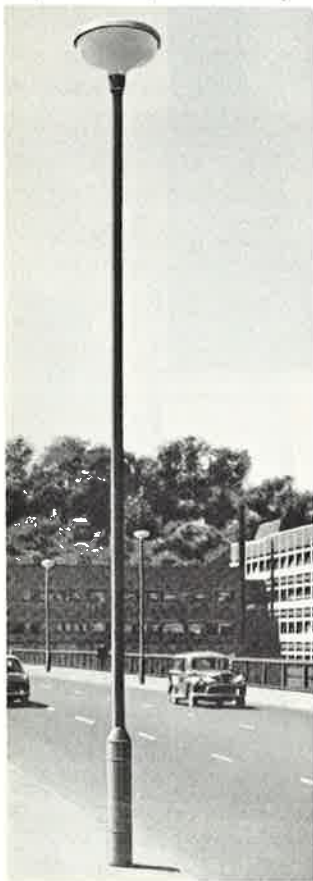
For complete catalogue numbers and ordering guide see separate list in street lighting catalogue.

atlas

Gamma three/post top lantern

This lantern has the advantage of modern appearance as well as meeting the requirements of lighting engineers guided by the Code of Practice. Designed to be used with mercury lamps, suitable for city squares. When used with "Kolorlux or "Kolorarc lamps colour-rendering is enhanced, flesh tones in particular becoming natural.

QG3,1400 on a LCM,0660 steel column.



specification

Special features. One-piece assembly of opal plastic bowl with spigot cap, mounts directly onto column top. On release of toggle catches canopy hinges open to give easy access for installation, maintenance and lamp replacement. When closed the canopy completely seals bowl opening.

Optical system. Symmetrical distribution using 250 or 400w lamp providing glare-free lighting from diffused globe.

Materials. The canopy is a weather-proofed aluminium spinning and the diffusing bowl from plastic. Stainless steel is used for exterior components to obviate corrosion. The impregnated rot-proof felt gasket forms the seal between the opal bowl and canopy. The spigot cap is cast in aluminium silicon alloy. The seal between the spigot cap

and the bowl is maintained with a plastic neoprene sealing ring. Great care has been taken to avoid any possibility of electrolytic corrosion.

Finish. The canopy is treated with acrylic enamel inside and outside to ensure lasting finish and adequate protection from adverse weather conditions.

Installation. The spigot cap has a 3" (76mm) diameter x 3" (76mm) long entry and is secured to the column top by three 3/8" B.S.W. socket screws.

Lamps. 250/400w MBF/U "Kolorlux, 400w "Kolorarc, or 250/400w SO/N

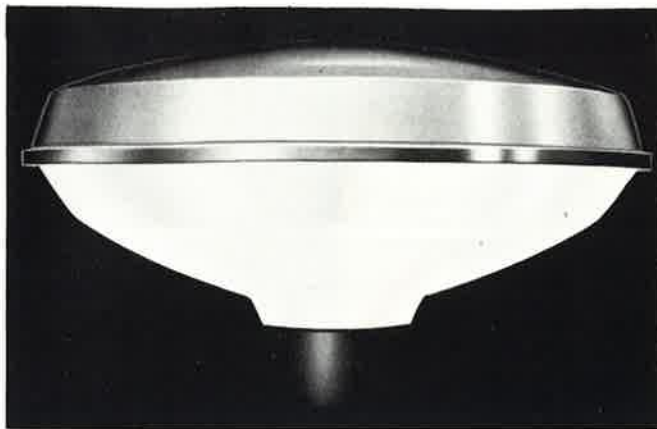
Catalogue number. QG3,1400

For complete catalogue numbers and ordering guide see separate list included in street lighting catalogue.

atlas

Gamma four/post top multi-lamp lantern

This lantern provides a modern answer to the need for unobtrusive good looks in street furniture. It is particularly suitable for principal streets and city squares where lighting levels to Group G of the B.S. Code of Practice are required. The lantern has been accepted by the Council of Industrial Design for Design Index. Two sizes of lantern are available to provide the correct aesthetic proportions with varying heights of column. The 3ft (.9m) diameter lantern is recommended for 8 or 10 metre mounting heights and the 4ft (1.2m) diameter for 10, 12 or 15 metre mounting heights. When used with "Kolorlux and "Kolorarc lamps colour-rendering is enhanced, flesh-tones in particular becoming natural.



specification

Special features. The spun aluminium canopy is fixed to a centre spine which terminates in a base casting that is attached to the spigot of the column. To this base casting is screwed an outer section and by unscrewing this it is possible to lower the plastic bowl down to three pegs provided in the column itself. This gives access for lamp changing and maintenance. The canopy can be removed completely by releasing three retaining stays, and the bowl can then be lifted over the spine of the lantern should this be necessary.

Optical system. The lantern is designed to provide lighting levels to Group G of the B.S. Code of Practice and houses either two 250w or two 400w MBF/U or SO/N or two low 500w tungsten filament lamps.

SO/N or 3 x 140/200w SLI/H. The canopy is designed to give a good cut-off above the horizontal and to direct maximum light into the lower hemisphere. Two forms of distribution are available. With the catalogue number E series, a reflector system with pinspot plastic bowl is provided to give a two-way axial distribution so that if desired the lantern may be used in staggered formation for kerbside mounting. The catalogue number D series with opal plastic bowl is identical in construction but omits the reflector system in order to provide symmetrical distribution.

Materials. The canopy is made from sheet aluminium and the diffusing bowl from plastic. The base casting is of close grain cast iron and the outer section is cast in aluminium silicon alloy. Stainless steel is used for components that might otherwise corrode, and the reflectors in type PWE are of super purity aluminium. An expanded neoprene gasket forms a seal between the plastic bowl and the canopy, and the seal between the cast spigot and bowl is maintained with a plastic foam sealing ring.

Great care has been taken to avoid any possibility of electrolytic corrosion.

Finish. The reflector in series PWE is electrolytically polished and anodised, and other internal parts are subjected to a "Bonderite" process and stove enamelled. The canopy is specially treated with an acrylic enamel finish to ensure a long life. The plastic cover is treated with an anti-static compound.

Installation. The spigot cap has an entry of 5 1/2" (140mm) x 3" (76mm) dia, and is locked to the spigot with three bolts. When installation is carried out the outer spigot casting and bowl are passed over the shaft of the column, which should not exceed 4 1/2" (4" B.S.P.) in diameter including finish, and are supported by three pegs equally spaced around the shaft of the column at 18" from the top. The canopy is then attached to the main support by three tie rods screwed to the gallery which houses a terminal block and cable clamp. The bowl is then raised with the outer threaded portion of the spigot cap which is then screwed tightly into position.

Lamps. 250 or 400w MBF/U "Kolorlux or 400w "Kolorarc mercury-fluorescent or SON lamps. 500w G.L.S. lamps or 3 x 140/200w SLI/H 135w or SOX lamps.

Catalogue numbers. OG4.0/F/2500 3' (.9m) dia, lantern with opal bowl for 2 x MBF/U or G.L.S. lamps. OG4.0/F/3400 3' (.9m) dia, lantern with opal bowl for 3 x MBF/U or G.L.S. lamps. OG4.0/W/N/3400 4' (1.2m) dia, lantern with opal bowl for 3 x MBF/U, MBI/F or SON lamps. OG4.0/W/N/3200 4' (1.2m) dia, lantern with opal bowl for 3 x 140w or 200w SLI/H lamps. OG4.0/W/N/3135 4' (1.2m) dia, lantern with opal bowl for 3 x 135w SOX lamps. For complete catalogue numbers and ordering guide see separate list in street lighting catalogue.

OG4.0/W/N/3400 on a LCH.0860/G4/DB steel column



atlas

Gamma five/post top lantern

This unit represents a new approach to the problem of matching column and lantern for Group B lighting. The lantern and column have been designed as one unit to present a pleasing daylight appearance. The lantern and column have been accepted by the Council of Industrial Design for Design Index. When used with °Kolorlux lamps colour-rendering is enhanced, flesh-tones in particular becoming natural.



QG5.U/D/7.1150.B22 1200 lantern on a LC3/G5 steel column.



specification

Special features. The globe forms a structural part of this lantern and is formed from extra thick plastic sheet. Apart from the mechanical advantages, the simplicity afforded by this construction makes the lantern particularly resistant to malicious damage. The globe is attached directly to the belled out end of the column and access is gained by hinging back the canopy. Standard lanterns use either tungsten or mercury fluorescent lamps.

Optical system. The lantern is available with symmetric or asymmetric refractors with a clear plastic globe. Alternatively it may be used without refractors and with an opal globe to give a general distribution for amenity lighting.

Materials. The canopy is made from an aluminium spinning and a diffusing bowl from plastic. Stainless steel is used for components that might otherwise corrode. An impregnated rot-proof felt gasket forms the seal between the plastic bowl and the canopy, and the join between lantern and column is made by a neoprene foam sealing ring.

Finish. The canopy is specially treated with an acrylic enamel to ensure a lasting finish. The internal parts of the canopy are also finished in acrylic enamel.

Installation. The lantern is securely fixed to the top of the column by two 1/4" Whit bolts. The special steel column Cat. No. 1500/G5 is required for mounting the lantern. For a 3" (76mm) dia. spigot column, spigot cap Cat. No. QG5 and for Leader triangular spigot columns spigot cap Cat. No. QG5K can be supplied.

Lamps. 100/200w tungsten filament, or 80-125w/MBF/U °Kolorlux.

Catalogue numbers.

Lantern with clear bowl.

Asymmetrical	Symmetrical
100-150w G.L.S.	
QG5.U/D/Y.1150.B22	QG5.U/D/X.1150.B22
150w-200w G.L.S. or	
80-125w MBF/U °Kolorlux	
QG5.U/D/Y.1150.E27	QG5.U/D/X.1150.E27

Lantern with opal bowl.

100-150w G.L.S.	QG5.O/1150.B22
200w G.L.S. or	QG5.O/1150.E27
80-125w MBF/U °Kolorlux	

This lantern can be supplied with a vandal-resistant bowl if required.

For complete catalogue numbers and ordering guide see separate list included in street lighting catalogue.

atlas

Gamma six/post top lantern for sodium, mercury or GLS lamps

The gamma six series has been designed to incorporate all modern trends in streetlighting practice, such as Photo-cell unit operation, anti-vandal materials, compliance with BS 1788 : 1964 and easy maintenance features.

The construction for Photo-cell unit fixing is unique and carries Patent Application No. 22834/69. Nine basic components can be interchanged to give 44 versions, all of which can be supplied with a twist and lock type Photo-cell unit socket, if required.



Catalogue Numbers (Packages)

QG6.1200 Post-top base assembly – Less gear
 QG6.B180.4 Post-top base assembly – 80w MBF/U with gear 240v 50Hz
 QG6.B1125.4 Post-top base assembly – 125w MBF/U with gear 240v 50Hz
 QG6.B135.4 Post-top base assembly – 35w SOX with gear 220v 50Hz
 QG6.W 20" diameter canopy
 QG6.F 10 1/2" diameter canopy
 QG6.O Acrylic Bowl
 QG6.V Anti-vandal Bowl
 QY Asymmetric Glass Dome Refractor
 AME.L1085.B22 2-Pin B.C. Lampholder
 AME.L1087.E27 E.S. Lampholder

Space will not allow the listing of all complete Lantern catalogue numbers, which are made up by a combination of letters and numerals of the components listed above.

QG6.W/O.1200.E27 = Less gear lantern, with 20" canopy (QG6.W), acrylic bowl (QG6.O) and E.S., lampholder.
 QG6.W/V/Y.1200.B22 = Less gear lantern, with 20" canopy (QG6.W), anti-vandal bowl (QG6.V), glass dome refractor (QY) and 2 pin B.C. lampholder.
 QG6.F/O/P.1125.4 P = 125w geared lantern, with 10 1/2" canopy (QG6.F), acrylic bowl (QG6.O) and P.E. cell socket. (P).

N.B. In order to conform with International standards, it is National policy to standardise on E.S. caps for 80/125w discharge lamps in the next few years. 80w and 125w geared lanterns, therefore, will be provided with E.S. lampholders unless otherwise specified.

specification

Four different base castings are available, 'less gear', 'with gear mercury' and 'with gear sodium'. A common spine is fixed to the base castings and carries the lamp-holder, Photo-cell socket fixing bracket, glass dome refractor, where required, and nylon threaded inner ring and top-cap, which provides for closure of canopy to bowl.

Two canopies of spun aluminium alloy are stocked, a 20" diameter coolie-hat type and a 10 1/2" diameter close-fitting type, to give further variation in appearance.

Both bowls are injection-moulded and are internally reeded for greater diffusion of the light source, so reducing glare; (a) in opal Diakon and (b) in opal MT Diakon, a high-impact material giving anti-vandal properties. A sealed-ring extruded neoprene gasket is provided with each bowl to ensure an effective seal between canopy and bowl.

In the 'with gear' base castings, the control gear is mounted on a removable gear-tray for easy maintenance.

Optical System With the glass dome refractor, asymmetric non-axial distribution is provided. The reeded bowls, without

dome refractor give general symmetrical distribution.

Materials The base castings are low-pressure cast in L.M. 6M aluminium alloy. Canopies are spun aluminium alloy. The acrylic bowl is injection-moulded in equivalent density to 030 opal sheet. The injection-moulded anti-vandal bowl is of MT Diakon, an extremely high impact plastic. The top-cap and inner ring are moulded in high-grade nylon.

Finish The canopy and base casting exteriors are finished matt black and the canopy interiors glossy white, both stove-enamelled. The top cap is a self-colour matt black, moulding.

Installation The lantern requires a 76 mm (3") diameter x 76 mm (3") long spigot for mounting. Locking of lantern to spigot is achieved by means of 3 x 3/8" BSW stainless steel socket head grub screws. An installation and wiring information sheet is provided with each base casting assembly.

Lamps 160w MBTF Mercury Tungsten, 100/200w GLS Tungsten, 80/125w MBF/U Mercury Fluorescent or 35 SOX Sodium.

atlas

Gamma seven/amenity lantern

In recent years following the success of lanterns which received design awards in 1960, there has been a trend towards an integrated design between lantern and column. This design extends the trend by completely merging the individual units into a single identity of the utmost simplicity in the form of a plain cylindrical column and lantern. The result is a most attractive unit which was highly commended in the Council of Industrial Design's competition for Group B lamp posts held in 1963. The lantern is designed to give a symmetrical distribution and is particularly suitable for access roads, pedestrian areas, precinct and forecourt lighting.

QG7.1080.E27 lanterns on LC1340/G7 column.



PRC/P1100 lantern on 1540/G7 steel column and wall bracket PRK1100.

specification

The lampholder assembly is mounted directly on to the main support casting. Incoming mains cable is passed through the support strap and retained by a cable clamp. The glass cylinder assembly comprising cylinder and support casting with gasket seating and glazing clips is secured to the column by three socket set screws. The top cap is secured by springs and is easily removed for lamp replacement.

The column is made from 4½" (114mm) O.D. tube, with a cable entry at the base for incoming supply. Three grub screws at the top of the column clamp the lantern in position, and the column is suitably

primed for painting after erection. The columns are supplied with door covering the base compartment which contains a baseboard giving space for fixing 80w lamp control gear and supply termination. To extend the versatility of the lantern a wall bracket has been developed for use in areas where columns are not suitable. The lantern is clamped in the same manner as on the columns.

Catalogue numbers.

QG7.1100.B22 for 100w G.L.S. lamp.
QG7.1080.E27 for 80w MBF/U "Kolorlux".
PRK1100 Wall-mounting bracket.
PRM1100 Corner wall-mounting bracket.

atlas

Gamma eight/post top lantern

The combination of this lantern and 'Leader' aluminium alloy column, designed as a unit, provides the ideal solution for street lighting where the day and night appearance are important.

This graceful design will harmonise with any natural or architectural surrounding and can be used for residential and similar locations. When used with 'Kolorlux lamps colour-rendering is enhanced, flesh-tones in particular becoming natural.



QG8.K/1150.E27 on a Leader LCI column.



specification

This design is an enclosed post top lantern of aluminium with an 030 opal perspex bowl. These materials have been chosen for their serviceability and resistance to corrosion.

The lantern is suitable for use with 60/200w G.L.S., 80/125w MBF/U 'Kolorlux or 35w SOX lamps. Each lantern is complete with a cast aluminium alloy spigot cap for direct mounting to 'Leader' columns or on to columns having a 3" (76mm) x 3" (76mm) dia. spigot.

Canopy. Spun aluminium, internally sprayed white.

Spigot cap. LM6 aluminium alloy to BS.1490.

Bowl, 030 opal acrylic.

Junctions between acrylic and canopy, acrylic and spigot cap sealed with neoprene gaskets.

Internal fittings. Mild steel, cadmium plated.

Lampholders. Porcelain, B.C., E.S., 3-pin B.C.

A vandal-resistant bowl is available for this lantern.

equipment

Cat. no.	Lamp	Lampholder
Lantern with triangular spigot cap		
QG8.K/1150.B22	100/150w G.L.S.	2-pin B.C.
QG8.K/1200.E27	200w G.L.S. or 80/125w MBF/U 'Kolorlux	E.S.
Lantern with 3" (76mm) x 3" (76mm) spigot cap		
QG8.1150.B22	100/150w G.L.S.	2-pin B.C.
QG8.1200.E27	200w G.L.S. or 80/125w MBF/U 'Kolorlux	E.S.

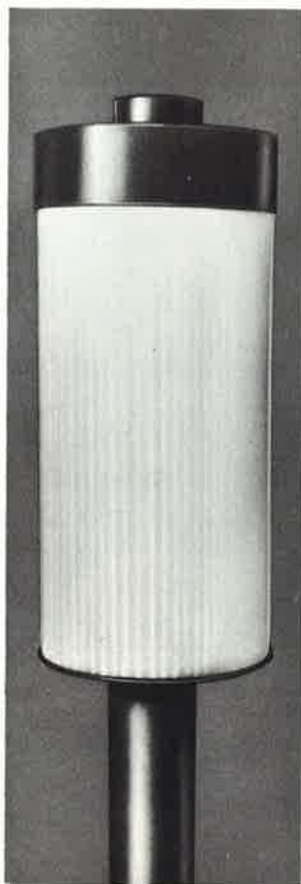
atlas

Gamma nine/post-top lantern

The cylindrical design and contrasting matt black and opal white of the metal parts and diffuser, make this lantern most suitable for modern environs. Simplicity of design facilitates the use of high quality materials and provides for ease of maintenance.

Application. For Group B streets, pedestrian precincts, small squares and garden areas, where aesthetic appearance is of some importance. When used with "Kolorlux lamps colour-rendering is enhanced, flesh-tones in particular becoming natural.

QG9 on LC.1590/G9 column.



specification

The base casting of LM6M aluminium alloy is suitable for mounting on 3" (76mm) x 3" dia. spigot and supports an extruded acrylic cover bowl, which is capped by an aluminium alloy spinning. The canopy and bowl are securely positioned and located centrally, by an aluminium alloy nut, which screws on to the lampholder bracket. All metal parts are finished matt black.

Light control. Symmetrical distribution.

Installation. Post top requiring 3" (76mm) x 3" (76mm) dia. tube.

Cat. No.	Lamps
QG9/1150.B22	100/150w G.L.S.
QG9/1150.E27	150/200w G.L.S.
QG9.155	35/55w SOX
QG9.4240.T	4 x 2' 40w MCFE/U 240v 50Hz
QG9.2240.T	2 x 2' 40w MCFE/U 240v 50Hz

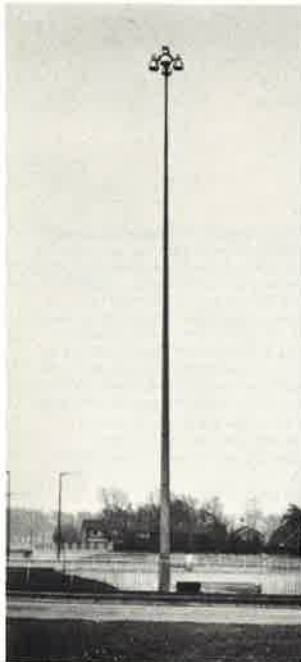
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High tower lantern

Mercury fluorescent cut-off lantern. The lantern was developed primarily for high mast installations of 80' (24.4m) and over, for lighting complex junctions, but can also be used for marshalling yards, car parks and large service areas.



HT1000 on 100' (30.48m) high mast column.



specification

The lantern accommodates a 1 kW MBF "Kolorlux lamp and control gear and is constructed in two parts. The lamp housing/reflector is of spun aluminium construction, enclosed by a heat-resisting glass cover, glazed to the bottom aperture, and secured to the main body by three quick release swing-down bolts. The main body is cast in high silicon content aluminium alloy and provides the side-entry spigot location and gear housing. An aluminium can, secured by a small finial, encloses the gear.

Special features. The 1½" (43mm) B.S.P. spigot has a location spline to correctly orientate the lantern to column. Entry for external service cables by-passes the hot area around lampholder and lamp.

The lampholder incorporates a lamp steady to prevent vibratory lamp unscrewing. All internal wiring of heat-resisting PVC covered cable with additional glass sleeve protection on wiring to lampholder.

Installation. Side-entry requiring 6" (152mm) x 1½" B.S.P. (1 11/16"—43mm O/D) plain tube.

Light control. Cut-off with peak at 45°. L.O.R. 66%

Lantern details.
Catalogue number. HT.1000 240v 50Hz

Dimensions.
Height 32.5 in (825.5 mm)
Overall diameter 25.75 in (654 mm)
Weight* 57 lb (25.86 kg)
Windage area 2.45 nett (.06 sqm)

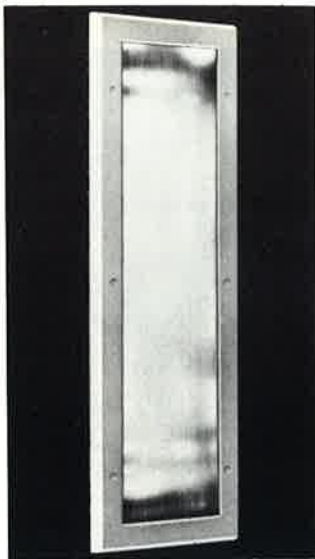
*With lamp and control gear

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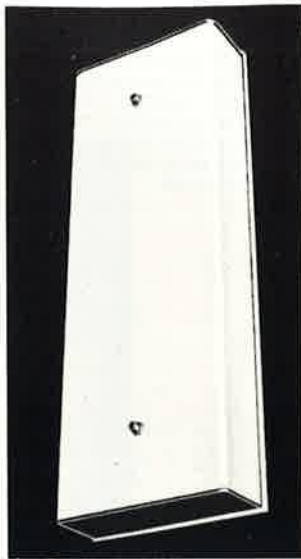
Footway fluorescent fittings



SF12119/Q2240



PUQ/2240T



SF12120/Q2240

Fluorescent fittings using two 2' 40w MCCE/U lamps, suitable for wall or ceiling mounting in subways, shopping arcades, pedestrian precincts and footpaths. Materials and construction to BS.1788:1964.

specification

SF12119/Q2240. The lantern body is die-cast LM6M aluminium alloy and has screwed and plugged $\frac{3}{4}$ " conduit entries at each end and centre-back. The diffuser is a formed opal acrylic bowl, firmly supported in a cast aluminium alloy frame, which is side-hinged by means of stainless steel hinges and fastened by two captive S.S. finger screws.

A square-section neoprene gasket between bowl and body provides a rain-proof seal.

240V 50 Hz instant-start control gear is mounted on a white stove-enamelled steel tray/reflector, which has slotted fixing-holes to facilitate easy removal for maintenance.

Light control. General distribution from reflector/diffuser.

Installation. Wall-fixing by $4 \times \frac{1}{2}$ " dia. bolts through body.

PUQ/2240T. Completely weather-proofed and protected against corrosion, this fitting is particularly suitable for recessed mounting in subways and multi-storey car parks.

A sturdily built mild steel body houses instant-start control gear and is finished inside and out stove enamelled white. The reflector, which carries the two lamps, is easily removed by slackening off two screws and affords easy access to the 200/250V 50 Hz control gear for maintenance.

The fitting is enclosed by an opal acrylic diffuser, cemented into a cast aluminium frame, which is securely fixed to the body, by six stainless steel screws.

Light control. General distribution from reflector/diffuser.

Installation. Surface or recessed fixing by $4 \times \frac{1}{4}$ " dia. holes in backplate.

SF12120/Q2240. A stiffened aluminium backplate carries a gear tray and reflector, cover, both of which are sheet steel, stove enamelled white. Access to the 240V 50 Hz control gear is achieved by removing four finger nuts and if necessary gear tray can be removed completely. Lamps are positioned on the reflector by plastic-coated clips and bi-pin, push-on lampholders are provided, wired with colour-coded cable for easy identification. The enclosure is made by a formed acrylic diffuser, secured against a neoprene gasket by two captive finger nuts.

Cable entry is provided in centre backplate.

Light control. General distribution from reflector/diffuser.

Installation. Canopy/ceiling fixing by $4 \times \frac{1}{4}$ " dia. bolts through backplate.

atlas

Leader aluminium columns

'Leader' aluminium columns are suitable for all Group B street lighting applications. They are appearance designed for use in locations adjacent to civic centres and other prestige areas. The available alternative combination of column, bracket and lantern provides an efficient lighting source for residential roads, factory sites and works access or perimeter roads. Ease and economy of installation plus strength and durability are other inherent qualities which recommend 'Leader' aluminium columns for general use. Light in weight, about 32 lb., the columns can be easily handled and erected by one man, thus dispensing with the need for expensive and heavy lifting tackle or other special equipment.



Leader QLC.1

COLUMN

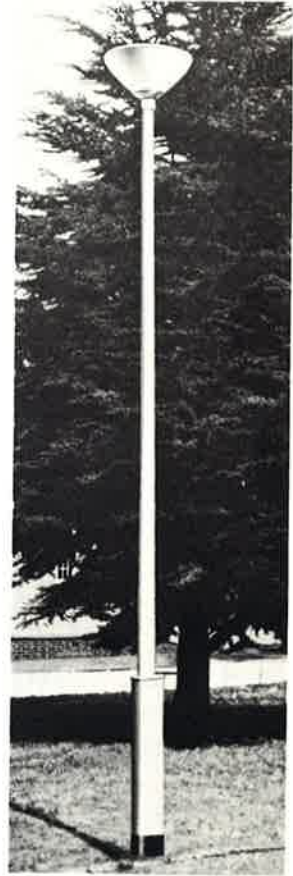
Material. HE9P aluminium alloy.

Spigot Castings. LM6M aluminium alloy.

Baseboard. Hardwood.

Lock. Stainless steel DZUS type.
Base compartment—24" x 3 1/4". (620 x 89mm). Weight—30 lb. (1.36 Kg.).

Catalogue number. LC.1.



Leader QLC.2

COLUMN

Material. HE9P aluminium alloy.

Spigot Castings. LM6M aluminium alloy.

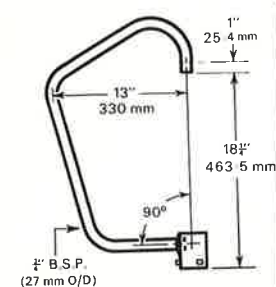
Baseboard. Hardwood.

Lock. Stainless steel DZUS type.
Base compartment—24" x 3 1/4". (620 x 89mm). Weight—32 lb. (1.46 Kg.).

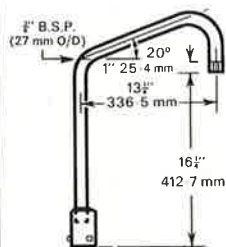
Catalogue number. LC.2.

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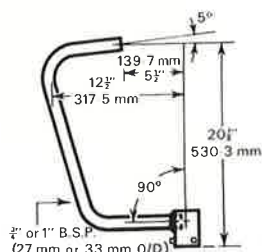
Leader aluminium columns



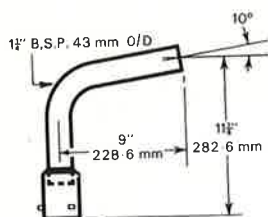
LC.B



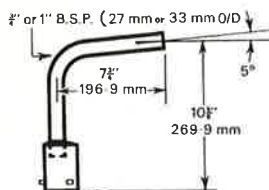
LC.D



LC.C LC.F



LC.A



LC.E LC.G

Description	Weight
QLC.1. Leader 15ST aluminium column only	30 lb. (13.6 kg)
QLC.2. Leader 15 aluminium column only	32 lb (14.5 kg)
QLC.A. Bracket-side entry 1 1/2" B.S.P. plain with outreach	1 lb. 14 oz. (0.85 kg)
QLC.B. Bracket-top entry 2 1/2" B.S.P. threaded, zero outreach	2 lb. 9 oz. (1.16 kg)
QLC.C. Bracket-side entry 3/4" B.S.P. plain, zero outreach	2 lb. 1 oz. (0.94 kg)
QLC.D. Bracket-top entry 3/4" B.S.P. threaded with outreach	2 lb. 2 oz. (0.95 kg)
QLC.E. Bracket-side entry 3/4" B.S.P. plain with outreach	1 lb. 9 oz. (0.72 kg)
QLC.F. Bracket-side entry 1" B.S.P. plain, zero outreach	2 lb. 4 oz. (1.02 kg)
QLC.G. Bracket-side entry 1" B.S.P. plain with outreach	1 lb. 10 oz. (0.72 kg)
QLC.K. Key - for base compartment door	
QLC.S. 3" x 3" spigot adaptor	

CONTROL GEAR AND ACCESSORIES

Introduction

Thorn Lighting Control Gear and Accessories have achieved a reputation for consistently high quality at economical prices by a policy of close co-operation between our research and engineering departments, and the factory where the equipment is made.

All manufacture is carried out at Spennymoor, Co. Durham, in what is probably the largest control gear factory in Europe. A high proportion of its output is exported.

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thorn

Control gear and accessories.

224/225	Index
226	Introduction and installation notes
227/228	Circuits and components for 8ft 125W tubes
229/230	8ft 85W and 6ft 85W tubes
231/232	5ft 80W tubes
233/234	5 ft 65W tubes
235/236	5ft 50W and 4ft 40W tubes
237/238	40W/32W/22W circular tubes
239/240	3ft 30W tubes
241/242	twin 2ft 40W tubes
243/244	single 2ft 40W tubes
245/246	twin 2ft 20W tubes
247/248	twin 18in 15W tubes
249/250	single 2ft 20W and 18in 15W tubes
251/252	21in 13W, 12in 8W, 9in 6W and 6in 4W tubes
253	Combined ballast units
254	Transformers and emergency lighting equipment
255	Starter switches
256	Capacitors
257/8/9	Lampholders
260	Fluorescent tube support clips
261	Terminal blocks, fuses and starter sockets
262	Circuit component for 50W, 80W, 125W and 250W MBF, MBFR and MBF °Kolorlux mercury discharge lamps
263	400W, 700W, and 1000W MBF MBFR and MBF °Kolorlux mercury discharge lamps
264	400W and 1000W Mercury iodide discharge lamps
265	250W and 400W SON High pressure sodium discharge lamps
266	SO, SOI, SOX and SLI Sodium discharge lamps
267	Capacitors for mercury and sodium discharge lamps
268/269	Control gear boxes
270/271	Special mercury control gear
272	Compact source xenon lamp control gear
273	Thorn Q-file

Control gear and accessories. Index of catalogue numbers

Page	Catalogue No.	Page	Catalogue No.	Page	Catalogue No.	Page	Catalogue No.
260	AME A5016	260	AME T1268	231/241/253	AME 68028-4	268	RBG/400
260	AME A5019/X	260	AME T1281	231/253	AME 68041-4	268	RBG/700
260	AME A5037	260	AME T1299	243/253	AME 68050-4	268	RBG/1000
260	AME A5079	260	AME T1304	233	AME 68061-2	268	RBIG/400
257	AME B1502	260	AME T1306	233/253	AME 68061-4	235	155/100
257	AME B1512	260	AME T1311	245/253	AME 69032-4	235	155/200
259	AME B1515	260	AME T1332	233	AME 69046-1	235	155/400
257	AME B1523	260	AME T1342	233	AME 69046-2	235	155/500
257	AME B1524	260	AME Y5200	233	AME 69046-5	235	155/501
257/258	AME B1529	260	AME Y5201	239/247/253	AME 69053-4	235	155/800
259	AME B1535	260	AME Y5204	235/245	AME 69054-2		
257	AME B1548/A3	258	AME Y5234	235/245/252	AME 69054-4		
257	AME B1548/B	257	AME Y5240	235/237/245	AME 69057-1		
258	AME B1555/Z	256	AME Y5244	235/237/245	AME 69057-5		
258	AME B1566/2	256	AME Y5245	237/249	AME 69058-1		
258	AME B1561	260	AME Y5257	237/249	AME 69058-5		
257	AME B1573	235/239	AME Y5259	239/256	AME 69063-4		
257	AME B1577	260	AME Y5267	235/256	AME 69064-4		
258	AME B1579	260	AME Y5274	249/256	AME 69072-4		
256	AME C2050	254	AME 42343	241/256	AME 69082-4		
256	AME C2051	254	AME 42350	256	AME 69090-4		
256	AME C2139	254	AME 42355	251	AME 69159-L		
256	AME C2156	254	AME 47048	251	AME 69160-L		
256	AME C2163	265	AME 53131-H	233/252	AME 69161-2		
256	AME C2173	265	AME 53131-L	233/252	AME 69161-4		
256	AME C2181	261	AME 53134-2	233	AME 69163-1		
256	AME C2185	262	AME 53157-T	233	AME 69163-5		
256	AME C2200	262	AME 53158-T	229	AME 69190-5		
256	AME C2201	261	AME 53159-T	233	AME 69193-1		
256	AME C2202	269/270	AME 53159-4	233	AME 69193-5		
256	AME C2203	261	AME 53162-T	253	AME 69194-4		
256	AME C2204	261	AME 53162-4	249/253	AME 69195-4		
256	AME C2205	262	AME 53164-T	238	AME 69204-5		
256	AME C2206	261	AME 53176-2	229	AME 69222-2		
266	AME C2214	261	AME 53184-4	229	AME 69229-1		
266	AME C2216	261	AME 53188-2	229	AME 69229-5		
266	AME C2218	262	AME 53193-2	229	AME 69232-2		
256	AME C2220	262/263	AME 53193-4	233	AME 69244-2		
256	AME C2221	263	AME 53195-T	229	AME 69280-2		
256	AME C2222	269	AME 53196-4	233	BI/65		
256	AME C2223	263	AME 53197-T	229	BI/685		
256	AME C2224	261/262	AME 53198-2	229	BQI/85		
256	AME C2225	261/262	AME 53198-4	227	BQI/125		
256	AME C2226	265	AME 53230-T	233	BU/65		
256	AME C2227	265	AME 53232-4	229	BU/685		
256	AME C2228	270/271	AME 53233	229	BV/285		
256	AME C2229	271	AME 53234	255	CD/8		
256	AME C2245	271	AME 53235	255	CD/28		
266	AME C2232	271	AME 53236	236	CI/80		
266	AME C2234	271	AME 53237	231	CI/125		
266	AME C2235	271	AME 53238	243	CI/240		
268	AME C2236	271	AME 53239	245	CI/2240		
273	AME C2275	262	AME 53243	244	CJ/30		
273	AME C2276	263	AME 53247-2	235	CJ/50		
268	AME C2278	263	AME 53247-4	255	CPX/8		
268	AME C2280	265	AME 53250	255	CPX/28		
268	AME C2281	265	AME 53251-T	227	CQI/125		
256	AME C2286	269	AME 53255-4	237/254	CU/20		
266	AME C2288	265	AME 53260-T	237/239/247	CU/30		
259	AME C2289	265	AME 53261-T	235/237/245	CU/40		
259	AME M6028	255	AME 62824	233	CU/65		
260	AME M6064/12/Loop	254	AME 62825	227	CU/125		
267	AME M6169	237/239/247	AME 62990-2	229	CU/685		
267	AME M6172	237/249	AME 62993-2	235/249	QS/40		
267	AME M6174	235/237/245	AME 62999-2	231/243	QS/80		
267	AME M6175	229	AME 63213-5	237	QS/125		
267	AME M6176	231	AME 63217-5	245/247	QS/220		
254	AME R2463	231/253	AME 63219-4	241	QS/2240		
260	AME T1265	239	AME 66051-2	268	RBG/250		

INTRODUCTION

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INSTALLATION NOTES

Certain factors must be considered when installing fluorescent lighting equipment which do not apply to the installation of non-reactive loads such as tungsten filament lamps.

- 1 *Cable ratings* – a factor of $1\frac{1}{2}$ is normally applied to the rating of distribution cables, ie not more than a 4 amp load on a 5 amp circuit.
- 2 *Fuse ratings* – when HRC fuses or quick reaction protective devices are used to control a circuit it may be necessary to halve the normal rating to allow for switching surges, ie a 5 amp HRC fuse may be limited to a maximum of $2\frac{1}{2}$ amps.
- 3 *Wall switches* – because of the high voltage surges that occur when switching fluorescent tubes on or off, a 'quick-make and slow-break' switch action is preferable. Certain quick break actions and switches with an earthed metal plate or mechanism may be unsuitable for fluorescent lighting.
- 4 *Harmonics and neutral current* – all fluorescent tube circuits produce a certain amount of harmonic distortion which increases the neutral current in a 3-phase 4-wire system. Where the fluorescent lighting forms a large part of the electrical load, a full-size neutral must be used and the main 4-core distribution cables should have their current rating reduced by a factor of 17 per cent.
- 5 *Gear noise* – all control gear having a laminated iron core will produce noise due to the magnetisation of the laminations. The noise level varies according to the type of circuit and the wattage rating. Although all Thorn control gear is suitable for use in offices and factories having a normal background noise level, this control gear could become audible when the ambient noise becomes reduced, eg in an office outside normal working hours. Advice should be sought regarding suitable gear for use in exceptionally quiet locations. *The method of mounting the fitting and the surface on which it is fixed plays a very important part in securing satisfactory operation in difficult conditions.*

- 6 *Radio and television interference* – fluorescent tubes emit a certain amount of high frequency radiation particularly near end of life which can be picked up by radio and television sets. If the tube is more than 8 to 10 feet from a set which has a good outdoor aerial with a screened lead, interference is not normally experienced. Care should be taken, however, when using portable radios or television sets with indoor aerials close to the fluorescent tube.
- 7 When control gear is not enclosed within a lighting fitting, it is recommended that it should be mounted on a non-combustible material in accordance with the IEE 'Regulations for the Electrical Equipment of Buildings'.

For more detailed information on installation and maintenance of fluorescent lighting equipment, see the Thorn Technical Pocket-book.

CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube	1 × 8ft 125W	1 × 8ft 125W	1 × 8ft 125W	1 × 8ft 125W	1 × 8ft 125W
Circuit	Switchstart	Switchstart	Quickstart	Switchstart	Quickstart
Type of control gear	LPF choke	LPF choke	LPF choke	HPF ballast	LPF ballast
Circuit diagram (see opp.)	2	2	5	13	174

CHOKE OR BALLAST

Catalogue No.	CU/125	CI/125	CQI/125	AME 63219-4	BQI/125
Weight	4lb 1-8kg	4-5lb 1-9kg	4-5lb 1-9kg	5-75lb 2-6kg	8-75lb 3-4kg
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Illustrated type (see opp.)	Type B1	Type A1	Type A1	Type M1	Type K4
Can colour	White	Black	Black	White	White
Terminals	Screw	Pin	Pin	Screw	Screw

CAPACITOR

Catalogue No.	AME C2173	AME C2173	AME C2228	Included in ballast	AME C2228
Capacitance μ F	7-2 \pm 5%	7-2 \pm 5%	7-8 \pm 5%	—	7-8 \pm 5%
Volts rating	440V	440V	440V	—	440V
Length (inc. terminals)	9in 229mm	9in 229mm	9in 229mm	—	9in 229mm
Diameter	1 1/2in 38mm	1 1/2in 38mm	1 1/2in 38mm	—	1 1/2in 38mm
Terminals*	Pin	Pin	Pin	—	Pin
Fixing clips	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245	—	AME Y5244 and AME Y5245

STARTER SWITCH

Catalogue No.	155/800	155/800	—	155/800†	—
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SWITCH SOCKET

Catalogue No.	AME A5019/X	AME A5019/X	—	Included in ballast	—
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QUICKSTART UNIT

Catalogue No.	—	—	QS/125	—	Included in ballast
Weight	—	—	4-5lb 1-9kg	—	—
Filling	—	—	Polyester resin	—	—
Illustrated type (see opp.)	—	—	Type N	—	—
Can colour	—	—	Black	—	—
Terminals	—	—	Pin	—	—

FUSE

1 tube — rating	3A	3A	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299	AME T1299	AME T1299
2 tube — rating	3A	3A	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299	AME T1299	AME T1299
3 tube — rating	3A	3A	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299	AME T1299	AME T1299
4 tube — rating	5A	5A	5A	5A	5A
Catalogue No.	AME T1268	AME T1268	AME T1268	AME T1268	AME T1268

Other choke or ballast voltage ratings available

200/210V 50Hz	Not available	Not available	AME 42355 step-up transformer with CQI/125	Not available	AME 42355 step-up transformer with BQI/125
220V 50Hz	AME 42343 step-up transformer with CU/125	AME 42350 step-up transformer with CI/125	AME 42350 step-up transformer with CQI/125	Not available	AME 42350 step-up transformer with BQI/125
250V 50Hz	Not available	Not available	Not available	Not available	AME 63217-5

†Order starter switches separately

*See page 256 for other types

See page 256 for full capacitor details

See page 255 for full starter switch details

See page 260 for full starter socket details

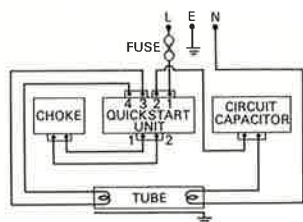
See page 253 for full extent of ballast range

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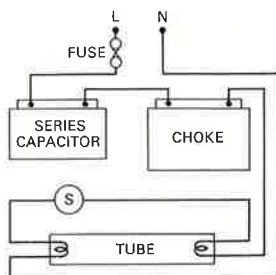
8ft 125W tubes

CIRCUIT DIAGRAMS

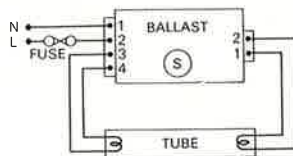
5 Quickstart circuit with separate choke and essential circuit capacitor



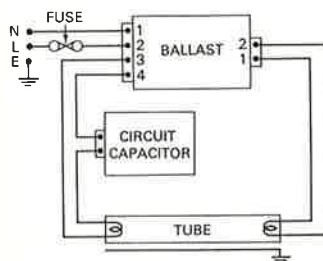
2 Leading power factor starter switch circuit with essential series capacitor



13 Starter switch circuit for HPF ballast



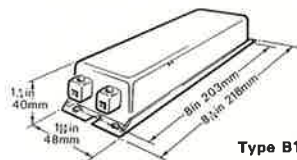
174 Quickstart circuit for LPF ballast with essential circuit capacitor



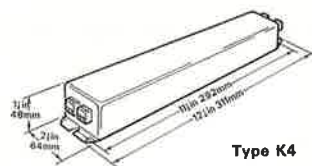
CONTROL GEAR TYPES



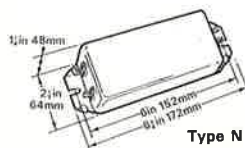
Type A1



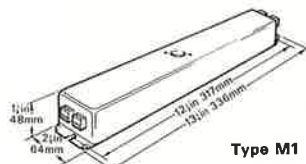
Type B1



Type K4



Type N



Type M1

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8ft 85W and 6ft 85W tubes

CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube(s)	1 × 8ft 85W	2 × 8ft 85W	1 × 6ft 85W	1 × 6ft 85W	1 × 6ft 85W
Circuit	Quickstart	Twinstart	Switchstart	Semi-resonant start	Semi-resonant start
Type of control gear	LPF ballast	HPF ballast	LPF choke	LPF ballast	LPF ballast
Circuit diagram (see opp.)	4	6	1	7	7

CHOKE OR BALLAST

Catalogue No.	BQI/85	BV/285	CU/685	BI/685	BU/685
Weight	6.5lb 2.2kg	11.5lb 5.2kg	4lb 1.8kg	4lb 1.8kg	4lb 1.8kg
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Illustrated type (see opp.)	Type L1	Type P	Type B2	Type L2	Type C
Can colour	White	Black	Black	White	White
Terminals	Pin	Screw	Pin	Pin	Pin

CAPACITOR

Catalogue No.	AME C2226	Included in ballast	AME C2223	AME C2220	AME C2220
Capacitance μ F	5 \pm 5%	—	6 \pm 10%	8.4 \pm 5%	8.4 \pm 5%
Volts rating	440V	—	250V	250V	250V
Length (inc. terminals)	7 $\frac{1}{2}$ in 184mm	—	4 $\frac{1}{2}$ in 108mm	5 $\frac{1}{2}$ in 130mm	5 $\frac{1}{2}$ in 130mm
Diameter	1 $\frac{1}{2}$ in 38mm	—	1 $\frac{1}{2}$ in 38mm	1 $\frac{1}{2}$ in 38mm	1 $\frac{1}{2}$ in 38mm
Terminals*	Pin	—	Pin	Pin	Pin
Fused or unfused*	Unfused	—	Fused	Unfused	Unfused
Fixing clips	AME Y5244 and AME Y5245	—	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245

STARTER SWITCH

Catalogue No.	—	—	155/800	—	—
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SWITCH SOCKET

Catalogue No.	—	—	AME A5019/X	—	—
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FUSE

1 tube—rating	3A	—	3A	1.25A	1.25A
Catalogue No.	AME T1299	—	AME T1299	AME T1342	AME T1342
2 tube—rating	3A	3A	3A	1.25A	1.25A
Catalogue No.	AME T1299	AME T1299	AME T1299	AME T1342	AME T1342
3 tube—rating	3A	—	3A	2 × 1.25A	2 × 1.25A
Catalogue No.	AME T1299	—	AME T1299	2 × AME T1342	2 × AME T1342
4 tube—rating	3A	3A	5A	2 × 1.25A	2 × 1.25A
Catalogue No.	AME T1299	AME T1299	AME T1268	2 × AME T1342	2 × AME T1342

Other choke or ballast voltage ratings available

200/210V 50Hz	AME 42355 step-up transformer with BQI/85	Not available	AME 69229-1	Not available	Not available
220V 50Hz	AME 42350 step-up transformer with BQI/85	AME 69222-2	AME 42350 step-up transformer with CU/685	AME 69232-2	AME 69280-2†
250V 50Hz	AME 69190-5	AME 63213-5	AME 69229-5	Not available	AME 69204-5

*See page 256 for other types

†This unit has screw terminals and must be used with capacitor AME C2289 (10 μ F \pm 5%)

See page 256 for full capacitor details

See page 255 for full starter switch details

See page 260 for full starter socket details

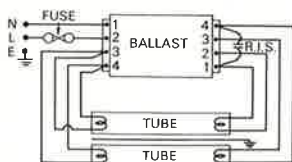
See page 253 for full extent of ballast range

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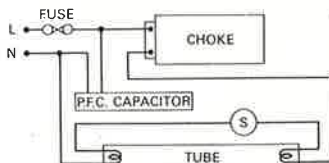
8ft 85W and 6ft 85W tubes

CIRCUIT DIAGRAMS

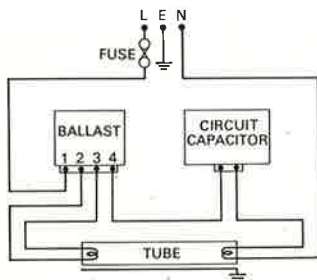
6 8ft 85W Twinstart circuit



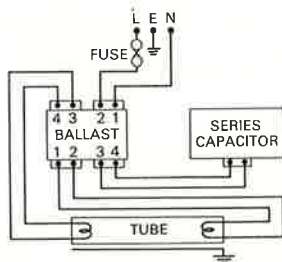
1 Standard starter switch circuit for 6ft 85W with optional PFC capacitor



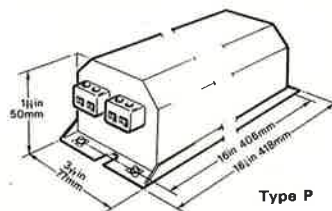
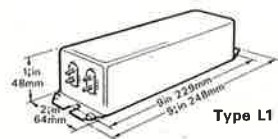
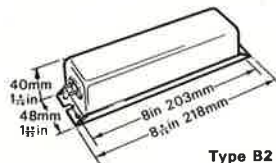
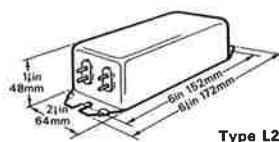
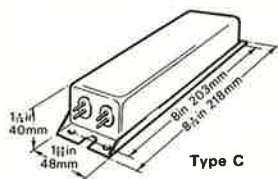
7 Semi-resonant start circuit for 6ft 85W with essential circuit capacitor



4 Single 8ft 85W Quickstart circuit Combined choke and transformer with essential series capacitor



CONTROL GEAR TYPES



CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube	1 × 5ft 80W	1 × 5ft 80W	1 × 5ft 80W	1 × 5ft 80W
Circuit	Switchstart	Quickstart	Switchstart	Semi-resonant start
Type of control gear	LPF choke	LPF choke	HPF ballast	HPF ballast
Circuit diagram (see opp.)	1	8	13	16

CHOKO OR BALLAST

Catalogue No.	CI/80	CI/80	AME 68028-4	AME 68041-4
Weight	4-25lb 1-9kg	4-25lb 1-9kg	5-25lb 2-4kg	6-75lb 3kg
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Illustrated type (see opp.)	Type A2	Type A2	Type M2	Type K1
Can colour	White	White	White	White
Terminals	Screw	Screw	Screw	Screw

CAPACITOR

Catalogue No.	AME C2222	AME C2222	Included in ballast	Included in ballast
Capacitance μ F	8 \pm 10%	8 \pm 10%	—	—
Volts rating	250V	250V	—	—
Length (inc. terminals)	5in 127mm	5in 127mm	—	—
Diameter	1½in 38mm	1½in 38mm	—	—
Terminals*	Pin	Pin	—	—
Fused or unfused*	Unfused	Unfused	—	—
Fixing clips	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245	—	—

STARTER SWITCH

Catalogue No.	155/500	—	155/500‡	—
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SWITCH SOCKET

Catalogue No.	AME A5019/X	—	Included in ballast	—
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QUICKSTART UNIT

Catalogue No.	—	QS/80	—	—
Weight	—	2-25lb 1kg	—	—
Filling	—	Polyester resin	—	—
Illustrated type (see opp.)	—	Type O1	—	—
Can colour	—	Black	—	—
Terminals	—	Screw	—	—

FUSE

1 tube—rating	3A	3A	3A	1-25A
Catalogue No.	AME T1299	AME T1299	AME T1299	AME T1342
2 tube—rating	3A	3A	3A	1-25A
Catalogue No.	AME T1299	AME T1299	AME T1299	AME T1342
3 tube—rating	3A	3A	3A	2 × 1-25A
Catalogue No.	AME T1299	AME T1299	AME T1299	2 × AME T1342
4 tube—rating	5A	5A	5A	2 × 1-25A
Catalogue No.	AME T1268	AME T1268	AME T1268	2 × AME T1342

Other choke or ballast voltage ratings available

200/210V 50Hz	CI/80	CI/80	Not available	Not available
220/230V 50Hz	CI/80	CI/80	Not available	Not available
240/250V 50Hz	CI/80	CI/80	Not available	Not available

‡ Starter switch to be ordered separately

* See page 256 for other types

See page 256 for full capacitor details

See page 255 for full starter switch details

See page 260 for full starter socket details

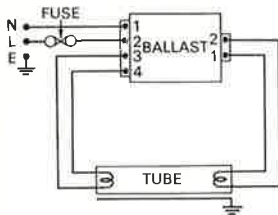
See page 253 for full extent of ballast range

thorn

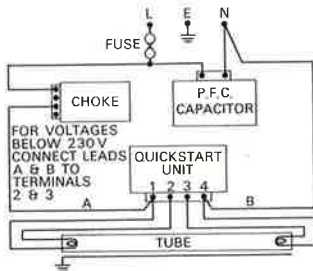
5ft 80W tubes

CIRCUIT DIAGRAMS

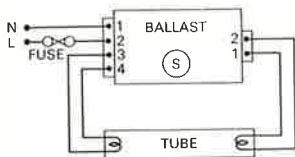
16 HPF ballast (SRS circuit)



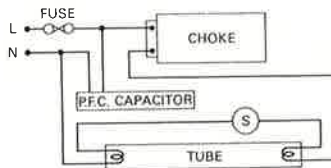
8 Tapped quickstart transformer circuit with optional PFC capacitor



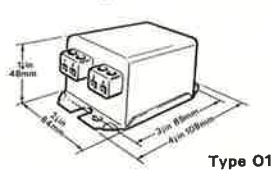
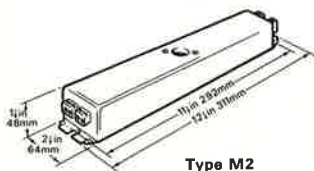
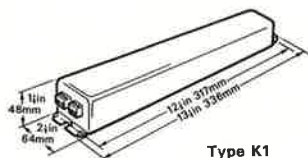
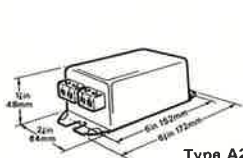
13 Starter switch circuit for HPF ballast



1 Standard starter switch circuit with optional PFC capacitor



CONTROL GEAR TYPES



CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube	1 × 5ft 65W	1 × 5ft 65W	1 × 5ft 65W	1 × 5ft 65W	1 × 5ft 65W
Circuit	Switchstart	Semi-resonant start	Semi-resonant start	Switchstart	Semi-resonant start
Type of control gear	LPF choke	LPF ballast	LPF ballast	HPF ballast	HPF ballast
Circuit diagram (see opp.)	1	7	7	13	16

CHOKE OR BALLAST

Catalogue No.	CU/65	BI/65	BU/65	AME 68061-4	AME 69161-4
Weight	2.75lb 1.2kg	4.25lb 1.9kg	4lb 1.8kg	4lb 1.8kg	6.5lb 2.95kg
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Illustrated type (see opp.)	Type B3	Type L2	Type C	Type M3	Type K2
Can colour	White	White	Black	White	White
Terminals	Screw	Pin	Pin	Screw	Screw

CAPACITOR

Catalogue No.	AME C2245	AME C2220	AME C2220	Included in ballast	Included in ballast
Capacitance μ F	5 \pm 10%	8.4 \pm 5%	8.4 \pm 5%	—	—
Volts rating	250V	250V	250V	—	—
Length (inc. terminals)	4 $\frac{1}{2}$ in 108mm	5 $\frac{1}{2}$ in 130mm	5 $\frac{1}{2}$ in 130mm	—	—
Diameter	1 $\frac{1}{2}$ in 38mm	1 $\frac{1}{2}$ in 38mm	1 $\frac{1}{2}$ in 38mm	—	—
Terminals*	Pin	Pin	Pin	—	—
Fused or unfused*	Fused	Unfused	Unfused	—	—
Fixing clips	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245	—	—

STARTER SWITCH

Catalogue No.	155/500	—	—	155/500‡	—
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SWITCH SOCKET

Catalogue No.	AME A5019/X	—	—	Included in ballast	—
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FUSE

1 tube — rating	3A	1.25A	1.25A	3A	1.25A
Catalogue No.	AME T1299	AME T1342	AME T1342	AME T1299	AME T1342
2 tube — rating	3A	1.25A	1.25A	3A	1.25A
Catalogue No.	AME T1299	AME T1342	AME T1342	AME T1299	AME T1342
3 tube — rating	3A	2 × 1.25A	2 × 1.25A	3A	2 × 1.25A
Catalogue No.	AME T1299	2 × AME T1342	2 × AME T1342	AME T1299	2 × AME T1342
4 tube — rating	3A	2 × 1.25A	2 × 1.25A	3A	2 × 1.25A
Catalogue No.	AME T1299	2 × AME T1342	2 × AME T1342	AME T1299	2 × AME T1342

Other choke or ballast voltage ratings available

200/210V 50Hz	AME 69046-1	AME 69163-1	AME 69193-1	Not available	Not available
220V 50Hz	AME 69046-2	BI/685	AME 69244-2	AME 68061-2	AME 69161-2
250V 50Hz	AME 69046-5	AME 69163-5	AME 69193-5	Not available	Not available

‡ Starter switch to be ordered separately

* See page 256 for other types

See page 266 for full capacitor details

See page 255 for full starter switch details

See page 260 for full starter socket details

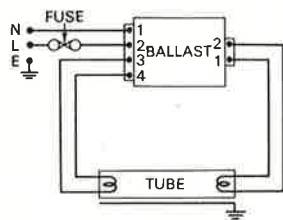
See page 253 for full extent of ballast range

thorn

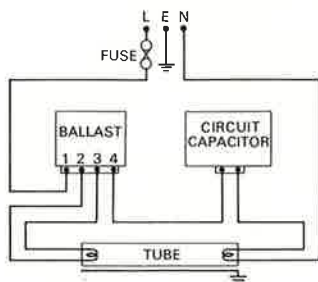
5ft 65W tubes

CIRCUIT DIAGRAMS

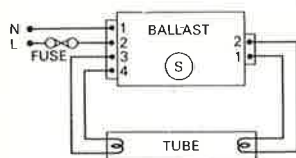
16 HPF ballast (SRS circuit)



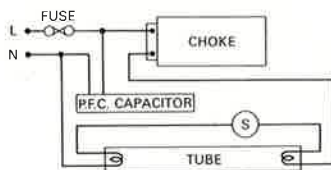
7 Semi-resonant start circuit with essential circuit capacitor



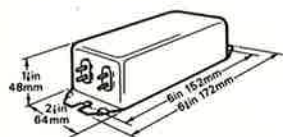
13 Starter switch circuit for HPF ballast



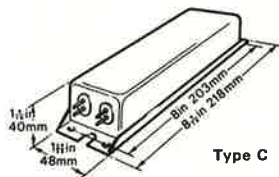
1 Standard starter switch circuit with optional PFC capacitor



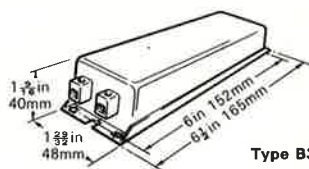
CONTROL GEAR TYPES



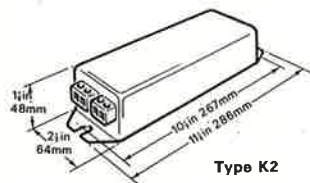
Type L2



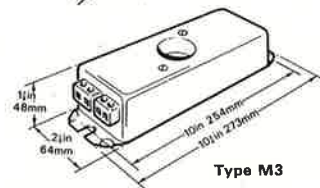
Type C



Type B3



Type K2



Type M3

thorn

5ft 50W and 4ft 40W tubes

CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube	1 × 5ft 50W	1 × 4ft 40W	1 × 4ft 40W	1 × 4ft 40W	1 × 4ft 40W
Circuit	Switchstart	Switchstart	Quickstart	Switchstart	Quickstart
Type of control gear	LPF choke	LPF choke	LPF choke	HPF ballast	HPF ballast
Circuit diagram (see opp.)	2	1	8	13	14

CHOKE OR BALLAST

Catalogue No.	CJ/50	CU/40	CU/40	AME 69054-4	AME 69064-4
Weight	1-875lb 0-8kg	2lb 0-9kg	2lb 0-9kg	2-5lb 1-1kg	3-5lb 1-6kg
Filling	Varnish	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Illustrated type (see opp.)	Type E1	Type B4	Type B4	Type D1	Type H1
Can colour	Natural varnish	White	White	White	White
Terminals	Screw	Pin	Pin	Screw	Screw

CAPACITOR

Catalogue No.	AME C2229	AME C2224	AME C2224	Included in ballast	Included in ballast
Capacitance μ F	2-85 \pm 5%	3-5 \pm 10%	3-5 \pm 10%	—	—
Volts rating	440V	250V	250V	—	—
Length (inc. terminals)	7 $\frac{1}{2}$ in 184mm	3 $\frac{3}{8}$ in 86mm	3 $\frac{3}{8}$ in 86mm	—	—
Diameter	1 $\frac{1}{2}$ in 32mm	1 $\frac{1}{2}$ in 38mm	1 $\frac{1}{2}$ in 38mm	—	—
Terminals*	Pin	Pin	Pin	—	—
Fused or unfused	Unfused	Unfused	Unfused	—	—
Fixing clips	AME Y5259§	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245	—	—

STARTER SWITCH

Catalogue No.	155/501	155/400	—	155/400‡	—
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SWITCH SOCKET

Catalogue No.	AME A5016	AME A5019/X	—	Included in ballast	—
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QUICKSTART UNIT

Catalogue No.	—	—	QS/40	—	Included in ballast
Weight	—	—	2lb 0-9kg	—	—
Filling	—	—	Polyester resin	—	—
Illustrated type (see opp.)	—	—	Type O3	—	—
Can colour	—	—	White	—	—
Terminals	—	—	Screw	—	—

FUSE

1 tube – rating	3A	3A	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299	AME T1299	AME T1299
2 tube – rating	3A	3A	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299	AME T1299	AME T1299
3 tube – rating	3A	3A	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299	AME T1299	AME T1299
4 tube – rating	3A	3A	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299	AME T1299	AME T1299

Other choke or ballast voltage ratings available

200/210V 50Hz	Not available	AME 69057-1 †	AME 69057-1 †	Not available	Not available
220V 50Hz	Not available	AME 62999-2**	AME 62999-2**	AME 69054-2	Not available
250V 50Hz	Not available	AME 69057-5 †	AME 69057-5 †	Not available	Not available

‡ Starter switch to be ordered separately

* See page 256 for other types

** This unit has screw terminals

† These units are in black cans

§ For use in Arrowslim fittings only

See page 256 for full capacitor details

See page 255 for full starter switch details

See page 260 for full starter socket details

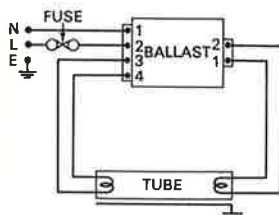
See page 253 for full extent of ballast range

thorn

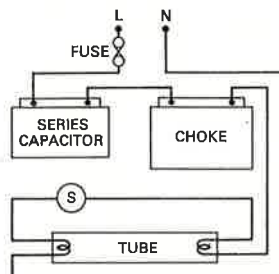
5ft 50W and 4ft 40W tubes

CIRCUIT DIAGRAMS

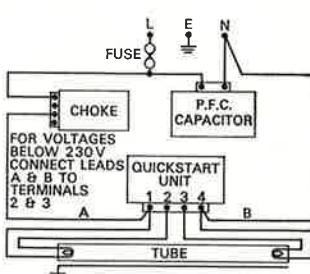
14 Quickstart circuit for 4ft 40W HPF ballast



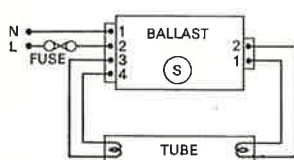
2 Leading power factor starter switch circuit for 5ft 50W with essential series capacitor



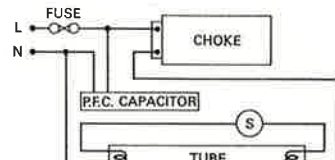
8 Tapped quickstart transformer circuit with optional PFC capacitor for 4ft 40W



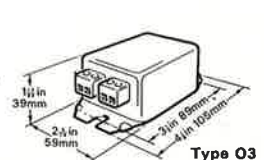
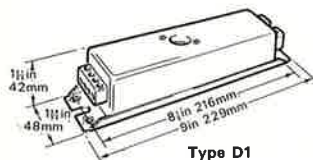
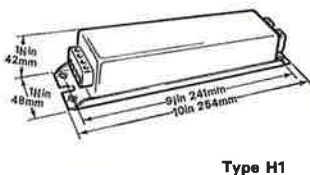
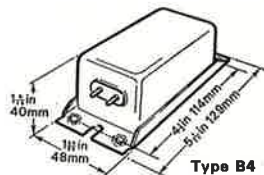
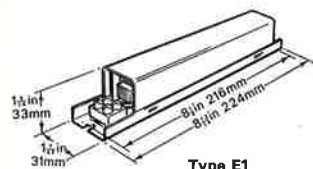
13 Starter switch circuit for 4ft 40W HPF ballast



1 Standard starter switch circuit with optional PFC capacitor for 4ft 40W



CONTROL GEAR TYPES



thorn

22W, 32W and 40W circular tubes

CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube	16in dia, 40W	12in dia, 32W	1 × 8½in dia, 22W
Circuit	Switchstart	Switchstart	Switchstart
Type of control gear	LPF choke	LPF choke	LPF choke
Circuit diagram (see opp.)	216	216	216

CHOKE OR BALLAST

Catalogue No.	CU/40	CU/30	CU/20
Weight	2lb 0.9kg	2lb 0.9kg	2lb 0.9kg
Filling	Polyester resin	Polyester resin	Polyester resin
Illustrated type (see opp.)	Type B4	Type B4	Type B4
Can colour	White	White	White
Terminals	Pin	Pin	Pin

CAPACITOR

Catalogue No.	AME C2224	AME C2224	AME C2224
Capacitance μ F	3.5 ± 10%	3.5 ± 10%	3.5 ± 10%
Working volts	250V	250V	250V
Length (inc. terminals)	3½in 86mm	3½in 86mm	3½in 86mm
Diameter	1½in 38mm	1½in 38mm	1½in 38mm
Terminals*	Pin	Pin	Pin
Fused or unfused*	Unfused	Unfused	Unfused
Fixing clips	AME Y5244 + AME Y5245	AME Y5244 + AME Y5245	AME Y5244 + AME Y5245

STARTER SWITCH

Catalogue No.	155/400	155/400	155/200
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SWITCH SOCKET

Catalogue No.	AME A5019/X	AME A5019/X	AME A5019/X
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FUSE

1 tube – rating	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299
2 tube – rating	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299
3 tube – rating	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299
4 tube – rating	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299

Other choke or ballast voltage ratings available

200/210V 50Hz	AME 69057-1 †	Not available	AME 69058-1 †
220V 50Hz	AME 62999-2 **	AME 62990-2 **	AME 62993-2 **
250V 50Hz	AME 69057-5 †	Not available	AME 69058-5 †

*See page 256 for other types

†These units are in black cans

**These units have screw terminals

See page 258 for full capacitor details

See page 255 for full starter switch details

See page 260 for full starter socket details

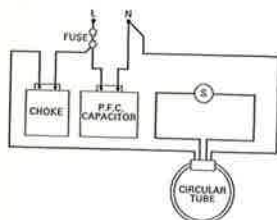
See page 253 for full extent of ballast range

thorn

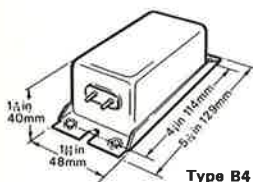
22W, 32W and 40W circular tubes

CIRCUIT DIAGRAMS

216 Starter switch circuit for circular tube
with optional PFC capacitor



CONTROL GEAR TYPES



CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube	1 × 3ft 30W 1in and 1½in dia. Switchstart LPF choke	1 × 3ft 30W 1in and 1½in dia. Switchstart LPF choke	1 × 3ft 30W 1in and 1½in dia. Quickstart HPF ballast	1 × 3ft 30W 1in and 1½in dia. Switchstart HPF ballast
Circuit	1	1	14	13
Type of control gear	LPF choke	LPF choke	HPF ballast	HPF ballast
Circuit diagram (see opp.)	1	1	14	13

CHOKES OR BALLAST

Catalogue No.	CU/30	CJ/30	AME 69063-4	AME 69053-4
Weight	2lb 0.9kg	1.875lb 0.8kg	3.5lb 1.6kg	2.5lb 1.1kg
Filling	Polyester resin	Varnish	Polyester resin	Polyester resin
Illustrated type (see opp.)	Type B4	Type E2	Type H1	Type D1
Can colour	White	Natural varnish	White	White
Terminals	Pin	Screw	Screw	Screw

CAPACITOR

Catalogue No.	AME C2224 †	AME C2227	Included in ballast	Included in ballast
Capacitance µF	3.5 ± 10%	3 ± 10%	—	—
Volts rating	250V	250V	—	—
Length (inc. terminals)	3½in 86mm	4½in 107mm	—	—
Diameter	1½in 38mm	1½in 32mm	—	—
Terminals*	Pin	Pin	—	—
Fused or unfused*	Unfused	Fused	—	—
Fixing clips	AME Y6244 and AME Y5254	AME Y5259§	—	—

STARTER SWITCH

Catalogue No.	155/400	155/400	—	155/400 ‡
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SWITCH SOCKET

Catalogue No.	AME A5019/X	AME A5016	—	Included in ballast
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FUSE

1 tube – rating	3A	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299	AME T1299
2 tube – rating	3A	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299	AME T1299
3 tube – rating	3A	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299	AME T1299
4 tube – rating	3A	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299	AME T1299

Other choke or ballast voltage ratings available

200/210V 50Hz	Not available	Not available	Not available	Not available
220V 50Hz	AME 62990-2 †	AME 66051-2	Not available	Not available
250V 50Hz	Not available	Not available	Not available	Not available

‡ Starter switch to be ordered separately

* See page 256 for other types

† This choke has screw terminals

§ For use in Arrowslim fitting only

See page 256 for full capacitor details

See page 255 for full starter switch details

See page 260 for full starter socket details

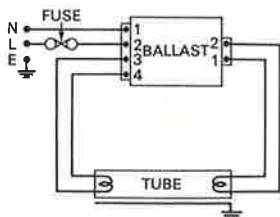
See page 253 for full extent of ballast range

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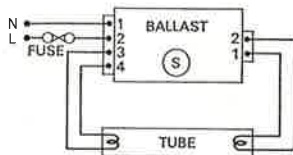
3ft 30W tubes

CIRCUIT DIAGRAMS

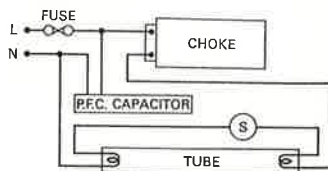
14 Quickstart circuit for HPF ballast



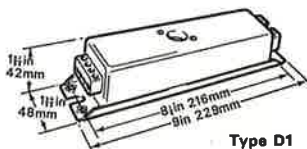
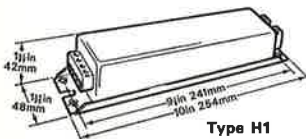
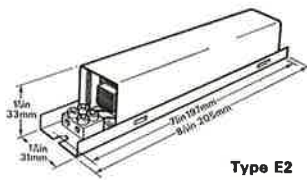
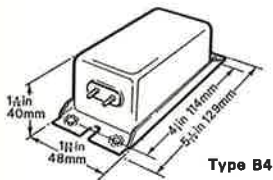
13 Starter switch circuit for HPF ballast



1 Standard starter switch circuit with optional PFC capacitor



CONTROL GEAR TYPES



thorn

Twin 2ft 40W tubes

CONTROL GEAR FOR 240V 50Hz SUPPLY

Tubes	2 × 2ft 40W	2 × 2ft 40W	2 × 2ft 40W	2 × 2ft 40W
Circuit	Switchstart	Quickstart	Quickstart	Quickstart
Type of control gear	LPF choke	LPF choke	HPF ballast	LPF ballast
Circuit diagram (see opp.)	10	11	15	12

CHOKO OR BALLAST

Catalogue No.	CI/2240	CI/2240	AME 68028/4	AME 69082/4
Weight	4-25lb 1-9kg	4-25lb 1-9kg	4-75lb 2-1kg	6lb 2-7kg
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Illustrated type (see opp.)	Type A2	Type A2	Type M2	Type K3
Can colour	White	White	White	White
Terminals	Screw	Screw	Screw	Screw

CAPACITOR

Catalogue No.	AME C2222	AME C2222	—	AME C2222
Capacitance μ F	8-0 \pm 10%	8-0 \pm 10%	—	8-0 \pm 10%
Working volts	250V	250V	—	250V
Length (inc. terminals)	5in 127mm	5in 127mm	—	5in 127mm
Diameter	1½in 38mm	1½in 38mm	—	1½in 38mm
Terminals*	Pin	Pin	—	Pin
Fused or unfused*	Unfused	Unfused	—	Unfused
Fixing clips	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245	—	AME Y5244 and AME Y5245

STARTER SWITCH

Catalogue No.	2 × 155/200	—	2 × 155/200‡	—
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STARTER SOCKET

Catalogue No.	2 × AME A5019/X	—	1 × AME A5019/X	—
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QUICKSTART UNIT

Catalogue No.	—	QS 2240	—	Included in ballast
Weight	—	3-1lb 1-4kg	—	—
Filling	—	Polyester resin	—	—
Illustrated type (see opp.)	—	Type O2	—	—
Can colour	—	Black	—	—
Terminals	—	Screw	—	—

FUSE

2 tube – rating	3A	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299	AME T1299
4 tube – rating	3A	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299	AME T1299

Other choke or ballast voltage ratings available

200/210V 50Hz	CI/2240	CI/2240	Not available	Not available
220/230V 50Hz	CI/2240	CI/2240	Not available	Not available
240/250V 50Hz	CI/2240	CI/2240	Not available	Not available

‡Order starter switches separately

*See page 256 for other types

See page 256 for full capacitor details

See page 255 for full starter switch details

See page 260 for full starter socket details

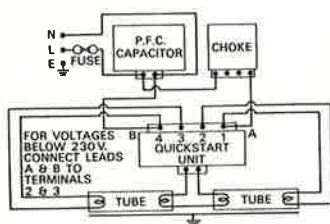
See page 253 for full extent of ballast range

thorn

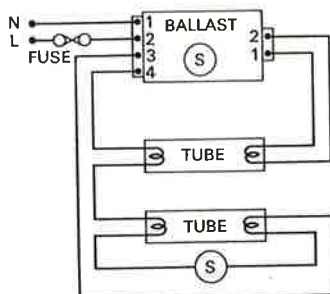
Twin 2ft 40W tubes

CIRCUIT DIAGRAMS

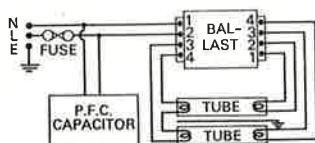
11 Twin tube Quickstart circuit with optional PFC capacitor



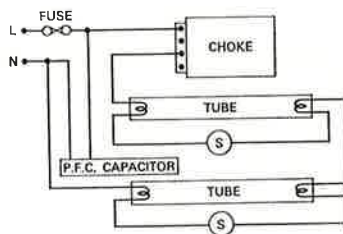
15 Twin tube starter switch circuit for HPF ballast



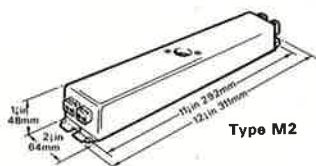
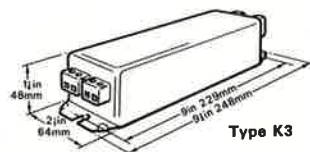
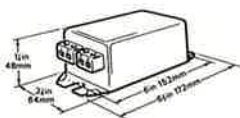
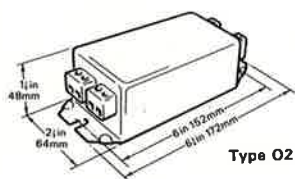
12 Twin tube Quickstart circuit for LPF ballast with optional PFC capacitor



10 Starter switch circuit for series pair tube operation with optional PFC capacitor



CONTROL GEAR TYPES



thorn

Single 2ft 40W tubes

CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube	1 × 2ft 40W	1 × 2ft 40W	1 × 2ft 40W
Circuit	Switchstart	Quickstart	Quickstart
Type of control gear	LPF choke	LPF choke	LPF ballast
Circuit diagram (see opp.)	1	8	219

CHOKE OR BALLAST

Catalogue No.	CI/240	CI/240	AME 68050-4
Weight	4.25lb 1.8kg	4.25lb 1.9kg	6.2lb 2.8kg
Filling	Polyester resin	Polyester resin	Polyester resin
Illustrated type (see opp.)	Type A2	Type A2	Type K3
Can colour	White	White	White
Terminals	Screw	Screw	Screw

CAPACITOR

Catalogue No.	AME C2222	AME C2222	AME C2222
Capacitance μ F	8 \pm 10%	8 \pm 10%	8 \pm 10%
Working volts	250V	250V	250V
Length (inc. terminals)	5in 127mm	5in 127mm	5in 127mm
Diameter	1½in 38mm	1½in 38mm	1½in 38mm
Terminals*	Pin	Pin	Pin
Fused or unfused*	Unfused	Unfused	Unfused
Fixing clips	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245

STARTER SWITCH

Catalogue No.	155/200
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STARTER SOCKET

Catalogue No.	AME A5019/X
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QUICKSTART UNIT

Catalogue No.	—	QS/80	Included in ballast
Weight	—	2.25lb 1kg	—
Filling	—	Polyester resin	—
Illustrated type (see opp.)	—	Type O1	—
Can colour	—	Black	—
Terminals	—	Screw	—

FUSE

1 tube — rating	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299
2 tube — rating	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299
3 tube — rating	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299
4 tube — rating	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299

Other choke or ballast voltage ratings available

200/210V 50Hz	CI/240	CI/240	Not available
220/230V 50Hz	CI/240	CI/240	Not available
240/250V 50Hz	CI/240	CI/240	Not available

*See page 256 for other types

See page 256 for full capacitor details

See page 255 for full starter switch details

See page 260 for full starter socket details

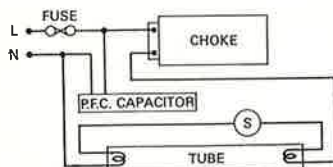
See page 253 for full extent of ballast range

thorn

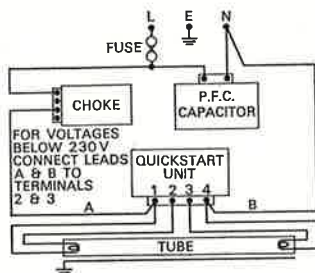
Single 2ft 40W tubes

CIRCUIT DIAGRAMS

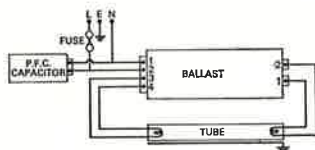
1 Standard starter switch circuit with optional PFC capacitor



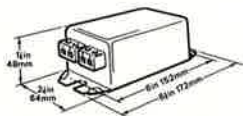
8 Tapped Quickstart transformer circuit with optional PFC capacitor



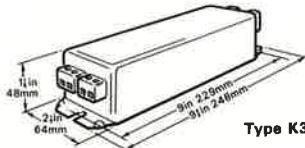
219 Quickstart circuit for LPF ballast with optional PFC capacitor



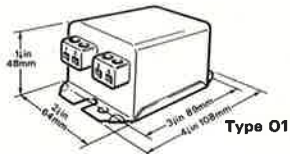
CONTROL GEAR TYPES



Type A2



Type K3



Type O1

thorn

Twin 2ft 20W tubes

CONTROL GEAR FOR 240V 50Hz SUPPLY

Tubes	2 × 2ft 20W	2 × 2ft 20W	2 × 2ft 20W	2 × 2ft 20W
Circuit	Switchstart	Quickstart	Switchstart	Quickstart
Type of control gear	LPF choke	LPF choke	HPF ballast	LPF ballast
Circuit diagram (see opp.)	10	11	15	12

CHOKER OR BALLAST

Catalogue No.	CU/40	CU/40	AME 69054-4	AME 69032-4
Weight	2lb 0.9kg	2lb 0.9kg	2.5lb 1.2kg	2.75lb 1.2kg
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Illustrated type (see opp.)	Type B4	Type B4	Type D1	Type H2
Can colour	White	White	White	White
Terminals	Pin	Pin	Screw	Screw

CAPACITOR

Catalogue No.	AME C2224	AME C2224	Included in ballast	AME C2224
Capacitance μ F	3.5 \pm 10%	3.5 \pm 10%	—	3.5 \pm 10%
Volts rating	250V	250V	—	250V
Length (inc. terminals)	3 $\frac{1}{2}$ in 86mm	3 $\frac{1}{2}$ in 86mm	—	3 $\frac{1}{2}$ in 86mm
Diameter	1 $\frac{1}{2}$ in 38mm	1 $\frac{1}{2}$ in 38mm	—	1 $\frac{1}{2}$ in 38mm
Terminals*	Pin	Pin	—	Pin
Fused or unfused*	Unfused	Unfused	—	Unfused
Fixing clips	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245	—	AME Y5244 and AME Y5245

STARTER SWITCH

Catalogue No.	2 × 155/200	—	2 × 155/200†	—
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SWITCH SOCKET

Catalogue No.	2 × AME A5019/X	—	1 × AME A5019/X	—
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QUICKSTART UNIT

Catalogue No.	—	QS/220	—	Included in ballast
Weight	—	2lb 0.9kg	—	—
Filling	—	Polyester resin	—	—
Illustrated type (see opp.)	—	Type O4	—	—
Can colour	—	White	—	—
Terminals	—	Screw	—	—

FUSE

2 tube — rating	3A	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299	AME T1299
4 tube — rating	3A	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299	AME T1299

Other choke or ballast voltage ratings available

200/210V 50Hz	AME 69057-1†	AME 69057-1†	Not available	Not available
220V 50Hz	AME 62999-2**	AME 62999-2**	AME 69054-2	Not available
250V 50Hz	AME 69057-5†	AME 69057-5†	Not available	Not available

†Order starter switches separately

*See page 256 for other types

†These units are in black cans

**This unit has screw terminals

See page 256 for full capacitor details

See page 255 for full starter switch details

See page 260 for full starter socket details

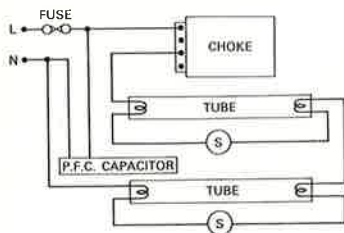
See page 253 for full extent of ballast range

thorn

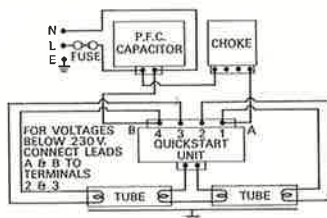
Twin 2ft 20W tubes

CIRCUIT DIAGRAMS

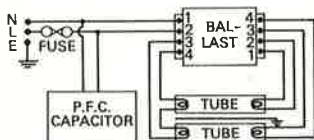
10 Starter switch circuit for series pair tube operation with optional PFC capacitor



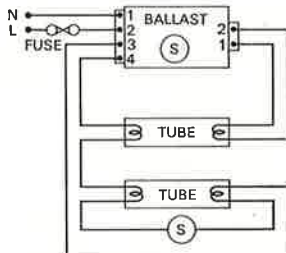
11 Twin tube Quickstart circuit with optional PFC capacitor



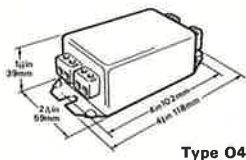
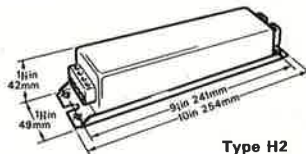
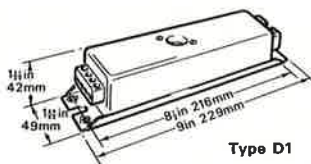
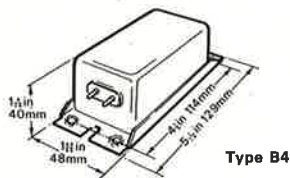
12 Twin tube Quickstart circuit for LPF ballast with optional PFC capacitor



15 Twin tube starter switch circuit for HPF ballast



CONTROL GEAR TYPES



thorn

Twin 18in 15W tubes

CONTROL GEAR FOR 240V 50Hz SUPPLY

Tubes	2 × 18in 15W 1in and 1½in dia.	2 × 18in 15W 1in and 1½in dia.	2 × 18in 15W 1in and 1½in dia.
Circuit	Switchstart	Quickstart	Switchstart
Type of control gear	LPF choke	LPF choke	HPF ballast
Circuit diagram (see opp.)	10	11	15

CHOKE OR BALLAST

Catalogue No.	CU/30	CU/30	AME 69053-4
Weight	2lb 0.9kg	2lb 0.9kg	2.5lb 1.1kg
Filling	Polyester resin	Polyester resin	Polyester resin
Illustrated type (see opp.)	Type B4	Type B4	Type D1
Can colour	White	White	White
Terminals	Pin	Pin	Screw

CAPACITOR

Catalogue No.	AME C2224	AME C2224	—
Capacitance µF	3.5 ± 10%	3.5 ± 10%	—
Volts rating	250V	250V	—
Length (inc. terminals)	3½in 86mm	3½in 86mm	—
Diameter	1½in 38mm	1½in 38mm	—
Terminals*	Pin	Pin	—
Fused or unfused*	Unfused	Unfused	—
Fixing clips	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245	—

STARTER SWITCH

Catalogue No.	2 × 155/200	—	2 × 155/200‡
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SWITCH SOCKET

Catalogue No.	2 × AME A5019/X	—	1 × AME A5019/X
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QUICKSTART UNIT

Catalogue No.	—	QS/220	—
Weight	—	2lb 0.9kg	—
Filling	—	Polyester resin	—
Illustrated type (see opp.)	—	Type O4	—
Can colour	—	White	—
Terminals	—	Screw	—

FUSE

2 tube — rating	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299
4 tube — rating	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299

Other choke or ballast voltage ratings available

200/210V 50Hz	Not available	Not available	Not available
220V 50Hz	AME 62990-2 †	AME 62990-2 †	Not available
250V 50Hz	Not available	Not available	Not available

‡ Order starter switches separately

* See page 256 for other types

† This choke has screw terminals

See page 256 for full capacitor details

See page 255 for full starter switch details

See page 260 for full starter socket details

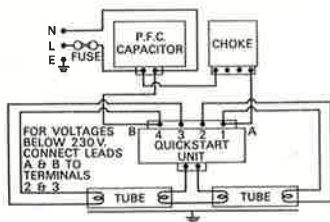
See page 253 for full extent of ballast range

thorn

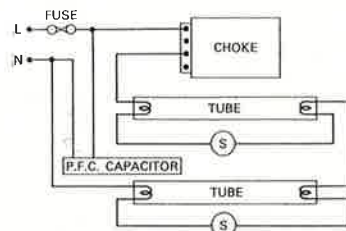
Twin 18in 15W tubes

CIRCUIT DIAGRAMS

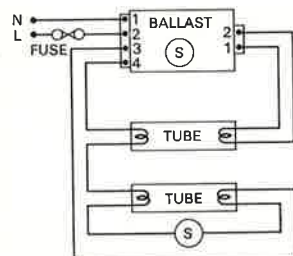
11 Twin tube Quickstart circuit with optional PFC capacitor



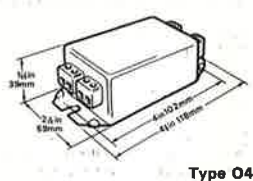
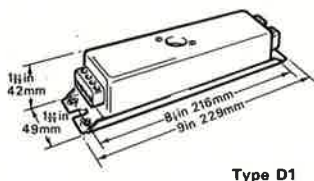
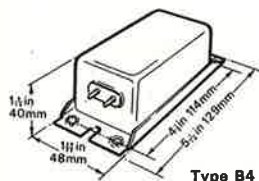
10 Starter switch circuit for series pair tube operation with optional PFC capacitor



15 Twin tube starter switch circuit for HPF ballast



CONTROL GEAR TYPES



thorn

Single 2ft 20W and 18in 15W tubes

CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube	1 × 2ft 20W or 1 × 18in 15W (1in or 1½in dia.)	1 × 2ft 20W 1 × 18in 15W (1in or 1½in dia.)	1 × 2ft 20W 1 × 18in 15W (1in or 1½in dia.)	1 × 2ft 20W 1 × 18in 15W (1in or 1½in dia.)
Circuit	Quickstart	Switchstart	Quickstart	Switchstart
Type of control gear	LPF choke	LPF choke	LPF ballast	LPF ballast
Circuit diagram (see opp.)	8	1	219	17

CHOKES OR BALLAST

Catalogue No.	CU/20	CU/20	AME 69072-4	AME 69195-4
Weight	2lb 0.9kg	2lb 0.9kg	2.5lb 1.13kg	2.25lb 1.02kg
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Illustrated type (see opp.)	Type B4	Type B4	Type H3	Type D1
Can colour	White	White	White	White
Terminals	Pin	Pin	Screw	Screw

CAPACITOR

Catalogue No.	AME C2224	AME C2224	AME C2224	AME C2224
Capacitance μ F	3.5 \pm 10%	3.5 \pm 10%	3.5 \pm 10%	3.5 \pm 10%
Working volts	250V	250V	250V	250V
Length (inc. terminals)	3½in 86mm	3½in 86mm	3½in 86mm	3½in 86mm
Diameter	1½in 38mm	1½in 38mm	1½in 38mm	1½in 38mm
Terminals*	Pin	Pin	Pin	Pin
Fused or unfused*	Unfused	Unfused	Unfused	Unfused
Fixing clips	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245

STARTER SWITCH

Catalogue No.	—	155/200	—	155/200‡
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SWITCH SOCKET

Catalogue No.	—	AME A5019/X	—	—
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QUICKSTART UNIT

Catalogue No.	QS/40	—	Included in ballast	—
Weight	2lb 0.9kg	—	—	—
Filling	Polyester resin	—	—	—
Illustrated type (see opp.)	Type O3	—	—	—
Can colour	White	—	—	—
Terminals	Screw	—	—	—

FUSE

1 tube – rating	3A	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299	AME T1299
2 tube – rating	3A	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299	AME T1299
3 tube – rating	3A	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299	AME T1299
4 tube – rating	3A	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299	AME T1299

Other choke or ballast voltage ratings available

200/210V 50Hz	AME 69058-1**	AME 69058-1**	Not available	Not available
220V 50Hz	AME 62993-2†	AME 62993-2†	Not available	Not available
250V 50Hz	AME 69058-5**	AME 69058-5**	Not available	Not available

‡Order starter switches separately

*See page 256 for other types

**These units are in black cans

†This unit has screw terminals

See page 256 for full capacitor details

See page 255 for full starter switch details

See page 260 for full starter socket details

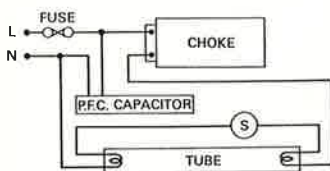
See page 253 for full extent of ballast range

thorn

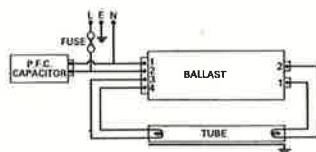
Single 2ft 20W and 18in 15W tubes

CIRCUIT DIAGRAMS

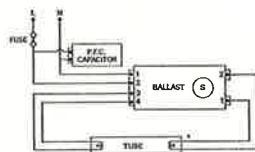
1 Standard starter switch circuit with optional PFC capacitor



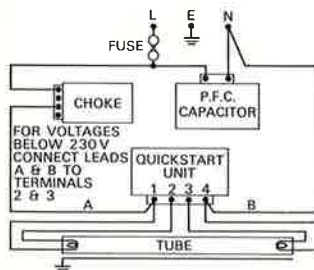
219 Quickstart circuit for LPF ballast with optional PFC capacitor



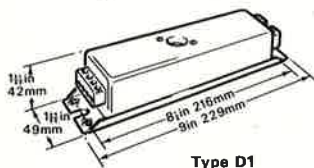
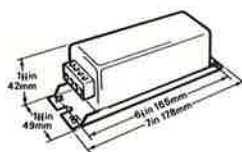
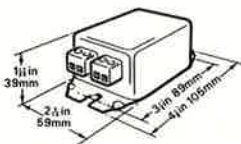
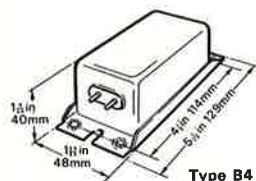
17 Starter switch circuit for LPF ballast with optional PFC capacitor



8 Tapped quickstart transformer circuit with optional PFC capacitor



CONTROL GEAR TYPES



thorn

21in 13W, 12in 8W, 9in 6W and 6in 4W tubes

CONTROL GEAR FOR 230/250V 50Hz SUPPLY

Tube(s)	1 × 21in 13W	2 × 12in 8W	2 × 6/4W	1 × 12in 8W	1 × 4/6/8/13W
Circuit	Switchstart	Switchstart	Switchstart	Switchstart	Switchstart
Type of control gear	LPF choke	LPF choke	LPF choke	LPF choke	LPF choke
Circuit diagram (see opp.)	1	10	10	1	1

CHOKE OR BALLAST

Catalogue No.	CD/13	CPX/28	CPX/8	CD/8	CPX/8
Weight	1-25lb 0-6kg	1-25lb 0-6kg	1-25lb 0-6kg	1-25lb 0-6kg	1-25lb 0-6kg
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Illustrated type (see opp.)	Type F	Type G	Type G	Type F	Type G
Can colour	White	White	White	White	White
Terminals	Leads	Leads	Leads	Leads	Leads

CAPACITOR

Catalogue No.	AME C2286	AME C2286	AME C2286	AME C2286	AME C2286
Capacitance μ F	2 \pm 10%	2 \pm 10%	2 \pm 10%	2 \pm 10%	2 \pm 10%
Working volts	250V	250V	250V	250V	250V
Length (inc. terminals)	3 $\frac{1}{2}$ in 97mm	3 $\frac{1}{2}$ in 97mm	3 $\frac{1}{2}$ in 97mm	3 $\frac{1}{2}$ in 97mm	3 $\frac{1}{2}$ in 97mm
Diameter	1in 26mm	1in 26mm	1in 26mm	1in 26mm	1in 26mm
Terminals	Solder tags	Solder tags	Solder tags	Solder tags	Solder tags
Fused or unfused	Fused	Fused	Fused	Fused	Fused
Fixing clip	AME Y5200	AME Y5200	AME Y5200	AME Y5200	AME Y5200

STARTER SWITCH

Catalogue No.	155/500	2 × 155/100†	2 × 155/100†	155/500	155/500
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SWITCH SOCKET

Catalogue No.	AME 5016	2 × AME A5019/X	2 × AME A5019/X	AME A5016	AME A5019/X
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FUSE

1 tube – rating	3A	—	—	3A	3A
Catalogue No.	AME T1299	—	—	AME T1299	AME T1299
2 tube – rating	3A	3A	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299	AME T1299	AME T1299
3 tube – rating	3A	—	—	3A	3A
Catalogue No.	AME T1299	—	—	AME T1299	AME T1299
4 tube – rating	3A	3A	3A	3A	3A
Catalogue No.	AME T1299	AME T1299	AME T1299	AME T1299	AME T1299

Other choke or ballast voltage ratings available

200/220V 50Hz	AME 69160.L	Not available	Not available	AME 69159.L	4/6/8W CPX/28 13W Use CPX/8 above
220V 50Hz	—	—	—	—	

See page 256 for full capacitor details

See page 255 for full starter switch details

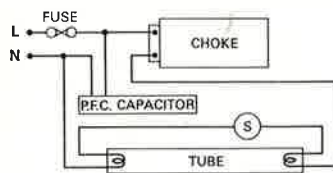
See page 260 for full starter socket details

See page 253 for full extent of ballast range

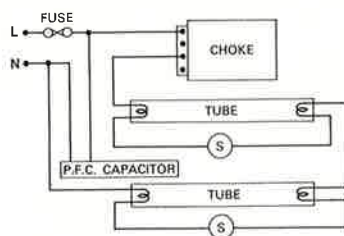
†Due to the asymmetrical construction of these switches, they must be placed in the starter switch sockets correctly orientated (i.e. if the switches refuse to operate, one must be removed and rotated through 180°)

CIRCUIT DIAGRAMS

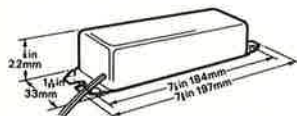
1 Standard starter switch circuit with optional PFC capacitor



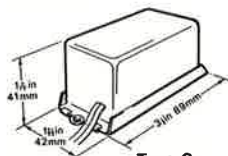
10 Starter switch circuit for series pair tube operation with optional PFC capacitor



CONTROL GEAR TYPES



Type F



Type G

thorn

Combined ballast units

A range of 240V 50Hz HPF and LPF ballasts incorporating all necessary circuit components in one can.

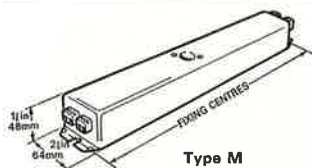
These ballasts provide completely self-contained units ideal for mounting at some distance away from the tube or, alternatively, for use adjacent to the tube when shortage of space prevents the use of a complete fluorescent fitting.

These units are ideal for mounting within interior signs, or within suitably designed exterior signs, and are also used for some showcase lighting and in certain architectural features such as alcoves, pelmets, etc.

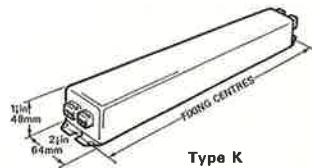
All ballasts have screw terminal connections.

When required, starter switches must be ordered separately.

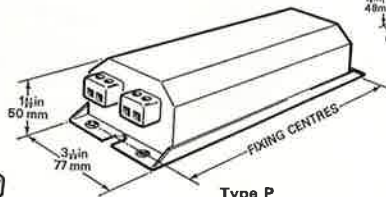
Catalogue No.	Use	Can Colour	Illustrated Type	Fixing Centres in	mm	Weight lb	kg
AME 63219-4	8ft 125W HPF SS	White	M	12½	317	5.5	2.5
AME 69194-4	8ft 125W HPF QS	White	P	16	406	10.25	4.5
AME 68028-4	6ft 85W/5ft 80W/2 × 2ft 40W HPF SS	White	M	11½	292	5.1	2.3
AME 68041-4	5ft 80W HPF SRS	White	K	12½	317	6.2	2.6
AME 68061-4	5ft 65W HPF SS	White	M	10	254	4.25	1.9
AME 69161-4	5ft 65W HPF SRS	White	K	10½	267	4.75	2.2
AME 69090-4	5ft 50W HPF SRS	White	H	10½	267	3.5	1.6
AME 69054-4	4ft 40W/2 × 2ft 20W HPF SS	White	D	8½	216	2.5	1.2
AME 69064-4	4ft 40W HPF QS	White	H	9½	241	3.25	1.5
AME 69053-4	3ft 30W/2 × 18in 15W HPF SS	White	D	8½	216	2.5	1.2
AME 69063-4	3ft 30W HPF QS	White	H	9½	241	3.25	1.5
AME 68050-4	2ft 40W LPF QS	White	K	9	229	6.2	2.8
AME 69082-4	2 × 2ft 40W LPF QS	White	K	9	229	6.0	2.7
AME 69195-4	2ft 20W/18in 15W LPF SS	White	D	8½	216	2.2	1.0
AME 69072-4	2ft 20W/18in 15W LPF QS	White	H	6½	165	2.75	1.3
AME 69032-4	2 × 2ft 20W LPF QS	White	H	7½	190	3.0	1.4



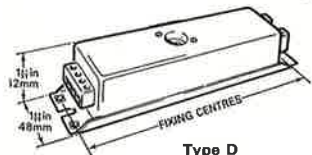
Type M



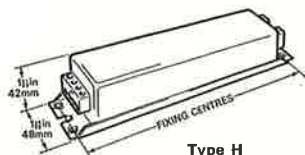
Type K



Type P



Type D



Type H

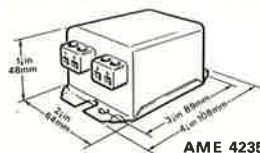
thorn

Voltage transformers and emergency lighting

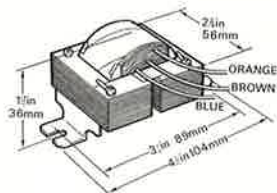
SUPPLY VOLTAGE STEP-UP TRANSFORMERS

(used in conjunction with 240V circuits)

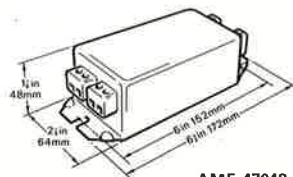
Catalogue No.	AME 42343	AME 42350	AME 42355	AME 47048
Voltage input	220V	220V	200/210V	110V
Max. tube length, wattage and circuit	8ft 125W SS — —	8ft 125W SS 8ft 125W QS 8ft 85W QS 6ft 85W SRS	8ft 125W QS 8ft 85W QS 6ft 85W SRS —	5ft 80W SS 5ft 65W SS/SRS 4ft 40W SS/QS —
Weight	1lb 0-45kg	2lb 0-9kg	2lb 0-9kg	4-125lb 1-86kg
Insulation	Varnish	Polyester resin	Polyester resin	Polyester resin
Can colour	Natural	Black	Black	White
Terminals	Leads	Screw	Screw	Screw



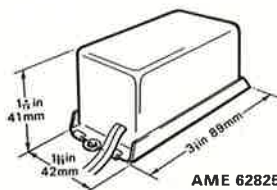
**AME 42350
AME 42355**



LENGTH OF LEADS 12in 305mm
AME 42343



AME 47048



**AME 62825
AME 62824**

CONVERSION CHOKES (50Hz supply)

Used in series with 200/210V choke on 240/250V supply

Catalogue No.	Tube	Weight lb	kg	Insulation	Can colour	Terminals
AME 62825	5ft 80W	1 1/4	0-57	Polyester resin	White	Leads
AME 62824	4ft 40W	1 1/4	0-57	Polyester resin	White	Leads

EMERGENCY LIGHTING SYSTEM FOR USE WITH TRANSISTORISED FLUORESCENT FITTINGS

Automatic emergency lighting prevents hazards and panic should the mains supply fail. Atlas Transistorised Miniature fittings with an efficiency three to four times greater than the corresponding tungsten lamps make the maximum use of standby batteries.

Catalogue No. AME R2463

A fully automatic 12V battery charger complete with mains hold-off relay.

Suitable for use with

6 – 13W 21in Transistorised Miniature fittings or

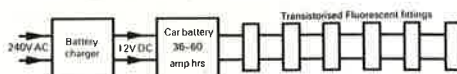
8 – 8W 12in Transistorised Miniature fittings

Dimensions – Length 12 3/8in (289mm)

Height 7 3/8in (197mm)

Depth 4 5/8in (124mm)

See separate catalogue for details of miniature fluorescent fittings.



thorn

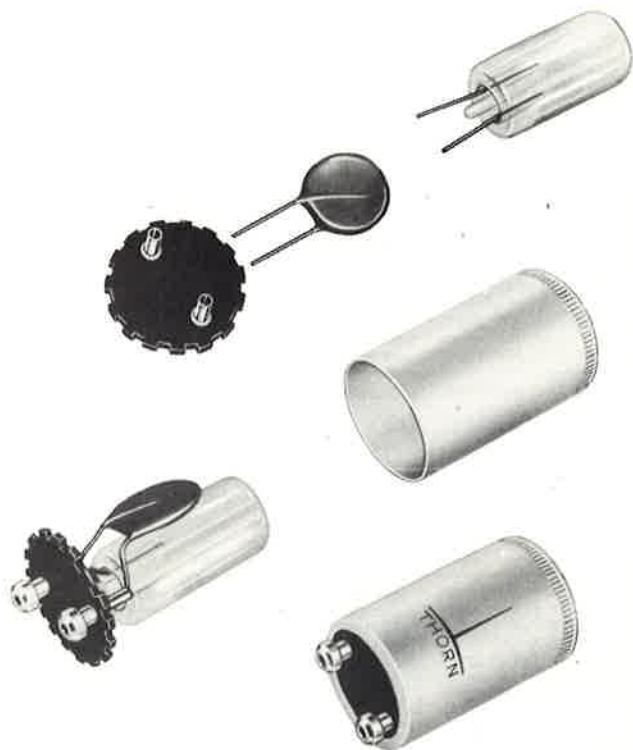
Starter switches

This range of starter switches in plastic canisters incorporates constructional features resulting in switches of high quality, reliability and appearance.

CONSTRUCTIONAL FEATURES

- A** A high temperature grade of matt white polypropylene is used for the canister with brand detail in distinctive black ink. The canister is inherently electrically safe and non-corrodible. The plastic moulding is tremendously tough, difficult to squash, virtually unbreakable and cannot be dented. Plastic can switches are electrically and mechanically interchangeable with metal can types of equivalent rating.
- B** Solid pins are secured to the insulated base disc and solderless junctions connect these pins to the interior wiring.
- C** A ceramic disc type radio interference suppression capacitor is fitted internally to each canister. This type of RIS capacitor is far superior to the 'waxed paper and foil' type, since short circuit faults have been eliminated as a possible cause of failure.

The various stages in the production of standard Thorn Glowswitch starter switches are summarised in the illustration. Individual components are welded together to form the bimetal contact assembly. After the completed glow-bottle is sealed off the lead wires of the bottle and ceramic disc suppressor are clamped inside the terminals. The plastic canister is then shrunk on to the insulated base disc. The serrated edge of the base disc combines with the plastic canister to give a strongly bonded seal.



RANGE

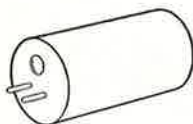
2-pin: small can ($1\frac{1}{2}$ in (38mm) \times $\frac{1}{2}$ in (20.6mm) dia.) ac glow switch

Catalogue No.	Application	Operating Voltage
155/800	8ft 125W leading circuit or 6ft 85W	230/250V
155/501	5ft 50W leading circuit	240V
155/500	4W, 6W, 8W, 13W, 30W, 40W, 65W or 80W	200/250V
155/400	4W, 6W, 8W, 30W or 40W	200/250V
155/200	Single 15W, 20W or 2ft 40W Series pair 15W, 20W or 2ft 40W (two 155/200)	105/250V 200/250V
155/100	Single 4W, 6W or 8W Series pair 4W, 6W or 8W (two 155/100)†	110/130V 230/250V

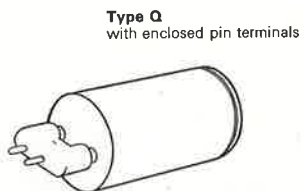
†Due to the asymmetrical construction of these switches, they must be placed in the starter switch sockets correctly orientated (i.e. if the switches refuse to operate, one must be removed and rotated 180 degrees)

thorn Capacitors

STANDARD PFC AND SERIES CAPACITORS To BS4017



Type R
with lamp pin terminals



Type Q
with enclosed pin terminals

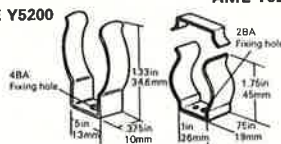
CAPACITOR SUPPORT CLIPS

AME Y5244 - For 1½ in dia. capacitors

AME Y5245 - Clip for AME Y5244

AME Y5200 - For 1 in dia. capacitors

AME Y5200



AME Y5245

AME Y5244

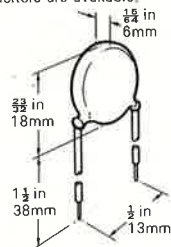
Catalogue No. Pin Terminals	Tag Terminals	Capacitance (µF)	Fused or Unfused	Rated Voltage	Type	Dia. in mm	Length* in mm	Weight oz g	Use
AME C2220	AME C2200	8.4 ± 5%	Unfused	250V	R or Q	1½ 38	4 102	5 142	6ft 85W/5ft 65W SRS
AME C2222	AME C2202	8.0 ± 10%	Unfused	250V	R or Q	1½ 38	3⅞ 99	7 199	5ft 80W/2ft 40W SS/QS
AME C2221	AME C2201	8.0 ± 10%	Fused	250V	R or Q	1½ 38	3⅞ 99	7 199	5ft 80W/2ft 40W SS/QS
AME C2228	AME C2185	7.8 ± 5%	Unfused	440V	R or Q	1½ 38	7⅞ 200	12½ 353	8ft 125W QS
AME C2173	AME C2181	7.2 ± 5%	Unfused	440V	R or Q	1½ 38	7⅞ 200	12 340	8ft 125W SS
AME C2223	AME C2203	6.0 ± 10%	Fused	250V	R or Q	1½ 38	3⅞ 80	5 142	6ft 85W SS
AME C2226	AME C2206	5.0 ± 5%	Unfused	440V	R or Q	1½ 38	6⅞ 156	8 227	8ft 85W QS
AME C2245	—	5.0 ± 10%	Fused	250V	R or Q	1½ 38	3⅞ 80	6 170	5ft 65W SS
AME C2224	AME C2204	3.5 ± 10%	Unfused	250V	R or Q	1½ 38	2½ 57	4 113	20/30/40W SS/QS
AME C2225	AME C2205	3.5 ± 10%	Fused	250V	R or Q	1½ 38	2½ 57	4 113	20/30/40W SS/QS
AME C2227	AME C2156	3.0 ± 10%	Fused	250V	R	1¼ 32	3⅞ 78	3½ 99	3ft 30W Arrowslim fitting
AME C2229	AME C2163	2.85 ± 5%	Unfused	440V	R	1¼ 32	6⅞ 156	7 199	5ft 50W Arrowslim fitting
—	AME C2286	2.0 ± 10%	Fused	250V	R	1 26	2⅞ 69	2 56	13/8/6/4W SS

*Length, above, is can length only. Pin terminals project 3mm (¼ in) on Type R capacitors and 28mm (1½ in) on Type Q capacitors.

Tag terminals project 13mm (½ in) on Type R capacitors and 29mm (1¼ in) on Type Q capacitors.

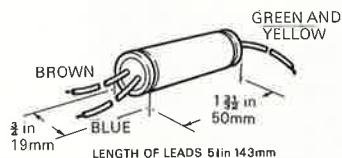
RADIO INTERFERENCE SUPPRESSION CAPACITORS

All starter switches and starting transformers shown in this catalogue incorporate a 0.005µF radio interference suppressor. For additional suppression the following capacitors are available.



AME C2139

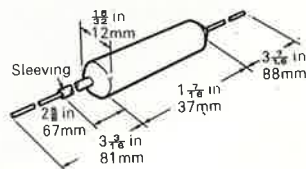
A ceramic base 0.005µF 800V a.c. capacitor to BS 4017 with high temperature PVC sleeved 1½ in leads.



AME C2051

A radio interference suppression filter network comprising two 0.005µF and one 0.1µF delta connected for additional suppression where the AME C2139, fails to suppress the interference.

ARTIFICIAL EARTH



AME C2050

An artificial earth unit for connection between the tube earth strip, or a metal chassis in close proximity to the tube, and neutral when no earth is available.

For T12 (1½in, 38mm diameter) bi-pin fluorescent tubes

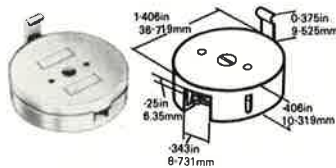
AME B1529

A high-temperature white PVC moulding with double-sided brass contacts crimped to 48in flat twin 28/0.15mm white high-temperature PVC flexible cable. The extra firm contact grips make this holder suitable for vertical tubes subjected to vibration. No earth clip is available.



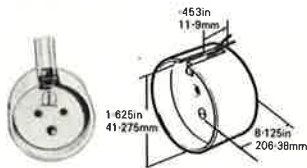
AME B1512

A white urea two-piece moulding with earth clip and double-sided lamp pin contacts. Pinch screw cable terminals. A recess allows a neat termination of 2-core or 3-core flexible cable.



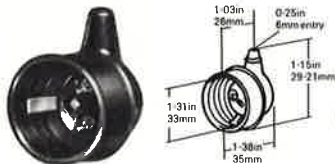
AME B1573

A white urea two-piece moulding with an earth spring and deep skirt which covers the tube cap giving additional support. Double-sided side-pressure contacts are crimped to 12in loop of high-temperature 16/0.2mm white PVC flexible cable. Earth lead connection is to lamp pin terminal.



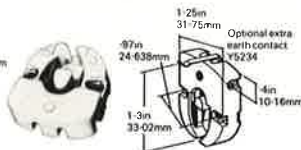
AME B1577

Push-on bi-pin lampholder has a neoprene sleeve which securely grips the end of the lamp and is fitted with a plastic insert containing lamp pin contacts and earthing arrangement for Quickstart lamps. This lampholder is useful for corrosive atmospheres and is drip-proof.



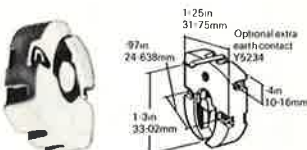
AME B1523

This lampholder is similar to AME B1524 but the 6BA tubular tapped nuts are replaced by 6BA clearance fixing holes. This lampholder is not suitable for use with 8ft tubes which have large tolerances in length. Earth contact Y5234 is available for this holder.



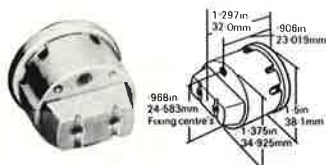
AME B1524

White urea moulding with paxolin backplate. Single-sided tube contacts with pinch screw terminal for incoming cables. Earth contact Y5234 is available as an optional extra. 6BA tubular tapped nuts are provided for fixing. This lampholder is not suitable for use with 8ft tubes which have large tolerances in length.



AME B1502

White urea moulding with double-sided independently sprung tube pin contacts and pinch screw terminals for incoming cables. 6BA tubular tapped nuts are provided for fixing. Earth contact (Catalogue No. Y5240) is available as an optional extra. This holder is not suitable for use with 8ft tubes which have large tolerances in length.



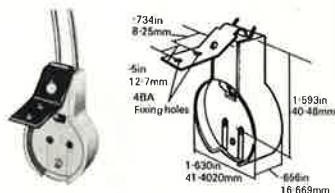
AME B1548/A3

White urea mouldings with shroud to give tube cap support. Side pressure lamp pin contacts with incoming cable crimped to contacts. Cable is high temperature 16/0.2mm white PVC flexible in 12in loop which can be cut at any point to suit wiring layout. Other loop lengths available on request. This holder has no current carrying springs or moving parts. The bracket enables the holder to be mounted on a fixed or detachable bridge across the channel. A locating notch or other means must be provided to stop rotation. Lampholder is vertical with a nominal length tube.



AME B1548/B

Lampholder as AME B1548/A3, but with bracket requiring 2-hole fixing. This holder is for mounting direct on to fitting chassis when the wall of a 1½in diameter (T12) tube will be ⅜in from the chassis. Lampholder is vertical with a nominal length tube.



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Accessories, lampholders

FIXING DETAILS

Dimensions below are distances between backs of lampholders. The dimensions given for AME B1512 and AME B1573 are for lampholders when fitted to the fluorescent tube. The dimensions for AME B1523 and AME B1524 are

recommended distances between backs of lampholders when mounted on support brackets.

Dimensions given below for AME B1548/A3 are recommended distances between fixing centres.

Dimensions for AME B1548/B are recommended distances between furthest fixing holes. Dimensions for AME B1502 are recommended distances between backs of lampholders when mounted on support brackets.

Tube size		AME B1512		AME B1573		AME B1523/4		AME B1548/A3		AME B1548/B		AME B1502	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
8ft	2,400mm	94-312	2,395-5	94-406	2,397-9	—	—	91-609	2,326-9	91-546	2,325-3	95-998	2,438-3
6ft	1,800mm	70-234	1,783-9	70-328	1,786-3	70-222	1,783-6	67-531	1,715-3	67-468	1,713-7	71-920	1,826-7
5ft	1,500mm	59-867	1,520-6	59-961	1,523-0	59-885	1,520-3	57-172	1,452-2	57-109	1,450-6	61-553	1,563-4
4ft	1,200mm	48-030	1,219-9	48-125	1,222-3	48-019	1,219-6	45-344	1,151-7	45-281	1,150-1	49-178	1,262-8
3ft	900mm	36-030	915-1	36-125	915-7	36-019	914-8	33-344	846-9	33-281	845-3	37-718	958-0
2ft	600mm	24-030	610-3	24-125	612-7	24-019	610-0	21-344	542-1	21-281	540-5	25-718	653-2
18in	450mm	18-030	457-9	18-125	460-3	18-019	457-6	15-344	389-7	15-281	388-1	19-718	500-8

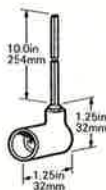
For T8 (1in, 26mm diameter) bi-pin fluorescent tubes

AME B1529

The AME B1529 tube holder shown for T12 tubes is also suitable for T8 tubes.

AME B1579

Miniature lampholder moulded in light grey PVC supplied with 10in leads.



AME B1555/2

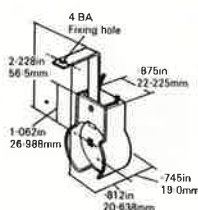
White urea mouldings with shroud to give tube cap support. Side pressure lamp pin contacts with incoming cable crimped to contacts. Cable is high temperature 16/0.2mm white PVC flexible in 12in loop which can be cut at any point to suit the wiring layout. Other loop lengths available on request. This holder has no current carrying springs or moving parts. The bracket enables the holder to be mounted on a fixed or detachable bridge across the channel.

A locating notch or other means must be provided to stop rotation. Lampholder is vertical with a nominal length tube.

Fixing details

Dimensions below are recommended distances between fixing centres.

Tube size		in	mm
5ft	1,500mm	56-859	1,444-2
3ft	900mm	33-031	840-0
18in	450mm	15-031	381-8



For T5 (5/8in, 15mm diameter) miniature bi-pin fluorescent tubes

AME B1529

(Details for lampholder when used with 5/8in diameter - T5 - tubes only.) A high-temperature PVC moulding with double-sided brass contacts crimped to 48in flat twin 28/0.15mm white high-temperature PVC flexible cable. No earth contact available. When used to support the tube the channel should be pierced to accept slots as shown. The holder can then be inserted from the back and turned 90 degrees into position with final length adjustment after tube is inserted.

Distances between slot

For 6in tubes: 6.044in
For 9in tubes: 9.044in
For 12in tubes: 12.004in
For 21in tubes: 21.004in

AME B1561

White PVC moulding with paxolin insert. Plated brass contacts with solder tag connections. This holder is assembled by threading the incoming cables through the PVC moulding and soldering them to the solder tags on the paxolin insert. This insert is then pressed into the PVC moulding.

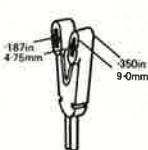
AME B1556/2

White urea mouldings with bright steel bracket. Single-sided lamp pin contacts with pinch screw cable entry terminals.

Fixing details

Dimensions below are recommended distances between fixing centres.

Tube size		in	mm
21in	525mm	19-844	504-0
12in	300mm	10-844	275-4
9in	225mm	7-844	199-2
6in	150mm	4-844	123-0



Lampholder for circular fluorescent tubes AME B1535

A single moulding high-temperature white PVC body with 12in PVC 16/0.2mm leads (one pair, yellow for starter holder connection and one lead, blue, for connection to neutral supply terminal). Split cylinder grip pin brass contacts crimped to leads.



Bi-pin to BC adaptor AME B1515

Bi-pin/BC adaptor with earth contact. A pair of these adaptors enables modern bi-pin tubes to be used where BC lampholders are fitted in a fitting. Two adaptors required per tube.



Weatherproof sleeve (for T12 1½in, 38mm diameter) bi-pin fluorescent tubes

AME M6028

White neoprene moulding suitable for use with AME B1512 lampholder. It is recommended that AC 1981 circular flex be used for connection to lampholder and the cable entry into the cap be made waterproof with silicone grease.



thorn

Fluorescent tube support clips

AME Y5204, Y5200, Y5201

A range of bright zinc plated spring steel tube support clips which can be used around the glass of the tube or around the metal cap. When used around the lamp cap to earth the cap to the metalwork of the fitting chassis any paint should be scraped from the chassis to give good continuity.



Catalogue No.	Tube dia.	A in	mm	B in	mm	C in	mm
AME Y5204	$\frac{5}{8}$ in	0.2968	7.54	0.4062	10.3124	0.3125	7.9248
AME Y5200	1 in	0.5	12.7	0.7031	17.856	0.375	9.525
AME Y5201	$1\frac{1}{2}$ in	0.6562	16.6624	1.0312	26.1874	0.355	9.017

AME Y5257

A nickel plated spring steel support clip for circular fluorescent tubes. Three clips are required per tube, mounted inside the tube circumference.

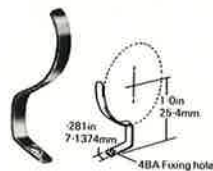
Note: The fixing details are approximate and must be adjusted to suit lamp used because of variation in lamp size from different manufacturers.

Fixing details

22W tube: $5\frac{7}{8}$ in radius

32W tube: $9\frac{1}{8}$ in radius

40W tube: $13\frac{1}{8}$ in radius

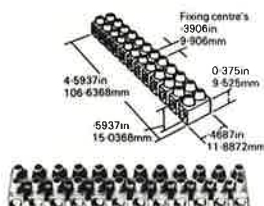


thorn

Terminal blocks, fuse holders and starter switch sockets

AME T1281

A 5A 250V terminal block of brown PVC available in 12-way strips. Terminals can be cut off as required or supplied in cut form (suffix after Catalogue No. indicates number of through connections, eg. AME T1281/2 is a 2-way terminal block AME T1281/3 is a 3-way terminal block.)



AME T1306

A 10A 250V 3-way white porcelain terminal block. Inserts are of extruded brass with 0.125in x 0.118in around bore barrels and pinch screw terminals. These inserts give facility for loop-in cables. Line, earth and neutral terminals clearly marked on terminal block.



AME T1265

A mains circuit terminal block incorporating a fuse in the line circuit. Black phenolic moulded body with clear alkathene fuse carrier and pinch screw terminals. Earth and neutral connections are of the through barrel type and two line connections are provided for mains input and circuit feed. Back fixing is achieved by means of screw and shakeproof washer provided. For front fixing a 3/8in 6BA screw must be used which is not provided. Either method of fixing provides earth connection to chassis. Fuses to be ordered separately.



AME T1304

Black phenolic end entry fuse holder which enables control units to be disconnected electrically before maintenance. Fuse loading cap has bayonet-catch fixing and is finger or coin operated. Fuse and loading cap are spring ejected. Supplied with 18in loop of high-temperature PVC flexible cable crimped to contacts. Fuses to be ordered separately. AME T1311—replacement loading cap.



AME A5079

Combined fused terminal block with mains plug. Comprises fused block similar to AME T1265, above, but with pins in line and neutral barrels, and a black phenolic moulded plug with a pin in the earth barrel. Fuses to be ordered separately. AME A5037—replacement mains plug.



FUSES

AME T1268, T1299, T1332, T1342

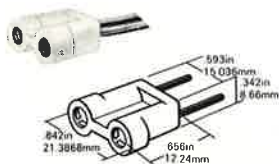
All fuses comply with BS1362 dimensions and must be used with T1265, A5079 and T1304 fuseholders.

Catalogue No.	Rating	Colour
AME T1342	1.25A	Orange
AME T1332	0.65A	Red
AME T1299	3A	Blue
AME T1268	5A	Black



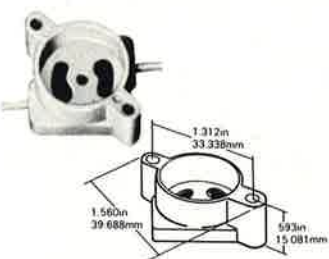
AME M6064/12/Loop

White PVC moulding enclosing starter switch contacts crimped to 12in loop 16/0.2mm white PVC cable which can be cut at a point to suit wiring layout. This holder does not support the starter switch and the Y5274 black oil dipped spring steel clip can be supplied. The clip latches into a square hole (0.22in min. to 0.23in max. square) in the fittings chassis.



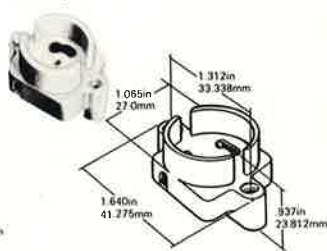
AME A5016

White urea moulding with paxolin backplate. Brass switch contacts crimped to 12in loop 16/0.2mm white PVC cable which can be cut at a point to suit wiring layout. No earth contact available.



AME A5019/X

White urea moulding with paxolin backplate. Side pressure switch contacts. Draw nut terminals giving side and rear cable entries. Optional extra earth clips (Catalogue No. Y5267) are held by the holder fixing screws and pass through gaps in the holder skirt. When mounted on 3/8in distance pieces behind fitting chassis the starter switch projects enough for easy removal.



Circuit components for 50W, 80W, 125W and 250W MBF, MBFR and MBF °Kolorlux mercury discharge lamps

CONTROL GEAR FOR 240V 50Hz SUPPLY

Lamp wattage	50W	80W	125W	250W
Circuit diagram (see below)	1	1	1	1

Ballast

Catalogue No.	AME 53184.4 †	AME 53162.4	AME 53159.4	AME 53198.4 ‡
Weight	2.75lb 1.2kg	4.0lb 1.8kg	6.0lb 2.72kg	5.6lb 2.54kg
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Illustrated type (see below)	Type K	Type V	Type T	Type T
Can colour	White	Black	Black	Black
Terminals	Screw	Screw	Screw	Screw

Capacitor

Catalogue No.	AME C2203 †	AME C2234	AME C2234	AME C2214
Capacitance μ F	6.0 \pm 10%	8.0 \pm 10%	8.0 \pm 10%	13.0 \pm 10%
Working volts	250V	250V	250V	250V
Terminals	Solder tags	Flying leads	Flying leads	Flying leads
Fused or unfused	Fused	Unfused	Unfused	Unfused

Other ballast voltage ratings available

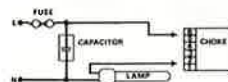
220V 50Hz Cat No.	AME 53188.2 †	AME 53176.2 †	AME 53134.2 †	AME 53198.2 †
Illustrated type	Type K	Type R1	Type R2	Type T
Can colour	Black	White	Black	Black
Weight	2.75lb 1.2kg	3.0lb 1.36kg	4.2lb 1.87kg	5.6lb 2.54kg
200/250V 50Hz Cat No.	Not available	AME 53162.T	AME 53159.T	AME 53158.T
Illustrated type	—	Type V	Type T	Type S
Can colour	—	Black	Black	Black
Weight	—	4.0lb 1.8kg	6.0lb 2.72kg	8.5lb 3.86kg
Voltage tapings	—	200/210; 220/230; 240/250V	200/210; 220/230; 240/250V	200; 210; 220; 230; 240; 250V

‡ The heat dissipation from these ballasts is extremely efficient and it is therefore necessary to ensure that cables in close proximity to the ballast surface are high temperature grade or suitably protected by high temperature sleeving.

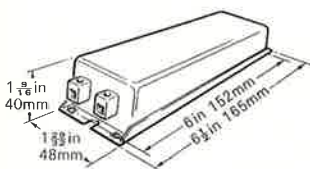
† For use in fittings only.

See page 269 for full capacitor details

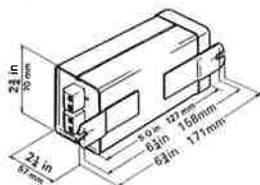
1 Circuit for MBF and MBFR mercury discharge lamps.



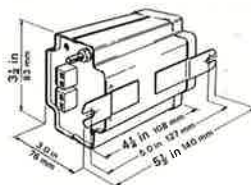
Type K



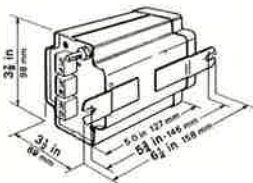
Type V



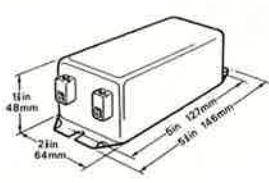
Type T



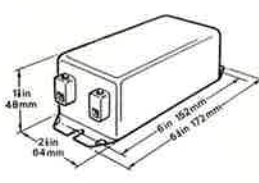
Type S



Type R1



Type R2



MBF, MBFR and MBF °Kolorlux mercury discharge lamps

Circuit components for 400W, 700W and 1000W

CONTROL GEAR FOR 240V 50Hz SUPPLY

Lamp wattage	400W	700W	1000W
Circuit diagram (see below)	1	6	6

Ballast

Catalogue No. (s)	AME 53193.4 ‡	AME 53157.T +	AME 53198.4 * ‡	2 × AME 53243.4 * ‡
Weight	8.5lb 3.86kg	12lb 5.5kg	5.6lb 2.54kg	8.5lb 3.86kg (each)
Filling	Polyester resin	Polyester resin	Polyester Resin	Polyester resin
Illustrated type (see below)	Type S	Type U	Type T	Type S
Can colour	Black	Black	Black	Black
Terminals	Screw	Screw	Screw	Screw

Capacitor

Catalogue No. (s)	AME C2218	AME C2218 +	AME C2214 *	2 × AME C2236
Capacitance µF	20.0 ±10%	20.0 ±10%	13 ±10%	25.0 ±10% (each)
Working volts	250V	250V	250V	250V
Terminals	Flying leads	Flying leads	Flying leads	Flying leads
Fused or unfused	Unfused	Unfused	Unfused	Unfused

Other ballast voltage ratings available

220V 50Hz Cat. No.	AME 53193.2 ‡	Not available	Not available.
Illustrated type	Type S	—	—
Can colour	Black	—	—
Weight	8.5lb 3.86kg	—	—
200/250V 50Hz Cat. No.	AME 53157.T	AME 53157.T +	AME 53158.T *
Illustrated type	Type U	Type U	Type S
Can colour	Black	Black	Black
Weight	12lb 5.5kg	12lb 5.5kg	8.5lb 3.86kg
Voltage tapings	200; 210; 220; 230; 240; 250V	210; 220; 230; 240; 250V	190; 200; 210; 220; 230; 240V

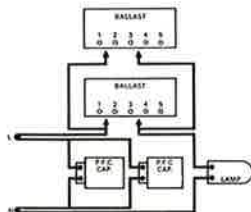
*2 connected in parallel are used for one lamp.

‡The heat dissipation from these ballasts is extremely efficient and it is therefore necessary to ensure that cables in close proximity to the ballast surface are high temperature grade or suitably protected by high temperature sleeving.

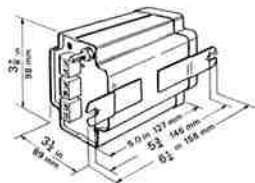
See page 269 for full capacitor details

1 Circuit for MBF and MBFR mercury discharge lamps.

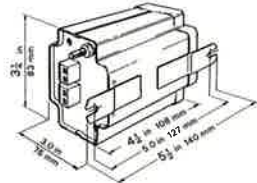
6 Circuit for 700W and 1000W MBF and MBFR mercury discharge lamps.



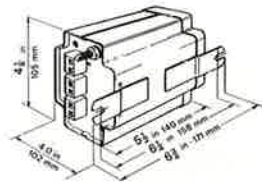
Type S



Type T



Type U



mercury iodide discharge lamps

Circuit components for 400W and 1000W

CONTROL GEAR FOR 240V 50Hz SUPPLY

Lamp wattage	400W	400W	1000W
Circuit diagram (see below)	9 †	8 ‡	11

Ballast

Catalogue No(s).	AME 53197.T †	AME 53193.4 *	AME 53195.T	AME 53247.4
Weight	8.5lb 3.86kg (each)		18lb 8.16kg	52.5lb 24kg
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Illustrated type (see below)	Type S	Type S	Type X1	Type P
Can colour	Black	Black	Black	Black
Terminals	Screw	Screw	Screw	Flying leads

Ballast Fixing Bracket

Catalogue No.	Not available	Not available	AME M6181
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Capacitor

Catalogue No(s)	2 × AME C2278 *	2 × AME C2278 *	4 × AME C2236 *
Capacitance μ F	15.0 \pm 5% (each)	15.0 \pm 5% (each)	25 \pm 10% (each)
Working volts	350V	350V	250V
Terminals	Flying leads	Flying leads	Flying leads
Fused or unfused	Unfused	Unfused	Unfused

Other ballast voltage ratings available

220V 50Hz	Use 240V 50Hz ballasts, above, but with 35 μ F \pm 5% 350V capacitance (2 × AME C2288)	Use 240V 50Hz ballast, above, but with 35 μ F \pm 5% 350V capacitance (2 × AME C2288)	AME 53247.2
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* Connected in parallel

† Two-part ballast

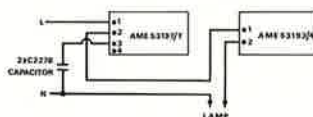
‡ One-piece ballast

See page 269 for full capacitor details

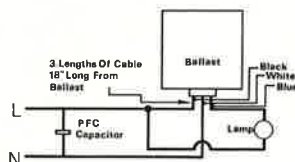
8 400W MBI single ballast



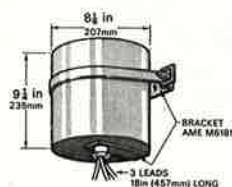
9 400W MBI Twin choke circuit



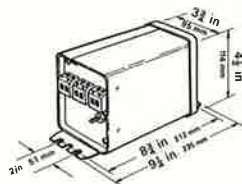
11 Circuit for 1000W mercury iodide discharge lamp



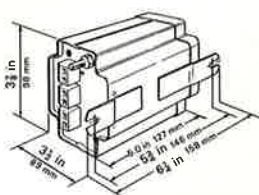
Type P



Type X1



Type S



Circuit components for 250W and 400W SON high-pressure sodium discharge lamps

CONTROL GEAR FOR 240V 50Hz SUPPLY

Lamp wattage	250W	400W
Circuit diagram (see below)	10	10

Ballast

Catalogue No.	AME 53251.T	AME 53230.T
Weight	8.5lb 3.8kg	12.55lb 5.7kg
Filling	Polyester resin	Polyester resin
Illustrated type (see below)	Type S	Type U
Can colour	Black	Black
Terminals	Screw	Screw

Capacitor

Catalogue No.	AME C2235	2 × AME C2218
Capacitance μF	30.0 \pm 10%	20.0 \pm 10% (each)
Working volts	300V	250V
Terminals	Flying leads	Flying leads
Fused or unfused	Unfused	Unfused

Ignitor

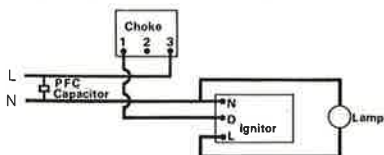
Catalogue No.	AME 53250	AME 53250
Weight	1.18lb 0.54kg	1.18lb 0.54kg
Illustrated type (see below)	Q	Q
Can finish	Natural aluminium	Natural aluminium
Terminals	Flying leads	Flying leads

Other ballast voltage ratings available

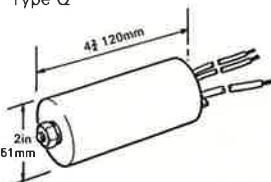
220V 50Hz	AME 53251.T	AME 53230.T
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See page 269 for full capacitor details

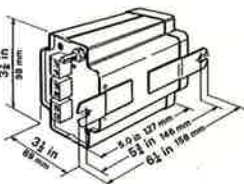
10 Circuit for 250W or 400W SON high-pressure sodium lamp



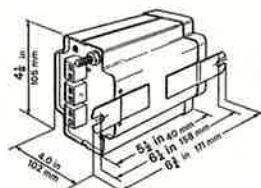
Type Q



Type S



Type V



Circuit components for SO, SOI, SOX and SLI sodium discharge lamps

CONTROL GEAR FOR 240V 50Hz SUPPLY

Lamp	45, 60, 85W SO/H or SOI/H or 35, 55W SOX	140W SO/H, SOI/H or SLI/H or 90W SOX	135W SOX or 180W SOX	200W SLI/H
Type of control gear	Instant start	Instant start	Instant start	Instant start
Circuit diagram (see below)	5	5	4	2

Ballast

Catalogue No.	AME 53131.H	AME 53232.4	AME 53260.T	AME 53261.T
Weight	9.0lb 4.1kg	12.6lb 5.82kg	14.5lb 6.55kg	14.5lb 6.55kg
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Illustrated type	Type J	Type U	Type X2	Type X2
Can colour	Black	Black	Black	Black
Terminals	Screw	Screw	Screw	Screw

Capacitor

Catalogue No.	AME C2216 (for 45/60W) AME C2214 (for 85W) AME C2280 (for 35/55W)	AME C2218 (for 140W) AME C2236 (for 90W)	AME C2281	2 × AME C2232 †
Capacitance μF	15 \pm 10% (for 45/60W) 13 \pm 10% (for 85W) 16 \pm 10% (for 35/55W)	20 \pm 10% (for 140W) 25 \pm 10% (for 90W)	13 \pm 5%	18.0 \pm 10% (each)
Working volts	250V	250V	440V	250V
Terminals	Flying leads	Flying leads	Flying leads	Flying leads
Fused or unfused	Unfused	Unfused	Unfused	Unfused

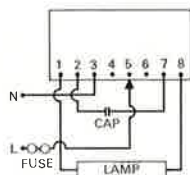
Other ballast voltage ratings available

200/250V 50Hz	Not available	Not available	AME 53260.T	AME 53261.T
220V 50Hz	Not available	AME 53232.2	Not available	Not available

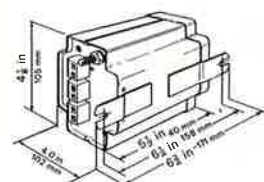
† For fittings use only

See page 269 for full capacitor details

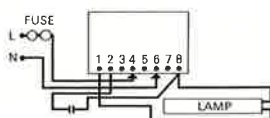
2 Circuit for 200W SLI/H sodium discharge lamp



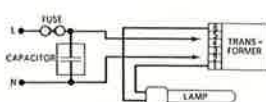
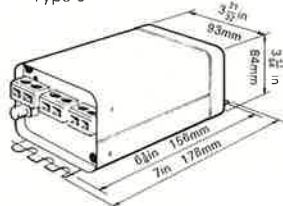
Type U



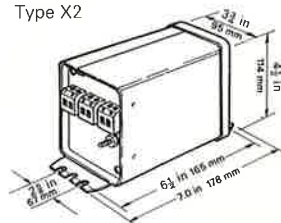
4 Circuit for 135W SOX sodium discharge lamp. **5** 45W/60W/85W/140W SO/H and SOI/H 35W/55W/90W SOX.



Type J

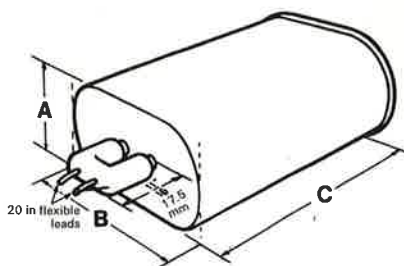


Type X2



Capacitors for mercury and sodium discharge lamp circuits

This range of capacitors is unfused and suitable for continuous operation in the temperature range -40°C to $+70^{\circ}\text{C}$. Fixing is achieved by means of a removable saddle which clips over the capacitor, and enables the capacitor to be mounted horizontally or vertically. The capacitor is packed complete with saddle.



Catalogue no.	Capacitance μF	Working voltage	Dimensions		Width B		Height C	
			Depth in	A mm	in	mm	in	mm
AME C2203†	$6 \pm 10\%$	250	See page 257 for further details					
AME C2234	$8 \pm 10\%$	250	$1\frac{3}{8}$	35	$2\frac{1}{8}$	54	$2\frac{1}{8}$	70
AME C2214	$13 \pm 10\%$	250	2	51	3	77	$2\frac{3}{8}$	67
AME C2281	$13 \pm 5\%$	440	2	51	3	77	$4\frac{1}{8}$	105
AME C2216	$15 \pm 10\%$	250	2	51	3	77	3	76
AME C2288	$17.5 \pm 5\%$	350	2	51	3	77	$5\frac{3}{8}$	137
AME C2232	$18 \pm 10\%$	250	2	51	3	77	$3\frac{1}{2}$	89
AME C2278	$15 \pm 5\%$	350	2	51	3	77	$4\frac{1}{2}$	121
AME C2280	$16 \pm 10\%$	250	2	51	3	77	3	76
AME C2218	$20 \pm 10\%$	250	2	51	3	77	$3\frac{3}{8}$	92
AME C2236	$25 \pm 10\%$	250	2	51	3	77	$4\frac{1}{2}$	115
AME C2235	$30 \pm 10\%$	300	$2\frac{1}{2}$	64	$3\frac{1}{2}$	89	$5\frac{1}{8}$	133

† For use in fittings only.

Control gear boxes

WEATHERPROOF BOXES FOR EXTERIOR USE

These boxes are made of sheet steel finished stove enamel acrylic grey to BS2660 9-094. A weatherproof seal is effected between lid and box by means of a closed cell neoprene sponge gasket. Two $\frac{3}{8}$ in diameter holes are provided in one end of each box for supply and lamp connections. A wooden baseboard is fitted for control gear mounting and an earth terminal is available on one end.

These boxes are not supplied complete with control gear or terminal blocks.

AME M6174

Internal dimensions

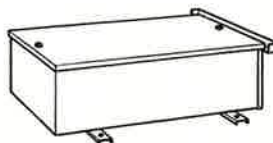
Length 16.75in (425mm)
Width 9.625in (244mm)
Height 5.125in (130mm)

External dimensions

Length 17.25in (437mm)
Width 9.75in (247mm)
Height 6.125in (155mm)

Fixing centres

11in \times 11in \times 0.31in diameter
(279mm) (279mm) (7.92mm)



AME M6172

Internal dimensions

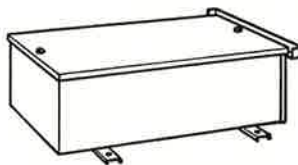
Length 16.0in (406mm)
Width 5.68in (144mm)
Height 5.125in (130mm)

External dimensions

Length 16.563in (420mm)
Width 6.625in (168mm)
Height 6.438in (163mm)

Fixing centres

11in \times 7in \times 0.31in diameter
(279mm) (178mm) (7.92mm)



AME M6169

This control gear box is made of high quality aluminium designed to accommodate a larger range of control gear for exterior use.

To accommodate either:

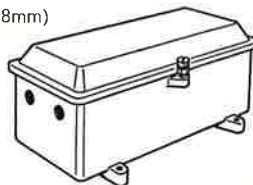
- 1 80W or 125W MBF type control gear with time switch and fuses.
- 2 35/40W SOX 55/60W SOX 140W SOI, or 140W SLI type control gear with time switch and fuses.
- 3 250W or 400W MBF type control gear with time switch and fuses only.
- 4 200W SLI control gear only, no time switch.

Internal dimensions (baseboard)

Length 15.25in (387mm)
Width 5.0in (127mm)
Height 4.75in (121mm)

Fixing centres

11in \times 7in
(279mm) (178mm)



Control gear boxes

REMOTE BOXES FOR INTERIOR USE

These boxes are made of sheet steel finished stove enamel acrylic grey to BS2660 9-094. Two $\frac{3}{8}$ in diameter holes are provided in one end of each box for supply and lamp connections to two-way 10A porcelain terminal blocks. A separate earth terminal is close to these blocks. Boxes are wired complete with 240V 50Hz HPF control gear.

RBG1000 Gear box complete with 1000W MBF control gear

RBG700 Gear box complete with 700W MBF control gear

RBIG400 Gear box complete with 400W MBI control gear

External dimensions

Length 17.06in (425mm)

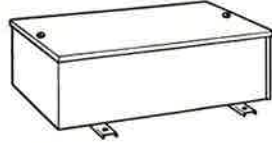
Width 9.75in (247mm)

Height 5.875in (149mm)

Fixing centres

11in x 11in x 0.31in diameter

(279mm) (279mm) (7.92mm)



RBG400 Gear box complete with 400W MBF control gear

RBG250 Gear box complete with 250W MBF control gear

External dimensions

Length 16.375in (416mm)

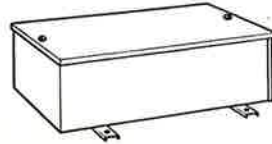
Width 6.18in (157mm)

Height 5.875in (149mm)

Fixing centres

11in x 7in x 0.31in diameter

(279mm) (178mm) (7.92mm)



CONTROL GEAR BOXES FOR INTERIOR USE WITH 80/125W *KOLORLUX LAMPS

Enclosed gear trays fitted with 240V 50Hz HPF control gear wired to a fused terminal block for incoming mains supply and a two-way terminal block for lamp connection. Boxes finished gloss white externally.

AME.M6176 Gear box complete with 125W MBF control gear.

AME.M6175 Gear box complete with 80W MBF control gear.

External dimensions

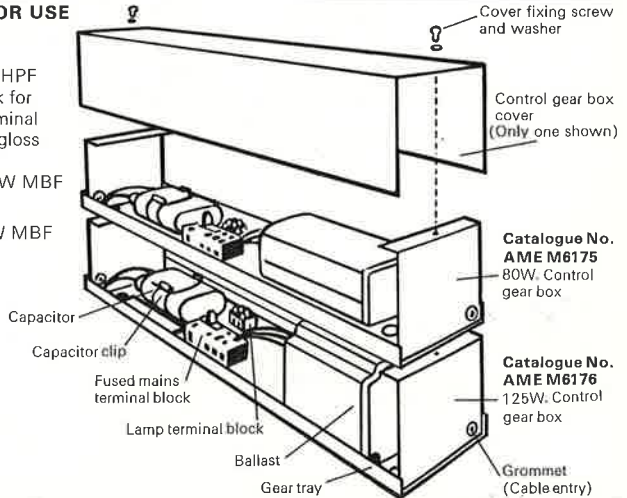
Length 13.25in (337mm)

Width 3.625in (92mm)

Height 3.25in (83mm)

Fixing centres

11.5in (292mm) x 2in (51mm)



Circuit components for CSI, MBL/D, M1 and M2 mercury discharge lamps

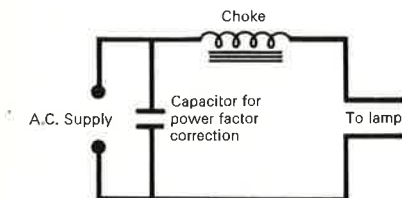
Lamp type MBL/D

a.c. operation – 240V 50Hz

Rating	Choke Catalogue no.	Capacitor Catalogue no.	Rating μ F
125W	AME 53159-4	AME C2234	8

For choke and capacitor details see pages 263 and 269 respectively.

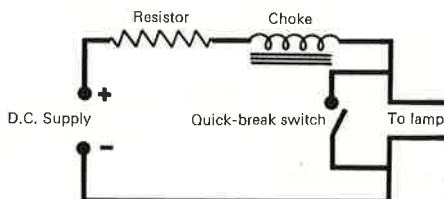
A.C. Operation



d.c. operation

Rating	Supply volts d.c.	Resistance ohms	Current rating amps	Choke Catalogue no.
	200	79		
	210	87		
125W	220	95	2.3	AME 53159-4
	230	105		
	240	112		
	250	123		

D.C. Operation



Lamp types M1 and M2

M1 Lamp d.c. operation

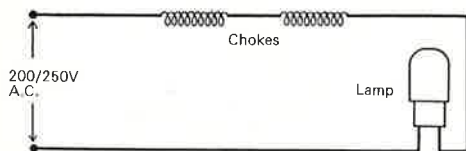
Rating	Supply Volts	Series resistance	Heater resistance
4.5W	24 d.c.	24 ohms	30 ohms

M2 Lamp a.c. operation

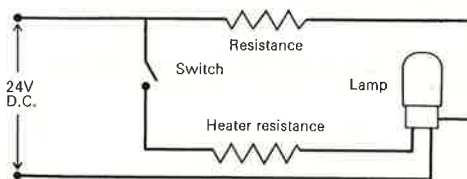
Supply volts	Operating current	Chokes in series
200/250 a.c.	0.9 amp	CI/80 and AME 62825

Alternatively series resistors of values between 480 and 160 ohms may be used in place of the two series chokes to give operating currents in the range 0.5 to 1.5 amps.

For choke details see pages 232 and 255 respectively.



M1 Lamp 24V d.c. Operation



M2 Lamp 200/250V a.c. Operation

Lamp type CSI

a.c. operation – 240V 50Hz

Rating	Control gear box complete with gear Catalogue No.	Weight
400W	AME 53196-4	26lb. 11.8 kg
1000W	AME 53255-4	60lb. 27.2kg

Circuit components for MB/D, ME/D and MBW mercury discharge lamps

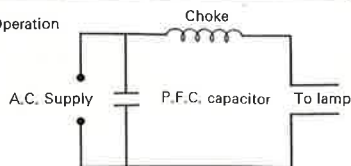
Lamp type MB/D

a.c. operation - 240V 50Hz

Rating	Choke Catalogue no.	P.F.C. Capacitor Catalogue no.	Rating μF
125W	AME 53159-4	AME C2234	8

For choke and capacitor details see pages 263 and 269 respectively.

A.C. Operation



Lamp type ME/D

a.c. operation

Rating	Supply a.c.	Choke Catalogue no.	P.F.C. Capacitor Catalogue no.	Rating μF	Starting capacitor
250W	200/250V	AME 53235	AME C2275	60	
1000W	200/250V	4 x AME 53235	3 x AME C2276	3 x 80	0.5 μF *

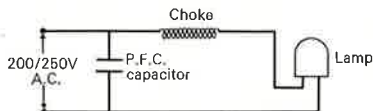
*TCC type CP142W, 1000V working, 70°C max. working temperature, or equivalent.

d.c. operation

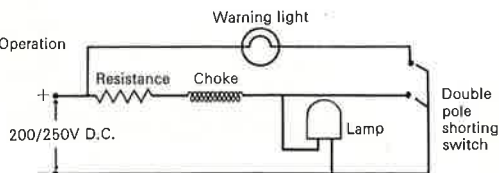
Supply volts d.c.	250W	Choke	1000W	Current rating amps
	Series resistance ohms		Series resistance ohms	
200	35.2	AME 53235	8.9	22.5
210	37.0	AME 53235	9.5	22.0
220	40.6	AME 53235	10.2	21.6
230	43.3	AME 53235	10.9	21.0
240	46.0	AME 53235	11.5	20.8
250	48.7	AME 53235	12.2	20.4

250W Lamps

A.C. Operation

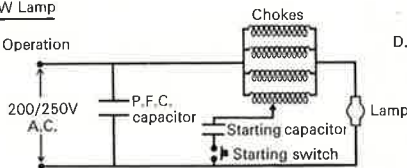


D.C. Operation

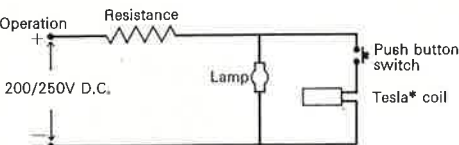


1000W Lamp

A.C. Operation



D.C. Operation



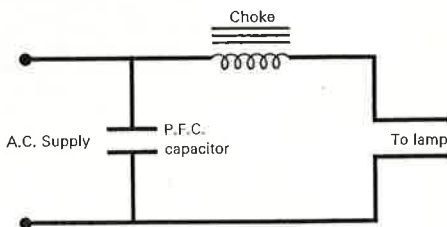
* Obtainable from:-
Edwards High Vacuum Ltd., Crawley, Sussex,
type T1 or equivalent

Lamp type MBW/U

a.c. operation - 240V 50Hz

Rating	Choke Catalogue no.	P.F.C. Capacitor Catalogue no.	Rating μF
125W	AME 53159-4	AME C2234	8

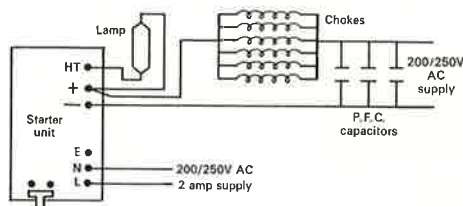
For choke and capacitor details see pages 263 and 269 respectively.



Circuit components for XB and XE/D compact source xenon discharge lamps

Lamp type XB linear source

	Starter	Chokes	Capacitors	Mains current
Rating	Catalogue no.	Catalogue no.	μF	A
1kW	AME 53239	6 x AME 53235	240 300	3 x AME C2276 3 x AME C2276 + AME C2275
				7 1/2 5

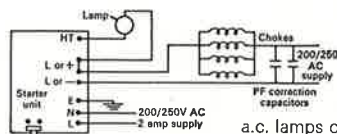


Lamp type XE/D a.c. lamps 200/250V 50Hz

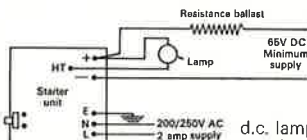
	Starter	Chokes	Capacitors	Mains current
Rating	Catalogue no.	Catalogue no.	Watts loss μF	amps
250W	AME 53239	2 x AME 53235	100 160 or 200	2 x AME C2275 2 x AME C2275 + AME C2276
500W	AME 53239	6 x AME 53235	150 240 or 300	3 x AME C2276 3 x AME C2276 + AME C2275
				5 2 8 1/2 4 1/2

d.c. lamps on 35/65V d.c. supply

	Supply volts d.c.	Starter	Series resistance Ohms	Current amps
Rating		Catalogue no.		
250W	65V min	AME 53239	V-16-5 15	15
500W	65V min	AME 53239	V-22 23	23
2kW	65V min	AME 53233	V-25 80	80
2kW 2 electrode				
2kW	35V min	AME 53234	V-27 74	74
3 electrode				



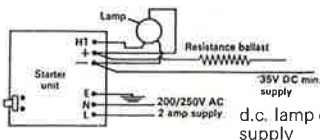
a.c. lamps on 200/250V 50Hz supply



d.c. lamps on 65V d.c. supply

d.c. lamps on 200/250V 50Hz supply

	Starter	Rectifier ballast
Rating	Catalogue no.	Catalogue no.
250W	AME 53239	AME 53236
500W	AME 53239	AME 53236
2kW 2 electrode	AME 53233	AME 53237
2kW 3 electrode	AME 53234	AME 53238



d.c. lamp on 35V d.c. supply

atlas mazda

Theatre lighting division - Thorn Q-file

ELECTRONIC LIGHTING CONTROL SYSTEM FOR STAGE AND TV STUDIOS

The Q-File electronic memory control system is a major breakthrough in stage and studio lighting control techniques and has been installed in more than 20 United Kingdom television studios.

A proved and tested system, Q-File has received world-wide acclaim since it gives the lighting director/operator unprecedented scope in his art. With Q-File, up to one hundred lighting plots including dimmer levels can be filed, i.e. memorised electronically during rehearsal and recalled instantly in any order at the press of a button. This built in memory can be supplemented by an optional magnetic tape storage system which allows the memory capacity to be extended indefinitely. The need for detailed handwritten records is thus eliminated.

Four independent fade processes may be brought into use at any time and once initiated will take place automatically in the times set by the panel controls. The most complex and subtle operatic lighting may thus be easily achieved, while at the other extreme, rapid changes to music can take place in light entertainment as fast as two cues per second.

Instant manual access is always possible to all lighting circuits for modification purposes.

A preset or auxiliary facility enables lighting plots to be prepared or modified without disturbing lighting circuits already in use.

Despite the many new facilities all basic controls are accommodated on a panel only 2 sq. ft. (.2 sq. m.) in area.

Highly stable control and dimmer circuits ensure precise repeatability of planned effects.

For the Lighting Operator

Ease of operation and more facilities. All controls can be reached from a normal sitting position. The usual 'wings' of individual controls are eliminated and the small control panel makes it easy to leave ample desk space for script, notepad, etc.

During rehearsal all details of each lighting cue, including dimmer settings, are instantly recorded in any one of a hundred electronic 'files'. Handwritten records are reduced to the noting of file numbers and the nature of the cue, e.g. cut, add, crossfade time, etc.

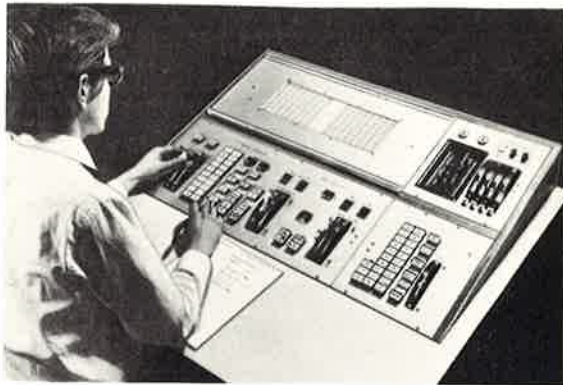
During a performance, a predetermined lighting change is initiated simply by selection of the new file number and operation of the appropriate cue buttons. The ultimate in operational simplicity is obtained by using the sequential file facility which enables the cue button both to initiate the change and to select numerically, the next file in readiness for the following cue.

To the Studio Planner and Architect

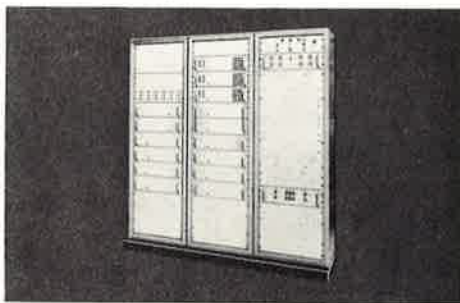
Space problems disappear with a control panel the size of a child's desk top. The lighting operator can be located in a position best suited to his function and the usual bulky 'wings' of individual controls are eliminated.

The control cabinets can be mounted remotely from the control desk. High efficiency thyristor type dimmers are mounted in similar compact cabinets each of which can house 30 x 2.5kW dimmers, 20 x 5kW dimmers or 10 x 10kW dimmers. Each cabinet occupies a floor area of only 4 sq. ft. The use of semi-conductor devices minimises waste heat generation and simplifies ventilation problems in the dimmer room.

The Thorn system has no moving parts other than the desk controls and a few power switching relays. High reliability silicon transistors and diodes are conservatively rated for virtually unlimited life, and the need for routine maintenance is eliminated. Nevertheless, the remote risk of failure is guarded against by the provision of a versatile auxiliary control system which allows production lighting to continue while the fault is being rectified.



Q-File Control Panel



Control Equipment Cabinets



Typical Dimmer Installation
(Mixed 2.5 kW and 5 kW ratings)

All enquiries should be routed to:
Theatre Lighting Division,
Great Cambridge Road,
Enfield, Middlesex.







FLUORESCENT TUBES

Introduction

Thorn Lighting Ltd has the finest fluorescent tube works in Western Europe making the extensive range of tubes described in this section of the catalogue, including the de luxe colours which are receiving increasing acknowledgment for interior lighting installations where good colour rendering and colour appearance are important.

The popular ratings of fluorescent tubes are available in Atlas, Mazda and Ecco brands, but the slower selling types are not stocked in all brands. However, any tube shown in this catalogue can be supplied from any Thorn Lighting Office.

atlas

Fluorescent Tubes Index

Page no.

278	Index
279	Information (General)
280	Information continued
281	Spectral Distribution
282	Spectral Distribution continued
283	Light Output
284	Light Output continued
285	Dimensions of Fluorescent Tubes
286	Electrical Data
287	Electrical Data continued
288	Fluorescent Tube Control Gear
289	Fluorescent Tube Control Gear

Fluorescent tubes general information

TUBE GRADES

There are different grades of tube to suit various types of control gear and the correct type must be used to obtain satisfactory starting performance.

GP (General Purpose Quickstart) grade tubes (MCFE/U)

The GP Quickstart tube is manufactured to give satisfactory starting with all switch or switchless start control gear and is now supplied as the standard tube for use in all fittings. For switchless start circuits the metal chassis must extend the full length of the tube and be bonded to earth. The metalwork must not be more than half-inch from the tube. Quickstart, Resonant-start and other switchless start circuits must only be used on 200–250V 50 Hz supplies where the neutral conductor is at earth potential.

MS (Metal Strip) grade tubes (MCFA/U)

This tube is only necessary for special conditions, e.g. where earthed metalwork is not adjacent to the tube, it has a metallic conducting strip cemented to the outside of the tube, connected to both caps, which must be earthed.

A limited range of the more popular tubes in 600mm–1500mm (2ft–5ft) lengths can be supplied with metal strip.

Fluorescent Tube Packing Quantities

8ft and Circles: 12
Blacklight Blue: 24
All others: 25

RATED LIFE AND GROUP REPLACEMENT

The rated life of all Thorn 1200mm (4ft), 1500mm (5ft), 1800mm (6ft), and 2400mm (8ft) 38mm (1½in) diameter lamps is 7500 hours. The rated life of all other ratings is 5000 hours. In many situations it is advantageous to replace lamps in bulk (Group Replacement) rather than as individual lamps fail.

Among the benefits of Group Replacement are:

- A saving in initial cost
- A higher average level of lighting
- More uniform lighting
- Less interruption of work
- A saving in running costs

Further information on Group Replacement is available from our Regional Offices.

British Standards

Fluorescent tubes described in this catalogue conform to British Standard 1853:1967 where applicable.

Thorn Lighting Ltd. are holders of Licence No. 5247 for the manufacture of fluorescent tubes to the above standard.

METRICATION

Fluorescent lamps are now designated in nominal lengths in millimeters. The table below shows how these relate to their former designations.

8ft	0in lamps are now designated	2400mm
6ft	0in lamps are now designated	1800mm
5ft	0in lamps are now designated	1500mm
4ft	0in lamps are now designated	1200mm
3ft	0in lamps are now designated	900mm
2ft	0in lamps are now designated	600mm
	21in lamps are now designated	525mm
	18in lamps are now designated	450mm
	12in lamps are now designated	300mm
	9in lamps are now designated	225mm
	6in lamps are now designated	150mm

BI-PIN/BC ADAPTOR

AME B1515 Adaptor converting bi-pin lamp cap to BC. The overall length of a 1500mm (5ft) bi-pin tube with these adaptors does not exceed the length of a BC tube.



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Fluorescent tubes general information

BRAIDED CATHODE

The braided cathode filament – British Patent 131059 – is now being used in 1500mm (5ft) 65/80W and 80W BC, 1800mm (6ft), 85W, 2400mm (8ft) 85W and 125W tubes.

The exclusive braided cathodes used in TLL fluorescent tubes give more efficient operation, fewer early failures and longer life than conventional coiled coil cathode.

This cathode consists of a hollow mesh cylinder which is formed by braiding eight very thin strands of tungsten wire together. This means that the emitter is held within the hollow cylinder thus forming a solid core.

The release of electrons is better controlled than with a coiled coil filament and this results in the braided cathode having approximately 70% greater electron emission.

AMALGAM TUBES

Many modern enclosed commercial fittings cause standard fluorescent tubes to operate above their optimum temperature thus giving significant reductions in light output.

Amalgam control of the mercury vapour pressure in a tube allows efficient operation at higher temperatures. The quoted lumen output of a standard tube is measured at an ambient temperature of 25°C corresponding to surface temperature of 40–45°C and as the temperature rises, lumen output falls. The same rating of amalgam lamp gives a similar lumen output at an ambient temperature of 50°C corresponding to a surface temperature of 65°C. Gains in light output of up to 20% over standard tubes can be achieved in multi-lamp enclosed commercial fittings. Amalgam tubes are directly interchangeable with standard tubes.

Note: Amalgam tubes only give advantages at air temperatures above 40°C. Standard tubes give better performance below this temperature.

Ratings Available

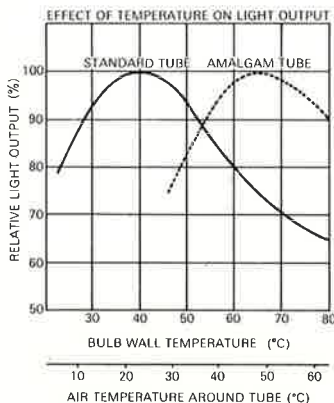
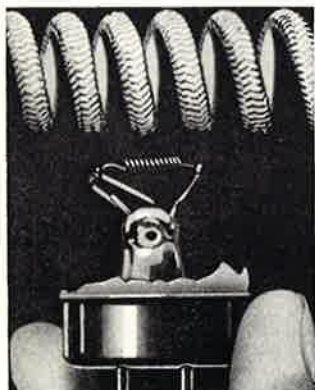
6ft 85W White, Warm White, Natural.

For further information see

'Thorn Amalgam Fluorescent Tubes'
Leaflet No. TLL007.

GUARANTEE

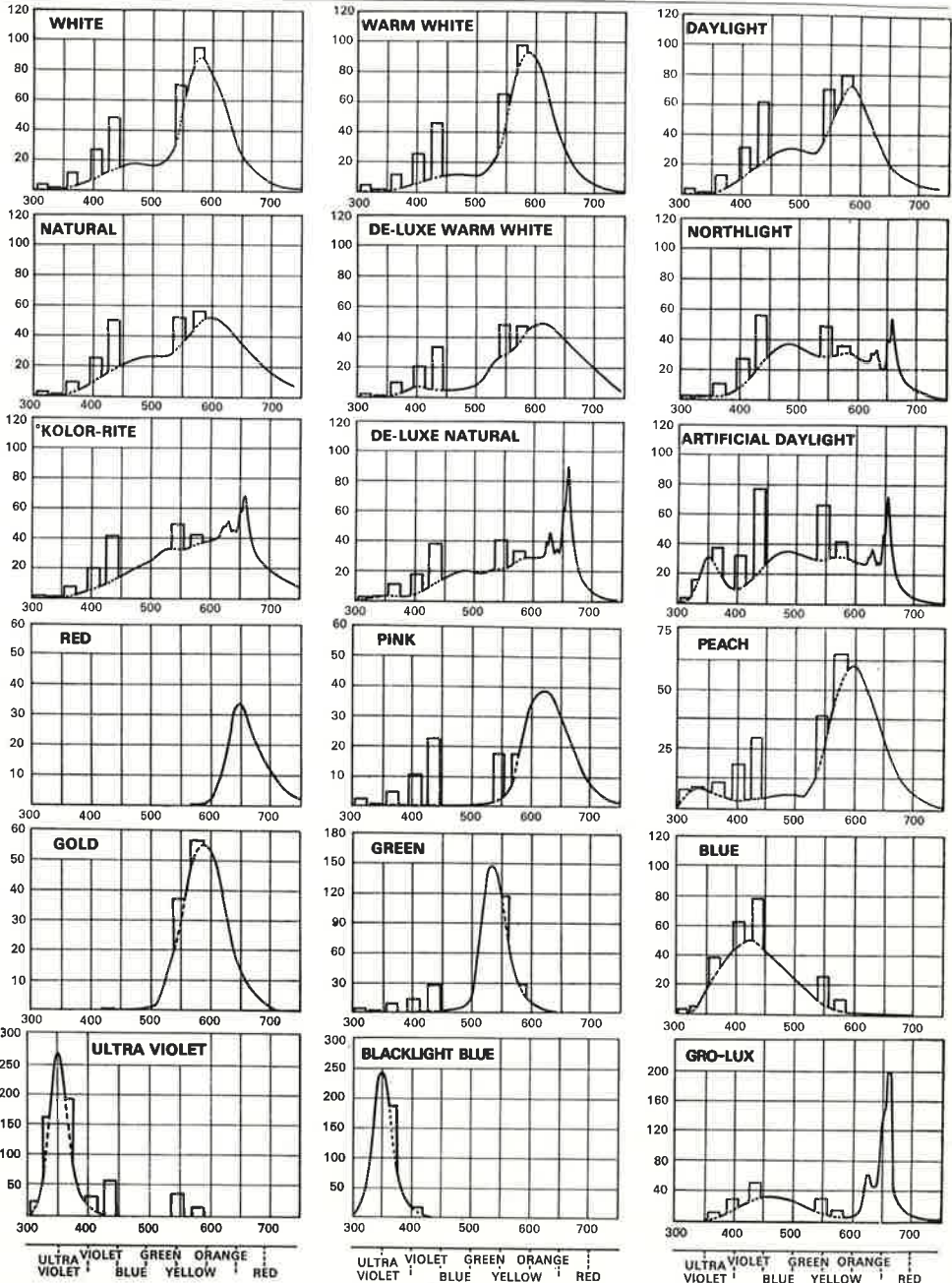
Any fluorescent tube failing within 12 months from the date of purchase by the user (or prior to 3000 hours burning whichever is the shorter) except through misuse, will be replaced free of charge.



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Fluorescent tubes spectral distribution

Horizontal scales are wavelengths in nanometres (10^{-9} metres). Vertical scales are power in milliwatts per nanometre band width for a 1500mm (5ft) tube at 65W, except for Blacklight Blue which is for a 40W tube.



Fluorescent tubes spectral distribution

COLOUR DATA

The colour rendering and colour appearance data below is on the same basis as the values specified in BS1853, but there is a trend towards other methods of colour specification, e.g. 6 band values for colour rendering and the CIE uniform chromaticity scale for colour appearance in which the co-ordinates are expressed in u and v values. With this in mind we provide the additional data in table 2.

COLOUR TEMPERATURES FOR FLUORESCENT TUBES

The term 'colour temperature' should strictly only be applied to spectral distributions close to the black body distributions. Thus in fluorescent tube colours the 'colour temperature' is merely an indication of the location of the chromaticity co-ordinates on a colour chart.

The 'colour temperatures' should not be used as a guide for photographic purposes.

Artificial Daylight	6500°K
Northlight/Colour Matching	6500°K
Tropical Daylight	6500°K
Daylight	4300°K
*Kolor-rite	4000°K
Natural	4000°K
De Luxe Natural	3600°K
White	3400°K
Warm White	3000°K
De Luxe Warm White	3000°K

Nominal percentage light output for 1500mm (5ft) tubes at 65W

Table 1 – 8 BANDS

CIE BANDS	nm.	Artificial Daylight	Northlight/ Colour Matching	Daylight	Natural	De Luxe Natural	White	Warm White	De Luxe Warm White	*Kolor-rite
1 Far Violet	380–420		0.017	0.014	0.014	0.011	0.010	0.007	0.007	0.017
2 Violet	420–440	1.06	0.42	0.31	0.33	0.37	0.26	0.25	0.30	0.13
3 Blue	440–460		0.65	0.38	0.37	0.39	0.22	0.17	0.10	0.48
4 Blue-Green	460–510	9.6	9.7	5.3	5.6	6.1	3.1	2.5	2.4	7.9
5 Green	510–560	44.9	44.5	37.2	38.0	38.7	32.3	29.5	35.8	38.0
6 Yellow	560–610	33.8	34.1	48.9	44.1	37.5	54.9	57.3	45.8	39.5
7 Light Red	610–660	9.9	10.0	7.8	11.2	15.8	9.1	10.2	14.9	13.0
8 Dark Red	660–760	0.63	0.63	0.17	0.69	1.2	0.19	0.21	0.81	1.06

Ultra-violet (watts per 65W tube, between 300 and 400 nanometres)

	1.30	0.47	0.53	0.41	0.42	0.44	0.40	0.40	0.32
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Colour appearance 'X' and 'Y' colour co-ordinates

X	0.313	0.317	0.373	0.378	0.390	0.414	0.435	0.437	0.3804
Y	0.329	0.324	0.380	0.365	0.356	0.397	0.401	0.400	0.3767

Table 2 – 6 Bands

1 Violet-Blue	400–455	0.79	0.83	0.57	0.58	0.62	0.41	0.34	0.36	0.435
2 Blue-Green	455–510	11.2	11.0	5.3	6.3	6.3	3.3	2.7	2.6	8.03
3 Green	510–540	23.1	19.9	12.6	15.0	14.8	9.3	8.3	13.5	19.8
4 Green-Yellow	540–590	43.7	48.0	59.9	52.7	50.0	61.3	60.7	53.2	44.7
5 Orange	590–620	14.4	13.1	17.5	18.1	16.5	20.7	22.4	20.6	17.7
6 Red	620–760	6.8	7.2	4.1	7.3	11.8	4.9	5.6	9.8	9.4

Colour appearance – Nominal u and v colour co-ordinates CIE uniform chromaticity scale

u	0.1978	0.203	0.219	0.228	0.240	0.239	0.251	0.252	0.2251
v	0.3122	0.311	0.335	0.331	0.329	0.343	0.347	0.347	0.3344

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Fluorescent tubes light output

Lumen outputs

The lumen outputs quoted in this catalogue are measured at 25°C in accordance with British Standard 1853.

Initial lumens

Initial lumens quoted below are measured after 100 hours operation.

Lighting design lumens

The 'Lighting Design Lumens' quoted below are the lamp outputs at 2000 hours and are recommended as a guide to lighting engineers planning scheme layouts.

Lumen output beyond 2000 hours decreases by 2% to 3% per 1000 hours use according to the colour and loading.

Higher Lumen Outputs

The lumen outputs quoted here show substantial increases over previous figures.

Higher efficiency "Super" phosphors, previously only used in the 6ft. 85w. White rating, are now in general use throughout the range and improvements in manufacturing techniques also contribute to these important increases.

MINIATURE FLUORESCENT TUBES

Miniature fluorescent tubes give high lumen output with low power consumption. (Equivalent to a filament lamp five times the wattage.)

Their long life, low temperature and slim shape make them particularly suitable for signs, bollards, displays, bulkheads and appliances.

	Initial Lumens			
	525mm (21in) 13W	300mm (12in) 8W	225mm (9in) 6W	150mm (6in) 4W
White	830	425	290	160
Warm White	830	425	290	160
Daylight	780	400	275	150
Natural	—	325	230	120

All these tubes are 16mm ($\frac{5}{8}$ in) diameter.

Lighting Design Lumens

	525mm (21in) 13W	300mm (12in) 8W	225mm (9in) 6W	150mm (6in) 4W
White	730	360	240	135
Warm White	730	360	240	135
Daylight	680	340	230	125
Natural	—	280	190	100

Initial lumens (100 hours)	2400 mm 125W	2400 mm Super 8 85W	1800 mm Super 6 85W	1500 mm Super 5 80W*	1500 mm Super 5 65W*	1500† mm 50W	1200 mm 40W	900 mm 30W	900† mm 30W	600 mm 40W	600 mm 20W	450 mm 15W	450† mm 15W
White	9400	7300	6600	5700	5050	3700	3000	2100	2400	2000	1200	900	950
Warm White	9300	7200	6500	5600	4950	3650	2950	2100	2400	2000	1200	900	950
Daylight	9000	7000	6250	5450	4800	3600	2900	2000	2300	1900	1150	850	900
Natural	7150	5500	4800	4300	3700	2800	2300	1600	1800	1500	900	650	700
De Luxe Warm White	6800	5300	—	4100	3600	—	2150	1500	1700	1400	850	600	—
° Kolor-rite	6300	4800	4300	3800	3350	2550	2000	—	1550	1300	850	—	—
Northlight	5800	4500	4000	3400	3000	—	1900	1300	1500	1250	800	550	600
DeLuxe Natural	5500	4300	3700	3200	2900	2250	1750	1200	1400	1150	700	500	550
Artificial Daylight	4800	3600	3300	2900	2600	—	1500	—	—	—	650	—	500

†These tubes are 26mm (1in) diameter. All others are 38mm (1½in) diameter.

Lighting design lumens (2000 hours)

White	8700	6800	6300	5200	4700	3300	2750	1850	2150	1700	1100	750	800
Warm White	8600	6700	6100	5100	4600	3250	2700	1850	2150	1700	1100	750	800
Daylight	8400	6500	5750	4950	4450	3200	2650	1750	2050	1600	1050	700	750
Natural	6500	5000	4350	3900	3400	2400	2100	1400	1600	1300	800	550	600
DeLuxe Warm White	6200	4700	—	3500	3100	—	1950	1250	1450	1200	750	500	—
° Kolor-rite	5700	4400	3850	3400	3000	2200	1800	—	1300	1100	750	—	—
Northlight	5300	4100	3600	3100	2700	—	1700	1050	1250	1050	700	450	500
De Luxe Natural	4800	3800	3200	2700	2500	1850	1500	900	1100	900	600	400	450
Artificial Daylight	3800	3000	2600	2300	2100	—	1200	—	—	—	500	—	400

*The Super 5 tube is a dual purpose 65/80W tube suitable for use in all 65W or 80W bi-pin fittings.

5ft 80W BC tubes are still available in a limited range of standard colours.

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Fluorescent tubes light output

REFLECTOR TUBES

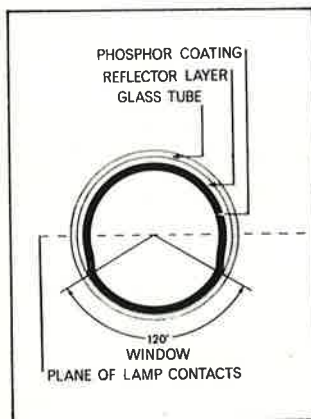
The reflector fluorescent tubes have an additional highly reflecting coating added between the fluorescent powder and the inside of the glass tube. In this way the majority of light is radiated through an aperture of 120° from the lamp centre in the preferred direction. This lamp is particularly useful in the following applications:

Lighting in dusty atmospheres Dust collection on an ordinary tube and fitting rapidly reduces light output. With a reflector tube, light re-direction is independent of dust, and light output is better maintained.

Display lighting This lamp is useful where space is restricted as in showcases where it is difficult to put an external reflector.

High intensity lighting Reflector lamps enable tubes to be mounted in banks where an external reflector may not be convenient or effective.

Replacement lamps can be used in old fittings which have deteriorated so as to give an increase in useful light output.



Initial lumens (100 hours)

	2400mm (8ft)	2400mm (8ft)	1800mm (6ft)	1500mm (5ft) at 80W	1500mm (5ft) at 65W	1200mm (4ft)	600mm (2ft)
	125W	85W	85W			40W	20W
White	8400	6500	5800	5100	4500	2700	1100
Warm White	8300	6400	5600	4900	4400	2650	—
Daylight	—	—	5500	4700	4200	2600	—
Natural	—	—	4200	3800	3300	—	—

Lighting design lumens (2000 hours)

White	7700	6000	5200	4600	4200	2450	1000
Warm White	7600	5900	5000	4400	4000	2400	—
Daylight	—	—	4900	4200	3800	2350	—
Natural	—	—	3700	3300	2900	—	—

COLOURED TUBES

Six standard colours — Red, Blue, Green, Gold, Peach and Pink are available. These are primarily designed for decorative and effect lighting purposes.

Lighting design lumens

	1800mm (6ft)	1500mm (5ft) at 80W	1500mm (5ft) at 65W	1200mm (4ft)	900mm (3ft)	600mm (2ft)	600mm (2ft)
	85W	80W	65W	40W	30W	40W	20W
Pink	1,600	1,400	1,250	750	550	500	290
*Red	—	250	230	140	—	—	50
*Gold	—	2,700	2,400	1,450	—	—	550
Green	—	5,200	4,600	2,800	—	—	1,100
Blue	—	1,300	1,150	700	—	—	270
Peach	—	3,200	2,900	1,750	—	—	700

*Red and Gold tubes should only be used in switch-start circuits

GRO-LUX Lighting design lumens

1500mm (5ft) at 80W	1500mm (5ft) at 65W	1200mm (4ft) 40W	900mm (*3ft) 30W	600mm (2ft) 20W	450mm (*1½ft) 15W	525mm (21in) 13W	300mm (12in) 8W
1450	1300	810	530	340	200	180	100

*1in diameter

TROPICAL DAYLIGHT

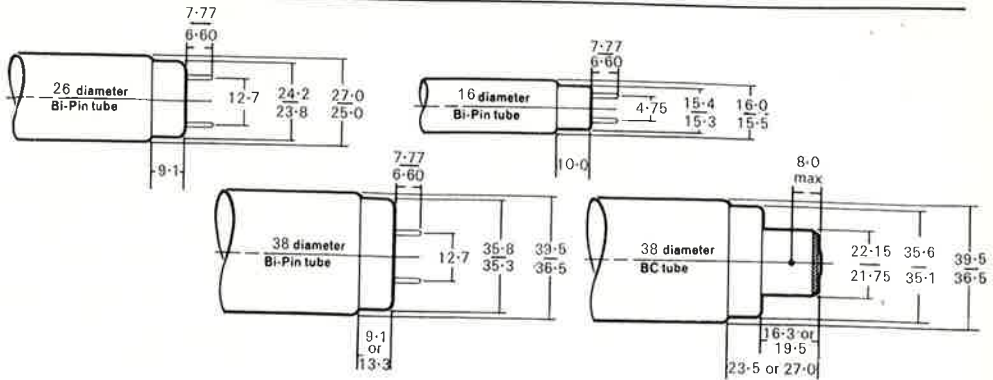
Lighting design lumens
450mm (1½ft) 15W — 550

CIRCULAR TUBES Warm White only

Tube size (diameter) Wattage	400mm (16in) 40W	300mm (12in) 32W	200mm (8½in) 22W
Lighting design lumens	2150	1500	850

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Fluorescent tubes dimensions



STRAIGHT TUBES *Note the new metric designation of tubes

Rated wattage	Nominal dimensions		cap	Length, base face to base face (max.) mm	Length, base face to end of opposite cap pins		Length overall	
	mm*	in			max.	min.	max.	min.
125	2400×38	96×1½	Bi-Pin	2374.9	2382.0	2378.4	2389.1	—
85	2400×38	96×1½	Bi-Pin	2374.9	2382.0	2378.4	2389.1	—
85	1800×38	72×1½	Bi-Pin	1763.8	1770.9	1768.4	1778.0	—
65/80	1500×38	60×1½	Bi-Pin	1500.0	1507.1	1504.8	1514.3	—
80	1500×38	60×1½	BC	—	—	—	1530.4	1517.6
50	1500×26	60×1	Bi-Pin	1500.0	1507.1	1504.8	1514.3	—
40	1200×38	48×1½	Bi-Pin	1199.4	1206.5	1204.1	1213.6	—
40	600×38	24×1½	Bi-Pin	589.8	596.9	594.5	604.0	—
30	900×38	36×1½	Bi-Pin	894.6	901.7	899.3	908.8	—
30	900×26	36×1	Bi-Pin	894.6	901.7	899.3	908.8	—
20	600×38	24×1½	Bi-Pin	589.8	596.9	594.5	604.0	—
15	450×38	18×1½	Bi-Pin	437.4	444.5	442.1	451.6	—
15	450×26	18×1	Bi-Pin	437.4	444.5	442.1	451.6	—
13	525×16	21×⅝	Bi-Pin min.	516.8	523.9	521.5	531.0	—
8	300×16	12×⅝	Bi-Pin min.	288.2	295.3	292.9	302.4	—
6	225×16	9×⅝	Bi-Pin min.	212.0	219.1	216.7	226.2	—
4	150×16	6×⅝	Bi-Pin min.	135.8	142.9	140.5	150.0	—

CIRCULAR TUBES

Lamp watts	Nominal diameter mm in	Inside lamp diameter/ glass mm		Inside lamp diameter/ base mm		Outside lamp diameter*		Bulb diameter mm	
		max.	min.	max.	min.	max.	min.	max.	min.
22	200 8½	160.4	151.1	155.6	150.8	215.9	203.2	30.9	26.2
32	300 12	245.6	237.3	246.1	239.7	311.2	298.5	34.1	29.4
40	400 16	346.9	338.9	347.7	341.3	412.8	400.0	34.1	29.4

*Base and glass dimensions the same.

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Fluorescent tubes electrical data

Electrical data for standard 240V 50Hz tube circuits. Average performance tested at 25°C to BS2818
The figures on this page are for control gear used in Atlantic, Format, Invincible and similar fittings.

Tube size	2400mm (8ft)	2400mm (8ft)	1800mm (6ft)	1500mm (5ft)	1500mm (5ft)	1500mm (5ft)	1200mm (4ft)	900mm (3ft)	900mm (3ft)
Diameter	38mm (1½in)	38mm (1½in)	38mm (1½in)	38mm (1½in)	38mm (1½in)	38mm (1½in)	38mm (1½in)	38mm (1½in)	25mm (1in)
Nominal tube watts	125W	85W	85W	80W	65W	50W	40W	30W	30W
Lamp cap	Bi-Pin	BP Super 8	BP Super 6	BC or BP	BP Super 5	BP	BP	BP	BP
Actual lamp watts	123	85	84	76	64	50	39½	29½	30
Average tube volts	150	184	120	100	110	165	102	85	98
Average tube amps	0.94	0.55	0.80	0.87	0.67	0.38	0.44	0.39	0.36
Rated life (hours)	7500	7500	7500	7500	7500	5000	7500	5000	5000

SINGLE TUBE SWITCHSTART

Total circuit watts	144	—	95	94	80	62	50	39	39
Lagging power factor	0.64‡	—	0.87	0.85	0.85	0.69‡	0.85	0.85	0.85
Total volt/amps	226	—	108	110	91	90	60	46	46
Mains current at 240V	0.94	—	0.45	0.46	0.38	0.39	0.25	0.19	0.19
Min. starting temperature 0°C	—	—	+5°C	0°C	0°C	+5°C	0°C	0°C	0°C
% Harmonics per phase	15%	—	17%	17%	17%	17%	17%	17%	17%

SINGLE TUBE SWITCHLESS START

Total circuit watts	154	100	96	99	79	—	53	42	42
Lagging power factor	0.98	0.99	0.86	0.85	0.91	—	0.85	0.85	0.85
Total volt/amps	158	100	110	116	87	—	62	50	50
Mains current at 240V	0.66	0.42	0.46	0.48	0.36	—	0.26	0.21	0.21
Min. starting temperature +5°C	—	+5°C	—5°C	+5°C	—5°C	—	+5°C	+5°C	+5°C
% Harmonics per phase	8%	7%	25%	17%	25%	—	17%	17%	17%

TWINSTART

Total circuit watts	—	207	—	—	—	—	—	—	—
Lagging power factor	—	0.95	—	—	—	—	—	—	—
Total volt/amps	—	218	—	—	—	—	—	—	—
Mains Current at 240V	—	0.91	—	—	—	—	—	—	—
Min. starting temperature	—	+5°C	—	—	—	—	—	—	—
% Harmonics per phase	—	17%	—	—	—	—	—	—	—

The above circuit watts for control gear tested in accordance with BS2818 may be reduced by up to 5% when operating in some fittings as the circuit watts reduce as the lamp operating temperature rises.

‡2400mm (8ft) 125W and 1500mm (5ft) 50W starter switch circuits operate with a series type capacitor at a leading power factor.

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Fluorescent tubes electrical data

Tube size	600mm (2ft)	600mm (2ft)	450mm (18in)	450mm (18in)	525mm (21in)	300mm (12in)	225mm (9in)	150mm (6in)
Diameter	38mm (1½in)	38mm (1½in)	38mm (1½in)	26mm (1in)	16mm (⅝in)	16mm (⅝in)	16mm (⅝in)	16mm (⅝in)
Nominal tube watts	40W	20W	15W	15W	13W	8W	6W	4W
Lamp cap	BP	BP	BP	BP	Small BP	Small BP	Small BP	Small BP
Actual lamp watts	37	19½	15	15	13	8	6	4
Average tube volts	47	58	48	57	92	55	43	30
Average tube amps	0.88	0.37	0.36	0.34	0.17	0.17	0.16	0.15
Rated life (hours)	5000	5000	5000	5000	5000	5000	5000	5000

SINGLE TUBE SWITCHSTART

Total circuit watts	58	30	25	25	19	14	12	10
Lagging power factor	0.85	0.34*	0.30*	0.31*	0.46*	0.34*	0.31*	0.28*
Total volt/amps	69	90	85	81	41	41	39	36
Mains current at 240V	0.29	0.37	0.36	0.34	0.17	0.17	0.16	0.15
Min. starting temperature	0°C	0°C	0°C	0°C	0°C	0°C	0°C	0°C

SERIES PAIR SWITCHSTART

Total circuit watts	94	50	40	40	—	22	18	14
Lagging power factor	0.85	0.85	0.85	0.85	—	0.52*	0.46*	0.39*
Total volt/amps	110	59	47	47	—	41	39	36
Mains current at 240V	0.46	0.25	0.20	0.20	—	0.17	0.16	0.15
Min. starting temperature	0°C	0°C	0°C	0°C	—	0°C	0°C	0°C

SERIES PAIR QS SWITCHLESS START

Total circuit watts	100	54	44	44	—	—	—	—
Lagging power factor	0.85	0.85	0.85	0.85	—	—	—	—
Total volt/amps	118	63	52	52	—	—	—	—
Mains current at 240V	0.49	0.26	0.22	0.22	—	—	—	—
Min. starting temperature	+5°C	+5°C	+5°C	+5°C	—	—	—	—

*Uncorrected value, Allow 0.85 if power factor capacitor is fitted.

The above circuit watts for control gear tested in accordance with BS2818 may be reduced by up to 5% when operating in some fittings as the circuit watts reduce as the lamp operating temperature rises.

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Fluorescent tubes control gear

These pages list a selection of control gear, and accessories, taken from the complete range fully described in the "Control Gear and Accessories" catalogue. This selection is suitable for 240V 50Hz supplies only. Control gear for other 50Hz supplies in the 200-250V range is included in the full control gear catalogue.

COMBINED BALLASTS

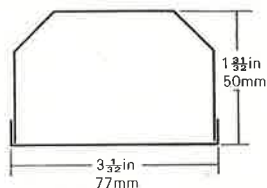
A range of 240V 50Hz HPF and LPF ballasts incorporating all necessary circuit components in one can.

These ballasts provide completely self-contained units ideal for mounting at some distance away from the tube, or alternatively, for use adjacent to the tube when shortage of space prevents the use of a complete fluorescent fitting.

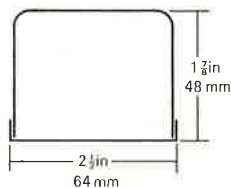
These units are ideal for mounting within interior signs, or within suitably designed exterior signs, and are also used for some showcase lighting and in certain architectural features such as alcoves, pelmets, etc.

All ballasts have screw terminal connections.

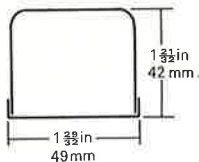
When required, starter switches must be ordered separately.



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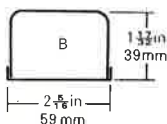
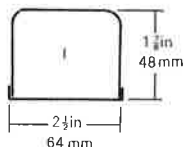
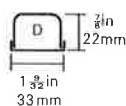
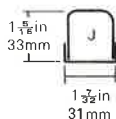
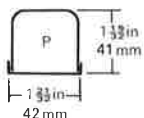
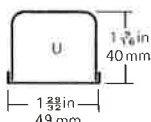
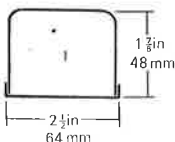
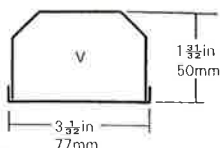
UI

Catalogue No.	Use	Can Colour	Can Section	Fixing Centres		Weight	
				mm	in	kg	lb
AME 63219.4	2400mm 125W HPF SS	White	I	318	12 1/2	2.5	5.5
AME 69194.4	2400mm 125W HPF QS	White	V	406	16	4.5	10.25
AME 68028.4	1800mm 85W/1500mm 80W/2 x 600mm 40W HPF SS	White	I	213	11 1/2	2.3	5.1
AME 68041.4	1500mm 80W HPF SRS	White	I	318	12 1/2	2.6	6.2
AME 68061.4	1500mm 65W HPF SS	White	I	254	10	1.9	4.25
AME 69161.4	1500mm 65W HPF SRS	White	I	268	10 1/2	2.2	4.75
AME 69090.4	1500mm 50W HPF SRS	White	UI	268	10 1/2	1.6	3.5
AME 69054.4	1200mm 40W/2 x 600mm 20W HPF SS	White	UI	216	8 1/2	1.2	2.5
AME 69064.4	1200mm 40W HPF QS	White	UI	241	9 1/2	1.5	3.25
AME 69053.4	900mm 30W/2 x 450mm 15W HPF SS	White	UI	216	8 1/2	1.2	2.5
AME 69063.4	900mm 30W HPF QS	White	UI	241	9 1/2	1.5	3.25
AME 69195.4	600mm 20W/450mm 15W LPF SS	White	UI	216	8 1/2	1.0	2.2
AME 69072.4	600mm 20W/450mm 15W LPF QS	White	UI	165	6 1/2	1.3	2.75
AME 69032.4	2 x 600mm 20W LPF QS	White	UI	191	7 1/2	1.4	3.0

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Fluorescent tubes control gear

The chokes, ballasts, SRS units and QS units listed below will be found satisfactory for most applications and are suitable replacement items for the majority of units with different physical characteristics incorporated in current, and obsolete, fluorescent fittings.



CHOKES AND BALLASTS

Lamp Rating	Choke or Ballast	Choke or Ballast Ref. No.	Can Colour	Can Section	Fixing Centres
125W 2400mm	SS Choke‡	CU/125	White	U	203mm (8in)
		CI/125	Black	I	152mm (6in)
	OS Choke‡ OS Ballast‡	CQI/125 BOI/125	Black Black	I I	152mm (6in) 292mm (11 1/2 in)
85W 2400mm	OS Single Ballast*	QBI/85	White	I	229mm (9in)
	Twin-start Ballast (HPF)	BV/285	Black	V	406mm (16in)
85W 1800mm	SRS Ballast*	BU/685	White	U	203mm (8in)
	SRS Ballast*	BI/685	White	I	152mm (6in)
	SS Choke†	CU/685	Black	U	203mm (8in)
80W 1500mm	QS or SS Choke†	CI/80	White	I	152mm (6in)
65W 1500mm	SS Choke†	CU/65	White	U	152mm (6in)
	SRS Ballast*	BI/65 BU/65	White Black	I U	152mm (6in) 203mm (8in)
50W 1200mm	SS Choke Arrow Slim‡	CJ/50	Natural varnish	J	216mm (8 1/2 in)
40W 1200mm or 2-20W 600mm (series)	QS or SS Choke†	CU/40	White	U	114mm (4 1/2 in)
32W or 30W or 2-15W 450mm (series)	SS Choke†	CU/30	White	U	114mm (4 1/2 in)
	SS Choke Arrow Slim†	CJ/30	Natural varnish	J	197mm (7 3/4 in)
40W 600mm	QS or SS Single Choke†	CI/240	White	I	152mm (6in)
	QS or SS Twin Choke†	CI/2240	White	I	152mm (6in)
20W 600mm or 15W 450mm	QS or SS Choke†	CU/20	White	U	114mm (4 1/2 in)
13W 525mm	SS Choke†	CD/13	White	D	184mm (7 1/4 in)
Twin 8W 300mm	SS Choke†	CPX/28	White	P	89mm (3 1/2 in)
Single 8W 300mm 6W 225mm 4W 150mm	SS Choke†	CD/8	White	D	184mm (7 1/4 in)
		CPX/8	White	P	89mm (3 1/2 in)

* These units must be used with the correct series or circuit capacitors which form an essential part of the circuits.

† These units are for use with a separate starter switch, or QS unit, and power factor correction capacitor if required.

‡ These units must be used with the appropriate starter switch, or QS unit, and the correct series capacitors which form an essential part of the circuits.

QUICKSTART UNITS

Lamp Rating	QS Unit	QS Unit Ref. No.	Can Colour	Can Section	Fixing Centres
125W 2400mm	QS Unit	QS/125	Black	I	152mm (6in)
80W 1500mm	QS Unit	QS/80	Black	I	89mm (3 1/2 in)
40W 1200mm	QS Unit	QS/40	White	B	89mm (3 1/2 in)
Twin 40W 600mm	QS Unit	QS/2240	Black	I	152mm (6in)
Twin 20W 600mm	QS Unit	QS/220	White	B	102mm (4in)



DISCHARGE LAMPS

Introduction

Mazda has been one of the leading major brands since the inception of discharge lamps in the early 1930's and Mazda is now the Thorn Lighting Ltd brand of sodium and high pressure mercury discharge lamps. The outstanding development in mercury lamps is the recent introduction of °Kolorlux versions in all the fluorescent coated lamps, giving an improved colour appearance at a higher luminous efficiency.

In the sodium lamp field Mazda has a unique high efficiency linear sodium lamp in 200w 140w and 60w ratings. Details of these and many other interesting discharge lamps are given in this section.

Discharge Lamps Index

Page no.	Index
292	Index
293	MBI, MBIF Kolorarc, Mercury Iodide Lamps
294	MBF Kolorlux Lamps
295	MBFR Mercury Reflector Lamps
296	MBTF & MBTL
297	MB Mercury Lamps
298	Information (Mercury Lamps)
299	Information continued
300	SON (High Pressure Sodium)
301-302	SLI/H Linear Sodium Lamps
303	SOX Low Pressure Sodium Lamps
304	SOI/H Integral Sodium Lamps
305	Information (Sodium Lamps)

Discharge lamps

Mercury iodide lamps Types MBI and MBIF °Kolorarc

Description

High pressure discharge in mercury with metallic additives operating in a quartz arc tube. °Kolorarc (MBIF) lamps have hard glass elliptical bulbs coated on the interior surface with fluorescent phosphor increasing the light output, improving the colour, and diffusing the arc.

MBI lamps have clear hard glass elliptical bulbs. The special additives in the arc help to provide a more continuous spectral power distribution throughout the visible spectrum. At the same time the mercury resonance lines are reduced in comparison with ordinary mercury lamps, giving a light source with excellent colour rendering properties comparable to a "Natural" fluorescent tube.

Application

The excellent colour rendering of °Kolorarc makes it suitable for interior commercial applications such as shops, stores, offices, exhibitions etc. Also for industrial applications where colour plays an important part in the process.

It is ideal for high bay lighting, area floodlighting and streetlighting where an added attraction is its 25% increase in light output over MBF lamps.

MBI lamps with clear outer bulbs, are suitable where precise optical control is required such as floodlighting.

°Kolorarc and MBI lamps have proved suitable light sources for use with colour television cameras.

Burning Position

Lamps *must not* be operated with cap BU Base Up below horizontal more than 15° BD Base Down.

Lamps *must not* be operated with cap more than 15° above horizontal.

Control Gear

Resonant circuit comprising inductances and capacitor required. It will *not* operate on standard mercury control gear. See page 299.

Percentage Luminance in spectral bands (400w lamps)

Band	Waveband (nm)	Colour	% Luminance	
			Std. MBI	MBIF °Kolorarc
1	380-420	Far Violet	0.03	0.02
2	420-440	Violet	0.24	0.18
3	440-460	Blue	0.30	0.27
4	460-510	Blue Green	5.55	8.96
5	510-560	Green	41.1	34.8
6	560-610	Yellow	46.0	47.0
7	610-660	Light Red	6.66	8.24
8	660-760	Dark Red	0.15	0.56

Type	Burning Position	Std. Pack	Cap	Lighting Design Lumens*
400w Kolorarc (MBIF)	BU	9	G.E.S.	27,000
400w (MBI)	BU or BD	9	G.E.S.	24,000
1000w (MBI)	BU	1	G.E.S.	76,000

*Note: The lighting design lumens quoted apply to vertical operation. There will be a slight reduction in output when operated horizontally.

Supply voltage 200/260v.

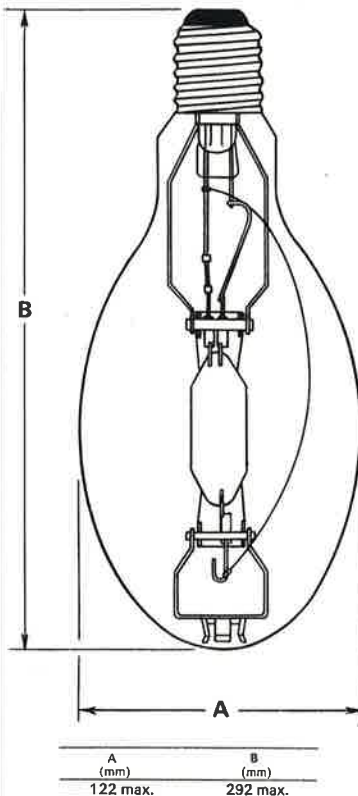
Rated life 7,500 hours.

For further information see pages 298, 299

Photograph showing appearance of MBIF °Kolorarc lamp.



Drawing showing construction of 400w. MBI lamp.



Discharge lamps

Mercury fluorescent lamps Type MBF °Kolorlux

Description

High pressure mercury vapour discharge operating in a quartz arc tube. The interior surface of the elliptical bulb is coated with a fluorescent phosphor which converts ultra violet radiation from the discharge into visible light.

°Kolorlux lamps employ new phosphor giving up to 10% higher light output than standard MBF lamps together with improved colour at the red end of the spectrum.

Applications

MBF lamps are widely used in industrial and streetlighting. The improved colour of °Kolorlux has extended the applications to commercial and display lighting, shopping centre and concourse lighting, and area floodlighting.

Burning Position

Universal--lamps may be operated in any position.

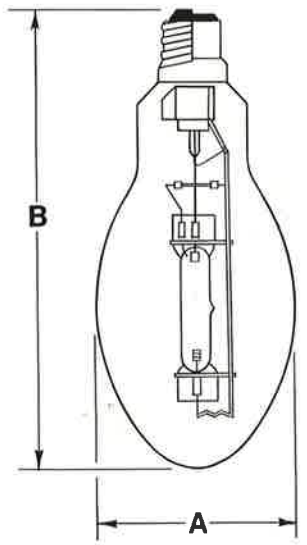
Control Gear

Choke and power factor correction capacitor required.
See page 299.

Photograph showing appearance of MBF 125w. lamp illustrated.



Drawing showing construction of MBF 125w. lamp illustrated.



	A (mm)	B (mm)
50w.	55 ± 1	125 ± 4
80w.	70 ± 1	150 ± 4
125w.	75 ± 1	170 ± 5
250w.	90 ± 1	220 ± 7
400w.	120 ± 2	280 ± 6
700w.	141 ± 2	320 ± 8
1000w.	165 ± 2	400 ± 10

Percentage luminance in spectral bands (400w °Kolorlux)

Band	Waveband (nm)	Colour	% Luminance
1	380-420	Far Violet	0.01
2	420-440	Violet	0.44
3	440-460	Blue	0.08
4	460-510	Blue Green	0.67
5	510-560	Green	37.7
6	560-610	Yellow	47.3
7	610-660	Light Red	13.7
8	660-760	Dark Red	0.12

Watts	Std. Pack	Cap	Lighting Design Lumens
50	50	E.S.	1,800
80	24	E.S.*	3,350
125	24	E.S.*	5,550
250	9	G.E.S.	12,000
400	9	G.E.S.	21,500
700	1	G.E.S.	38,000
1,000	4	G.E.S.	54,000

*3 pin B.C. cap also available.

Supply voltage 200/250v.

Rated life 7,500 hours.

Further information: See pages 298 and 299

Discharge lamps

Mercury reflector lamps Type MBFR °Kolorlux

Description

High pressure mercury vapour discharge operating in a quartz arc tube. A shaped outer bulb forms an integral reflector. The upper portion of the bulb is coated with a reflecting layer which directs most of the light downward but allows some upward light. This internal reflector is unaffected by atmospheric corrosion and dirt collection so that the lamp requires the minimum maintenance. The introduction of °Kolorlux phosphor into the range of reflector lamps gives a greatly improved colour and up to 10% higher output than previously available, with standard MBFR lamps.

Application

°Kolorlux reflector lamps are particularly suitable for medium and high bay lighting. The hard glass outer bulb allows the lamps to be used in exposed conditions for area lighting. The improved colour of °Kolorlux has widened the use of reflector lamps into commercial applications such as display lighting.

Burning Position

Reflector lamps can be operated in any position.

Control Gear

Choke and power factor correction capacitor required.
See page 299.

Percentage Luminance in Spectral Bands (400w °Kolorlux)

Band	Waveband (nm)	Colour	% Luminance
1	380-420	Far Violet	0.01
2	420-440	Violet	0.48
3	440-460	Blue	0.10
4	460-510	Blue Green	0.71
5	510-560	Green	37.9
6	560-610	Yellow	49.3
7	610-660	Light Red	11.4
8	660-760	Dark Red	0.10

Watts	Std. Pack	Cap	Lighting Design Lumens
250	1	G.E.S.	10,500
400	1	G.E.S.	18,000
700	1	G.E.S.	32,500
1,000	1	G.E.S.	48,000

Supply voltage 200/250v.

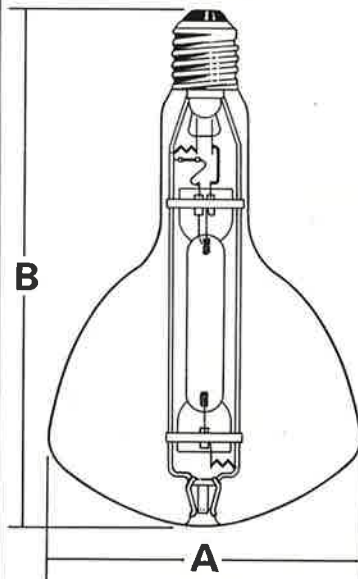
Rated life 7,500 hours.

Further information: See pages 298 and 299

Photograph showing appearance of MBFR—400w lamp illustrated.



Drawing showing construction of MBFR—1000w lamp illustrated.



	A (mm)	B (mm)
250w	165±1	253±7
400w	180±1	293±7
700w	200±2	320±8
1000w	220±2	370±10

Discharge lamps

Mercury tungsten lamps Types MBTL °Kolorlux, MBTF and MBTL

Description

Mercury tungsten lamps consist of a high pressure mercury discharge in a quartz arc tube. Mounted coaxially with the arc tube and connected in series with it, is a coiled tungsten filament which provides light and colour correction to the output of the mercury discharge and acts as a ballast to the arc.

No control gear is needed.

All ratings have pear-shaped outer bulbs.

°Kolorlux MBTF lamps have an outer bulb coated with a new phosphor giving higher light output and improved colour in comparison with the previous MBTL and MBTF types.

coating.

The 250w and 500w MBTF lamps have a fluorescent coating on the outer bulb adding to the red output and diffusing the source.

Application

Mercury tungsten lamps can be used as direct replacements for tungsten filament lamps giving higher light output and six times the life. They are particularly suitable where labour costs are high and access is difficult. Applications include shop windows, garages, warehouses, streetlighting and in wellglass, bulk head and flameproof fittings.

Burning Position

Mercury tungsten lamps are designed for operation in the cap up position. 250 and 500w ratings will only operate in other positions providing there is negligible fluctuation in the supply voltage.

Supply Voltage

Two voltage ratings of lamps are available 220/230v and 240/250v and lamps must be operated on the correct supply. Sudden reductions in voltage will cause lamps to extinguish.

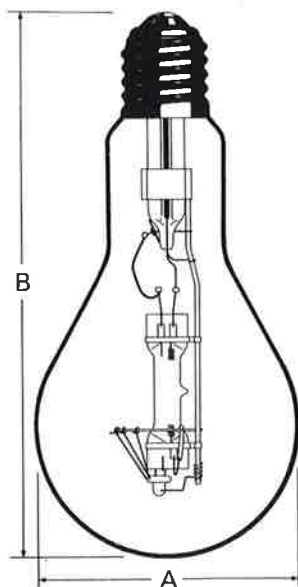
Control Gear

No control gear is required, mercury tungsten lamps operate direct from the supply.

Band	Waveband (nm)	Colour	% Luminance 250w Lamp
1	380-420	Far Violet	0.01
2	420-440	Violet	0.39
3	440-460	Blue	0.14
4	460-510	Blue Green	1.96
5	510-560	Green	40.2
6	560-610	Yellow	39.9
7	610-660	Light Red	16.7
8	660-760	Dark Red	0.71

Watts	Std. Pack	Cap	Lamps Current 220/230v	(amps) 240/250v	Lighting Design Lumens
160	12	BC or ES	0.70	0.65	2,560
250	12	GES	1.10	1.05	4,840
500	6	GES	2.20	2.10	11,500

Rated life 6,000 hours.



	A (mm)	B (mm)
160w	88 ±1	173.5 ±5.5*
250w	110 ±1.5	233 ±7
500w	130 ±1.5	267 ±8

*For E.S. Cap add 5mm.

Discharge lamps

Mercury lamps Type MB

Description

High pressure mercury vapour discharge operating in a quartz arc tube, 80 and 125w sizes have elliptical pearl bulbs, 250 and 400w ratings have clear tubular hard glass bulbs.

Application

MB lamps have been largely superseded for industrial and streetlighting by MBF *Kolorlux because of the higher light output and improved colour, MB lamps are still used for general illumination where colour is not important but are also used where the typical characteristics of mercury spectral power distribution are advantageous, e.g. for graphic arts, laboratory and scientific purposes, plant growth, floodlighting.

Control Gear

Choke and power factor correction capacitor required.
See page 299

Burning Position

Universal – lamps may be operated in any position.

Percentage Luminance in spectral bands (400w MB)

Band	Waveband (nm)	Colour	% Luminance
1	380-420	Far Violet	0.02
2	420-440	Violet	0.61
3	440-460	Blue	0.18
4	460-510	Blue Green	0.83
5	510-560	Green	47.7
6	560-610	Yellow	49.7
7	610-660	Light Red	0.84
8	660-760	Dark Red	0.07

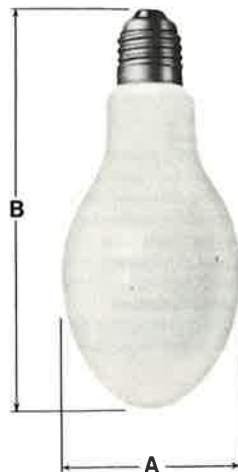
Watts	Std. Pack	Cap	Lighting Design Lumens
80	24	E.S.*	3,200
125	24	E.S.*	5,200
250	12	G.E.S.	11,500
400	12	G.E.S.	19,600

*3 pin B.C. cap also available.

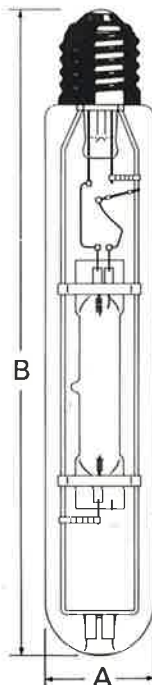
Supply voltage 200/250v.

Rated life 7,500 hours.

Further information: See pages 298 and 299



	A (mm)	B (mm)
80w.	70 ± 1	150 ± 4
125w.	75 ± 1	170 ± 5



	A (mm)	B (mm)
250w.	51 ± 1	290 ± 8
400w.	51 ± 1	330 ± 8

Discharge lamps

Mercury lamp information

Lighting Design Lumens

The "Lighting Design Lumens" quoted are the lamp outputs at 2,000 hours and are recommended as a guide to lighting engineers planning scheme lay-outs. Lumen output beyond 2,000 hours decreases by 2-4% per 1,000 hours use according to type.

Striking Voltage

Mercury lamps are provided with an auxiliary electrode to initiate starting. Diagram 1 shows the lamp will start readily under all normal operating temperatures. The striking voltage of MBI and MBIF lamps is not affected by ambient temperature.

Mains Voltage Variation

Diagram 2 shows the effect of mains voltage variation on lumens, lumens per watt and lamp watts.

Run-up Characteristics

These are shown in diagram 3. The time taken will vary slightly depending upon the location and the type of fitting housing the lamp.

Nominal Electrical Characteristics for MB, MBF and MBFR lamps.

Watts	Rating Volts	Lamp Operating Volts	Lamp Operating Current (amps)
50	200/250	85/105	0.61
80	200/250	105/130	0.8
125	200/250	110/140	1.15
250	200/250	115/145	2.15
400	200/250	120/150	3.2
700	200/250	125/155	5.6
1000	200/250	130/160	7.5

Nominal Electrical Characteristics for °Kolorarc and MBI lamps

Watts	Rating Volts	Lamp Operating Volts	Lamp Operating Current (amps)
400	200/250	120/150	3.3
1000	200/250	235/265	4.2

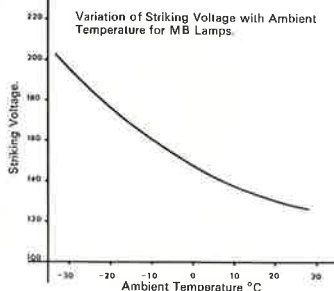
British Standards

Lamps described in this catalogue conform to the following Standards where applicable.

BS 3677 :- 1963 Schedule for Electric Discharge Lamps for General Purposes.

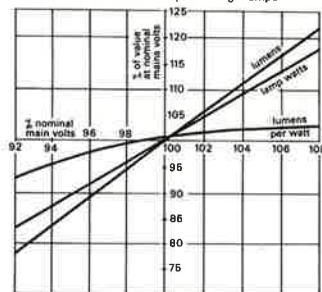
BS 98 :- 1962 Screw Caps and Holders.

1



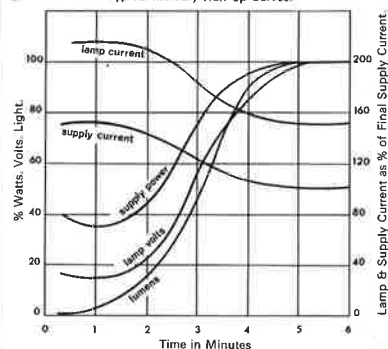
2

Effect of variation of mains voltage on the lamp Characteristics of Mercury Discharge lamps



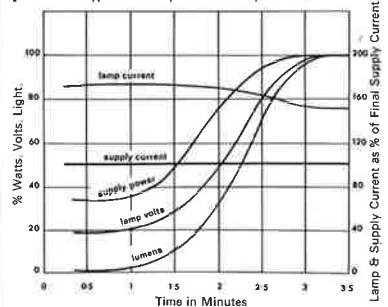
3

Typical Mercury Run-up Curves.



4

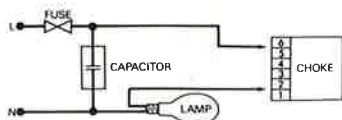
Typical Mercury Iodide Run-up Curves.



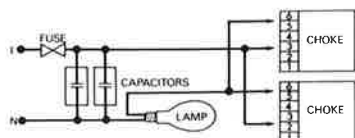
Discharge lamps

Mercury lamp information

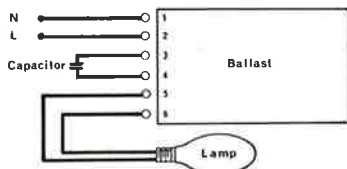
Circuit diagrams



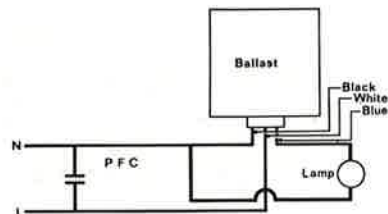
(1) 50 to 400W



(2) 700 and 1000W



(3) 400 Watt °KOLORARC



(4) 1000W, MBI

Control Gear for MB, MBF and MBFR lamps

The control gear for a mercury lamp comprises a choke and a power factor correction capacitor. Gear suitable for 240v 50Hz is summarised in the table below. Details of 240v gear and gear suitable for other voltages are given in a separate publication.

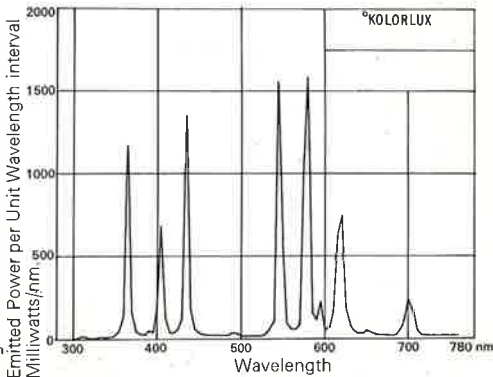
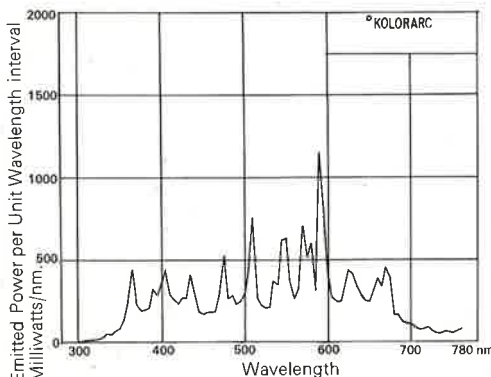
Lamp Rating	Choke Cat. No.	Capacitor Cat. No.
50w	AME53184.4	AMEC2203
80w	AME53162.4	AMEC2234
125w	AME53159.4	AMEC2234
250w	AME53158.4	AMEC2214
400w	AME53193.4	AMEC2218
700w	AME53158 T	AMEC2218
	+ AME53157 T	+ AMEC2214
1000w	2 x AME53164.4	2 x AMEC2236

Control Gear for °Kolorarc and MBI lamps

Lamp Rating	Ballast Cat. no.	Capacitor Cat. no.
400w	AME53195T	2 x AMEC2278
1000w	AME53247-4	4 x AMEC2236

Spectral Power Distribution

The spectral power distributions shown are for typical lamps at 400 watts.



Discharge lamps

High pressure sodium lamps type SON

Construction

In appearance this lamp closely resembles an MBF mercury lamp. The hard glass outer bulb with its diffusing coating is the same size and shape and it has a GES cap which is locked onto the moulded neck eliminating any possibility of the lamp becoming detached from the cap.

The arc tube is made of sintered aluminium oxide, a translucent material capable of withstanding the intense chemical activity of sodium vapour at high temperature and pressure. Metal caps are sealed to its ends and support the electrodes and the tube is mounted in a robust frame which locates on a depression in the crown of the bulb to give great strength and optical control.

Starting and Operation

The arc is struck by a high-voltage pulse supplied by the ignitor which ceases to function once the arc has struck. (See circuit diagram.)

External starting simplifies lamp construction and is very reliable. The lamp takes 4-5 minutes to run up to full brightness and will normally restrike within a minute of extinction. The arc tube contains a little mercury to facilitate starting, but this is not excited in the final discharge and no light is emitted by it.

Burning Position

Universal - Lamps may be operated in any position.

Control gear

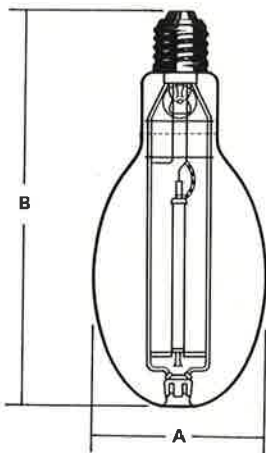
A conventional series choke is required to limit the current, together with the ignitor described above. To ensure reliable starting, the ignitor must be mounted within 1 metre of the lamp. A power-factor capacitor is also required.

Colour

The colour appearance of the lamp resembles that of a black-body at 2300°K - a pleasant golden white. When the arc is run up, the monochromatic yellow characteristic of low-pressure sodium lamps disappears and is replaced by a broader distribution across the visible spectrum. This gives acceptable colour rendering, with a warm appearance and although blues and greens are somewhat subdued, reds and yellows are enhanced and all colours are easily distinguishable.

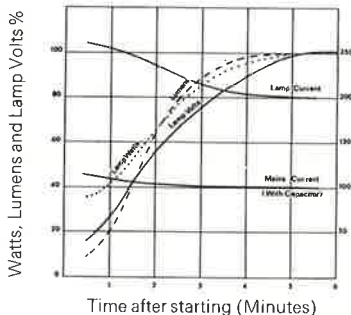
Applications

Public lighting - traffic routes, city centres, shopping areas.
Area lighting - airports, dockyards, car parks, forecourts.
Floodlighting - Stadiums, buildings, marshall yards, sports grounds.
Interior lighting - High-bay lighting for factories, warehouses, hangars, halls.



Dimensions (mm)	A	B
250W	90 ±—	220 ±7
400W	120 ±2	280 ±6

Run-up characteristics of SON Lamps.

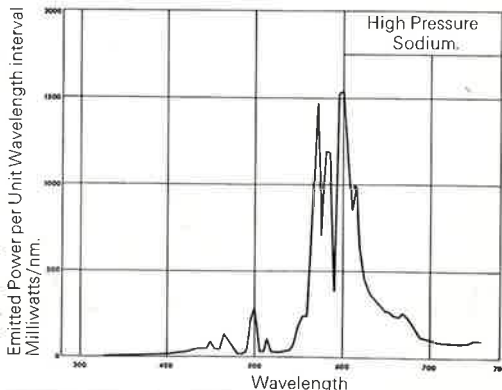


Time after starting (Minutes)

Watts	Std. Pack	Nominal Lamp Volts	Lamp Current (Amps)	Lighting Design Lumen
250	9	100	3.0	19,500
400	9	105	4.4	36,000

Supply Volts 200/250.

Rated life 5,000 hours. For further information see page 305



Discharge lamps

140w. and 200w. SLI/H linear sodium lamps

Quality and Reliability

Since the introduction of the 140w linear sodium lamp by Thorn in 1966, it has achieved an unrivalled record of reliability. Installations throughout the country (including the first motorway lighting on the M4) have given fewer failures before relamping than any other type of sodium lamp to date. Statistical records show lamp survival to be more than 95% at the end of the rated life of 6,000 hours.

Research and Development

Intense study of the fundamental principles of sodium lamps has resulted in exceptionally high efficiency and reliability.

The shape of the inner tube, in particular, shows considerable ingenuity and contributes materially to the success of this lamp. In order to minimise energy losses due to atomic collisions, etc., and absorption of light by the sodium atoms themselves the cross-section must be kept as small as possible, but its surface must be large in order to achieve a high light output. By making the discharge-tube cross-shaped these apparently diametrically opposed conditions are satisfied and in addition there is a direct linear path between the electrodes of the lamp which helps to achieve a low starting voltage.

The tube is made with eighty sodium retention sinks, each of these is a few degrees lower in temperature than other parts of the discharge tube wall and small quantities of sodium condense in them to ensure an even distribution of sodium vapour throughout the life of the lamp. This helps to achieve 100% lumen maintenance throughout life, and to control lamp watts. The lamp requires a sodium reservoir temperature of approximately 250°C to give optimum vapour pressure for efficient light radiation and a considerable portion of the power in the tube is used to achieve this.

An important design feature is the use of an infra-red reflecting film on the inside of the outer bulb. This film, which is composed of the oxides of metals such as tin and indium, conserves the thermal energy of the arc, thus increasing the proportion of energy available to produce light. The thickness of this film is strictly controlled to give optimum transmission of the visible D-line sodium radiation ensuring maximum light output. Its electrical resistance is such that by connecting it on to one cathode, it acts as a secondary starting electrode. Initially the 140w lamp absorbs about 135 watts which through life may rise by a maximum of 4% in 6,000 hours.

Special Advantages

Due to its electrical characteristics and low starting voltage, the 140w lamp is ideally matched to the standard control gear for the 140w and 90w "U" shaped lamps, giving completely reliable operation under normal and adverse conditions.

The small source size and uniform distribution conform to the design requirements of modern street lighting lanterns. 20,000 lumens are emitted uniformly from an arc 78 cm long and only 2.9 cm wide.

The compact and lightweight construction make it easy to handle during relamping. The lamp is 3' 0" long and 1 1/2" diameter and weighs less than 1 lb. Transport and installation are further simplified by a 25-way pack which can easily be stored in service truck or tower wagon.



General Description

A low pressure sodium lamp incorporating the following essential factors:

- 1 A discharge tube of unique cross section containing metallic sodium in an inert gas.
- 2 An electrode sealed into each end terminating in bi-pin caps.

- 3 An outer envelope containing the discharge tube, with the intervening space evacuated to maintain thermal insulation to maintain the sodium in a fully vapourised condition.
- 4 A heat reflecting coating on the inside surface of the outer envelope to provide further thermal insulation.

Discharge lamps

Sodium lamps Type SLI/H linear

Description

Low pressure sodium discharge operating in an arc tube of unique cross section. The arc tube is enclosed in an outer envelope whose inside surface has a reflector coating which provides thermal insulation. A bi-pin cap is fitted at each end. For full description of linear lamps see previous page.

Application

The primary application for linear sodium lamps is streetlighting where the construction of the lamp materially assists the design of lanterns and the light outputs are eminently suitable to meet M.O.T. requirements for major road lighting schemes.

Burning Position

The lamps must operate in a horizontal position $\pm 20^\circ$.

Control Gear

High reactance transformer and power factor correction capacitor required. See page 305

Watts	Std. Pack	Nominal Volts	Lamp Current (amps)	Lighting Design Lumens
140	25	175	0.9	20,000
200	25	135	1.6	25,000

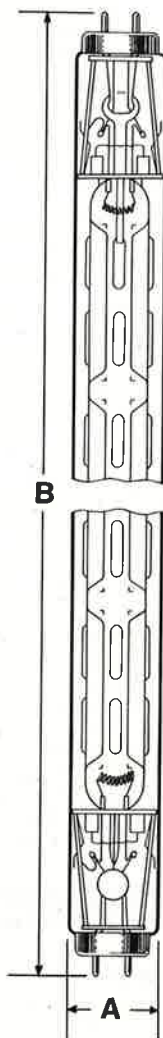
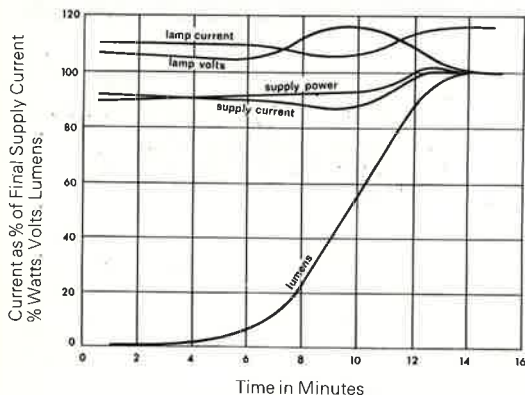
Supply voltage 200/250v.

Rated Life 6,000 hours.

Guaranteed Life 4,000 hours.

Further information: See page 305

Typical Run-up Curves for 140W Lamp



	A max (mm)	B max (mm)
140w	39.5	909
200w	39.5	909

Discharge lamps

Sodium lamps Type SOX

Description

Low pressure sodium discharge operating in a U-shaped arc tube. The U-tube is enclosed in a tubular outer bulb whose inside surface has a reflector coating to provide thermal insulation. This construction provides a lamp of considerably higher efficiency than the integral type. A BC cap is fitted.

Application

The primary application for SOX lamps is for streetlighting where their higher efficiency has superseded earlier types as follows:-

Sodium Lamp Equivalents

- 1 The 90w SOX lamp replaces the 140w SOI/H integral lamp and the 140w SO/H lamp and jacket. All three lamps have the same dimensions and can be operated from the same control gear.
- 2 The 55w SOX lamp replaces the 85w SOI/H integral lamp and 85w SO/H lamp and jacket. All three lamps have the same dimensions and can be operated from the same control gear.
- 3 The 35w SOX lamp replaces the 60w SOI/H integral lamp and the 60w SO/H lamp and jacket. All three lamps have the same dimensions and can be operated from the same control gear.

Burning Position

Horizontal $\pm 20^\circ$.

35w and 55w ratings may also be operated in the vertical cap up position.

Control Gear

High reactance transformer and power factor correction capacitor required. See page

Watts	Std. Pack	Nominal Lamp Volts	Lamp Current (amps)	Lighting Design Lumens
35	9	70	0.6	4,300
55	9	104	0.59	7,150
90	9	112	0.94	12,250
135	9	164	0.95	21,200

Supply voltage 200/250v.

Rated Life 6,000 hours.

Guaranteed Life 4,000 hours.

Further information: See page 305.



	A max (mm)	B max (mm)
35w	53	311
55w	53	425
90w	67	528
135w	67	775

Discharge lamps

Sodium lamps Type SOI/H integral

Description

Low pressure discharge operating in a U-shaped arc tube. The U-tube is enclosed in a tubular outer bulb having a BC cap. Integral lamps have been superseded by SOX lamps with higher efficiencies, but are still available for replacement purposes.

Application

The primary application of Integral sodium lamps is for streetlighting. Full details of interchangeability with SOX lamps are given on Page

Burning Position

Horizontal $\pm 20^\circ$.

45w and 60w ratings may also be operated in the vertical cap up position.

Control Gear

High reactance transformer and power factor correction capacitor required. See page 305.

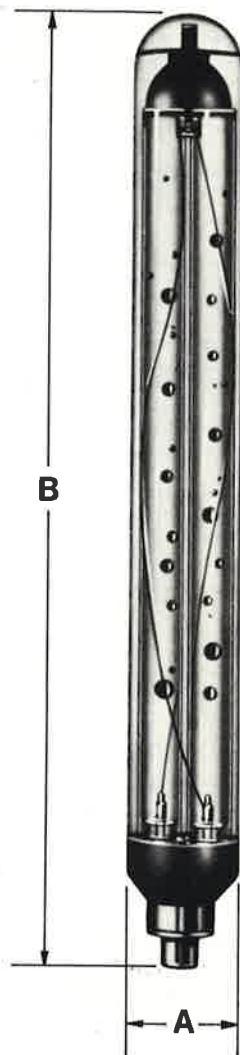
Watts	Std. Pack	Nominal Volts	Lamp Current (amps)	Lighting Design Lumens
45	12	80	0.6	2,800
60	12	105	0.6	3,900
85	12	144	0.68	6,400
140	6	160	0.9	10,600

Supply voltage 200/250v.

Rated Life 6,000 hours.

Guaranteed Life 4,000 hours.

Further information: See page 305.



	A mm	B mm
45w	52	257
60w	52	310
85w	52	425
140w	67	528

Discharge lamps

Sodium lamp information

Lighting Design Lumens

The "Lighting Design Lumens" quoted are the lamp outputs at 3,000 hours*, and represent an average over the first 6,000 hours* life.

* SON lamps are quoted at 2000 hours representing an average over the first 5000 hours.

Mains Voltage Variation

Diagrams 1 and 2 shows the effect of the variation of mains voltage on lumens, lumens per watt, total watts and mains current.

Circuit Diagrams

Circuits for sodium lamps are shown in diagrams 3, 4, 5 and 6.

Spectral Distribution of Low Pressure Lamps

The discharge has a characteristic yellow colour, almost all of the visible energy being concentrated at 589/589.6 nm.

Run-up Time for Low Pressure Lamps

This varies between 10 and 20 minutes according to type but there is no delay in starting if the lamp is switched on while hot.

Control Gear

Control gear for 240v 50Hz is summarized below.

Details of 240v gear and gear for other voltages are given in a separate publication.

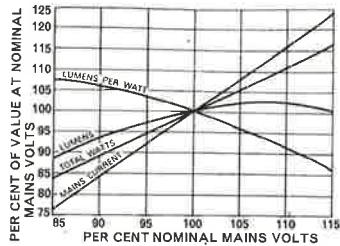
Type		Transformer Cat. no.	Capacitor Cat. no.	Ignitor Cat. no.
35w	SOX	AME53182.4	AMEC2280	
45w	SOI/H		AMEC2216	
55w	SOX	AME53182.4	AMEC2280	
60w	SOI/H		AMEC2216	
85w	SOI/H	AME53182.4	AMEC2214	
90w	SOX		AMEC2236	
140w	SOI/H	AME53232.4		
140w	SLI/H		AMEC2218	
135w	SOX	AME53166T	AMEC2281	
200w	SLI/H	AME53172H	AMEC2235	
250w	SON	AME53251T	AMEC2235	AME53250
400w	SON	AME53230T	2 x AMEC2218	AME53250

British Standards

Lamps described in this catalogue conform to the following Standard where applicable.

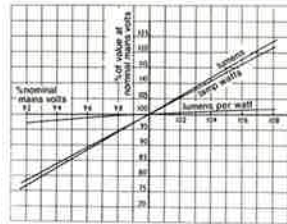
BS 3767 : 1964 Schedule of Sodium Discharge Lamps.

Effect of variation of mains voltage on sodium lamp characteristics.



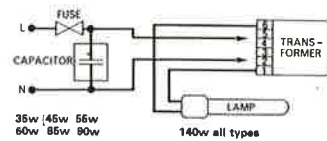
1

High Pressure.

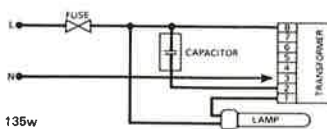


2

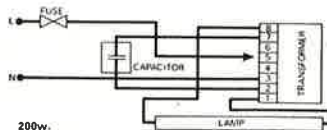
Circuit Diagrams



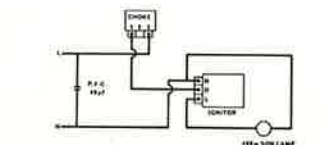
3



4



5



6

For 240v 50Hz supplies use choke tapplings 1 and 3.
For 220v 50Hz supplies use choke tapplings 1 and 2.
Power Factor Capacitor should be inserted between line and neutral.



STANDARD LAMPS

Introduction

Three major lighting companies have amalgamated to form Thorn Lighting Ltd which now manufactures Atlas and Mazda brands of tungsten filament lamps.

Mazda has always had a wide range of all types of lamps and will continue to do so, but Atlas brand is also available for general service and similar lamps.

Standard lamps index

Numerical Index

Page no.

307	Introduction
308	Index
309	General Service Lamps
310	Home Lighting Lamps
311	Decorative and Coloured Lamps
312	Tubular Lamps
313	Reflector Lamps
314	Low Voltage Display Lamps
315	Heating Lamps
316	Special Service Lamps
317	Floodlighting Lamps
318	Tungsten Halogen Lamps
319	Decoration Sets and Spares
320	Reflector Lamp Information
321	Low Voltage Display Lamp Information

Lamp cap code

B.C. Bayonet

S.B.C. Small Bayonet

S.C.C. Small Centre Contact

E.S. Edison Screw

S.E.S. Small Edison Screw

M.E.S. Miniature Edison Screw

G.E.S. Goliath Edison Screw

The dimension code indicates, first, by letter, the type of cap. The first two figures indicate the nominal outer diameter of the cap barrel or screw thread in millimetres. The next two figures indicate the overall length and the last two, the diameter of the flange.

Standard lamps

General lighting service lamps

Plus lamps -- High efficiency coiled coil.

Watts	Std. Pack	Cap	Finish
40	25	B.C., E.S.	Pearl
60	25	B.C., E.S.	Pearl
100	25	B.C., E.S.	Pearl
150	25	B.C.	Pearl
300	24	E.S.	Clear

Voltages: 200/210, 220/230, 240, 250
300w - 240 and 250 only

Single coil -- High and low voltage.

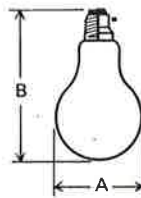
Watts	Std. Pack	Cap	Finish
25	25	B.C., E.S.	Pearl
40	25	B.C., E.S.	Pearl
60	25	B.C., E.S.	Pearl
75	25	B.C., E.S.	Pearl
100	25	B.C., E.S.	Pearl
150	25	B.C., E.S.	Pearl or Clear
200	25	E.S., B.C.	
300	24 & 12	G.E.S.	Clear
500	24 & 12	G.E.S.	Clear
750	12	G.E.S.	Clear
1000	12	G.E.S.	Clear
1500	6	G.E.S.	Clear

Voltages: 110, 120, 200/210, 220/230, 240, 250
75w and 1500w - 200/210, 220/230, 240, 250 only

Single coil -- Extra low voltage.

Watts	Std. Pack	Cap	Finish
25	25	B.C., E.S.	Pearl
40	25	B.C., E.S.	Pearl
60	25	B.C., E.S.	Pearl
100	25	B.C., E.S.	Pearl

Voltages: 25/100w - 25, 50
150/500w - 50 only



GENERAL LIGHTING SERVICE

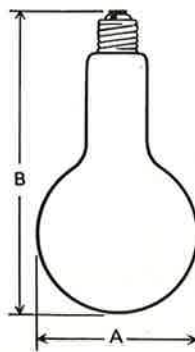
SINGLE COIL

	A	B
25-100w BC	60	105
150-200w BC	80	160

For E.S. caps add 1.5 mm to length

COILED COIL

	A	B
40-100w	60	105
150w	68	125
300w	88	173



GENERAL LIGHTING SERVICE

	A	B
300w & 500w GES	110	233
750w & 1000w GES	150	300
1500w GES	170	335

All dimensions in mm.

Standard lamps

Home lighting lamps

Netabulb – Coiled coil in mushroom shaped bulbs.

Watts	Std. Pack	Cap	Finish
40	25	B.C.	Silverlight
60	25	B.C.	Silverlight
100	25	B.C.	Silverlight
150	25	B.C.	Silverlight
150	25	B.C.	Pearl

Voltages: 200/230, 240/250

Pink Pearl Netabulb – Coiled coil in mushroom shaped pearl bulbs.

Watts	Std. Pack	Cap	Finish
60	25	B.C.	An internal light pink diffuse coating with a Pearl window on the crown.
100	25	B.C.	

Voltage: 240/250

Pink Pearl – Single coil pearl bulbs with an external light pink ceramic coating.

Watts	Std. Pack	Cap	Finish
40	25	B.C.	Pink
60	25	B.C.	Pink
100	25	B.C.	Pink
150	25	B.C.	Pink

Voltages: 240/250

Clear – Single coil or coiled coil for decorative fittings.

Watts	Std. Pack	Cap	Finish
40	25	B.C.	Clear
60	25	B.C.	Clear
100	25	B.C.	Clear
150	25	B.C.	Clear

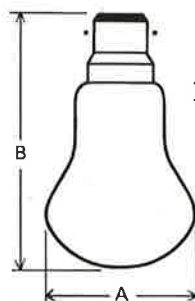
Voltages: 200/210, 220/230, 240, 250

Nightlight – Long life, low consumption. For children's or invalids' bedrooms and similar.

Watts	Std. Pack	Cap	Finish
5-8	50	B.C.	Pearl

Voltage: 200/250

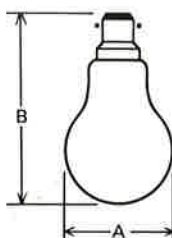
5-10 way display packs per container



NETABULB

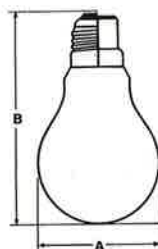
	A	B
40w	55	93
60w	55	93
100w	65	109
150w	75	120

The above dimensions are also applicable to Pearl Pink Netabulbs.



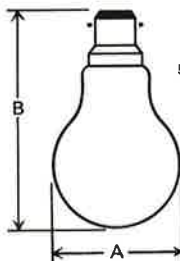
PINK PEARL (GLS)

	A	B
40 & 60w	60	105
100w	68	125
150w	80	160



CLEAR

	A	B
40-100w	60	105
150w (Single Coil)	80	160
150w (Coiled Coil)	68	125



NIGHTLIGHT

	A	B
5-8w	60	105

All dimensions in mm

Standard lamps

Decorative and coloured lamps

Candle – Olive plain.

Watts	Std. Pack	Finish
25	10	Clear or Silverlight
25	10	Frosted, Coloured
40	10	Clear or Silverlight
40	10	Frosted, Coloured
60	10	Clear or Silverlight
60	10	Frosted, Coloured

Voltages: 200/230, 240/250

Caps: 25W and 40W B.C., S.B.C., S.E.S. – 60W B.C. and S.B.C.

5-10 way packs per container

Candle – Olive twisted.

25	10	Clear
25	10	Frosted, Coloured
40	10	Clear
40	10	Frosted, Coloured
60	10	Clear
60	10	Frosted, Coloured

Voltages: 200/230, 240/250

Caps: 25W and 40W B.C., S.B.C., S.E.S. – 60W B.C. and S.B.C.

5-10 way packs per container

Candle – Pink Pearl.

40	10	Pearl bulbs with an internal light pink diffuse coating
60	10	

Voltage: 240/250

Caps: B.C., S.B.C.

5-10 way packs per container

Round bulb

25	10	Silverlight
40	10	Silverlight

Voltage: 240/250

Caps: B.C., S.B.C., S.E.S.

5-10 way packs per container

Round bulb festive

15	10	Amber, blue, green, red white, yellow
25	10	

Voltage: 200/250

Caps: B.C., E.S.

5-10 way packs per container

Internally coloured G.L.S.

15	25	Amber, blue, green, pink red, white, yellow
25	25	
40	25	
60*	25	

Voltage: 200/250

Caps: 15/25 B.C., E.S. – 40/60 B.C.

*Not suitable for use outdoors unless enclosed for protection against rain.

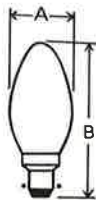
Gala internally coloured

25	25	Pink, yellow, amber
40	25	
25/40	12	Assorted colours in a box

Voltage: 200/250

Gala lighting set

A string of 12 waterproof lampholders for gala lamps.
Cat. No. AME1809 Lamp Ref. No. 30-9995.



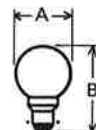
PLAIN CANDLE

	A	B
25W-40W BC	35	92
SBC	35	96
60W BC	45	123
SBC	45	123



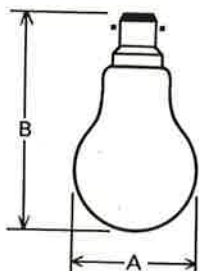
TWISTED CANDLE

	A	B
25WBC	35	95
SBC	35	99
40W-60W BC	46	123
SBC	46	128



45mm ROUND BULB

	A	B
BC	45	65
SBC	45	70
SES	45	74



INTERNALLY COLOURED & GALA

	A	B
15W 25W, 40W & 60W	60	105

All dimensions in mm

Standard lamps

Tubular lamps

Architectural curved - $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$ circle.

Watts	Length	Std. Pack	Finish
60	—	1	Opal
Voltage: 240/250		Tube diameter	
Caps: Peg		30mm.	

Architectural straight

Watts	Length	Std. Pack	Finish
35	12"	25	Opal
53	18"	1	Opal
60	20" DCC CAP	10*	Opal
75	24"	1	Opal
110	36"	1	Opal
150	48"	1	Opal
Voltage: 200/230, 240/250		Tube diameter	
Caps: Peg		30 mm.	

*Individual cartons in ten-way container

Double cap - Striplites

Watts	Length	Std. Pack	Finish
30 or 60	221mm	25	Clear
30 or 60	284mm	25	Clear
30 or 60	221mm	25	Opalised
30 or 60	284mm	25	Opalised
30 or 60	221mm	25	Frosted
30 or 60	284mm	25	Pink
30 or 60	284mm	25	Amber

Voltages: 200/230, 240/250

Caps: Centre contact

Single Tubular

Watts	Diameter	Std. Pack	Finish
25 or 40	25mm	50	Clear
25 or 40	25mm	50	Frosted
40 or 60	37mm	25	Opal (Long-Lite)

Voltages: 25w - 110, 200/230, 240/250 40w - 240/250v only

Caps: B.C., S.B.C., E.S., S.E.S.

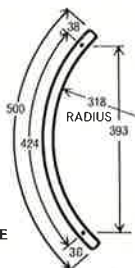
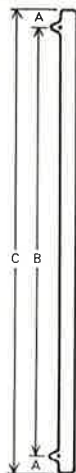
Voltages: 60w - 200/230, 240/250

Cap: B.C.

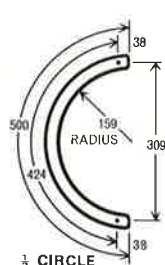
ARCHITECTURAL

	A	B	C
12 inch 35w	38	229	305
18 inch 53w	38	382	457
20 inch 60w	38	424	500*
24 inch 75w	38	534	610*
36 inch 110w	38	839	915
48 inch 150w	38	1144	1220

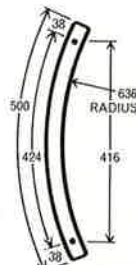
*Available with Peg Contacts or Double Centre Contact.



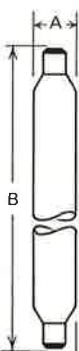
$\frac{1}{4}$ CIRCLE



$\frac{1}{2}$ CIRCLE



$\frac{3}{4}$ CIRCLE



25w TUBULAR

Dimension B.

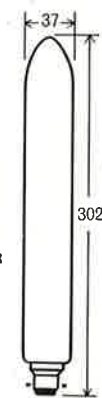
BC & SBC. 82

ES. 84

SES. 83

DOUBLE CAP TUBULAR

	A	B
30w	25	221
60w	25	284



LONG-LITE

All dimensions in mm

Standard lamps

Reflector lamps

Interior display spotlights and floodlight

For display areas and interior floodlighting.

Type	Watts	Std. Pack
Spotlight	100	10
Spotlight	150	10
Floodlight	150	10
Spotlight	250	10
For Chelsea glass*	60	10

Voltages: 110, 200/230, 240/250

*110V Chelsea not available. 200/230, 240/250V B.C. only

Cap: E.S., B.C. Except 250W. which is E.S. only

Life:- 1,000 hours

150w. PAR 38 sealed beam

For outdoor and indoor application.

Type	Std. Pack
Clear Spotlight	10
Clear Floodlight	10
Clear Floodlight - 24V	10
Color-Ray Spot-Red	10
Color-Ray Spot-Yellow	10
Color-Ray Spot-Blue	10
Color-Ray Spot-Green	10
Cool-Ray Spotlight	10

Voltages: Color-Ray and Cool-Ray 240/250 only.

Others 110/120, 200/210, 220/230, 240/250 (except 24V flood)

Cap: E.S.

Life:- 2,000 hours

High bay reflector

Watts	Cap	Std. Pack
500	G.E.S.	6

Voltages: 240, 250.

Life:- 1,000 hours

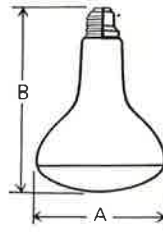
Mains voltage display lamp

For use in Atlas fitting. VM100

Type	Watts	Cap	Std. Pack
Crown silvered	100	3 pin B.C.	25

Voltage: 240/250

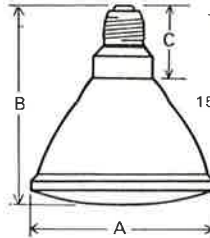
Life:- 1,000 hours



REFLECTOR
FLOODLIGHT
AND SPOTLIGHT

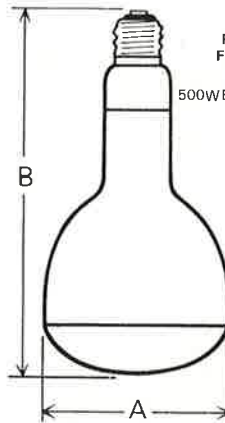
	A	B
100W	95	135
150W	126	178
250W	126	178

CHELSEA FITTINGS
60W 55 93



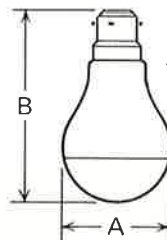
SEALED BEAM
REFLECTOR
FLOODLIGHT
& SPOTLIGHT

	A	B	C
150W	121.5	135	51



500 WATT
REFLECTOR
FLOODLIGHT

	A	B
500WE40/45	185	312



DISPLAY LAMP

	A	B
100W 3 Pin BC	60	105

All dimensions in mm

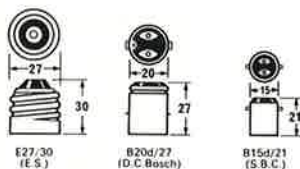
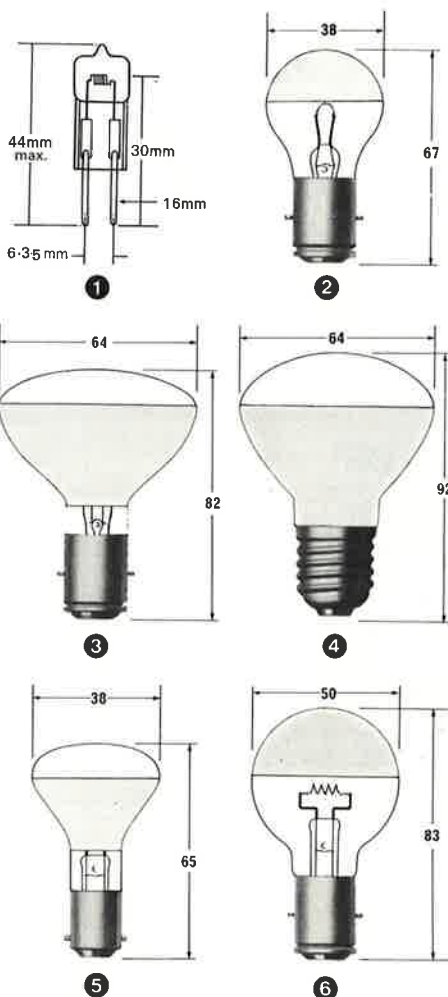
Standard lamps

Low voltage display lamps

1. The compact tungsten halogen lamp THS/50/12 has been developed for use in the low voltage display lighting fitting. This lamp has all the advantages of tungsten halogen lamps with a long life of 2,000 hours, high efficiency and nearly 100% lumen maintenance. The fitting (Cat. No. ES.1050) has an integral transformer and, therefore, offers a compact combination for shop window display accent lighting.
2. The 38mm lamp is spherical in shape and is used in the DB.1050 and DS.1050 fittings. It is internally crown silvered and gives a non-spill narrow beam of light.
3. The mushroom-shaped 64mm sealed beam lamp with Bosch cap is used as a lamp replacement in the DA.1050, DC.1050 and DAM.1050 fittings. It is internally silvered with a diffusing front face and gives a soft edge beam of high intensity.
4. The 12v, 50w, lamp has a clear front, and an internal reflector aluminised to the parabolic bulb. This gives a narrow beam of light and is used in the DAS.1050 and DCS.1050 fittings. The lamp has an E.S. cap.
5. The 12v, 24w, sealed beam lamp is used as a replacement in the DC.0024 fitting and gives a high intensity soft edged beam.
6. The 24v, 150w, lamp is used in the DEW.1150 (weatherproof) long range narrow beam projector.

The 12v. lamps have a nominal life of 1,000 hours (except THS/50/12 which has a rated life of 2,000 hours), whilst the 24v. 150w. lamp has been designed to give a life of 500 hours.

For photometric information see page 321



Illus.	Volts	Watts	Lamp Ref. No.	Std. Pack	Type	Cap
1	12	50	11-8015	1	Tungsten Halogen	Bi-pin
2	12	50	11-7015	25	Crown Silvered Clear Back	Bosch
3	12	50	11-8012	25	Internal Reflector Diffusing Front	Bosch
4	12	50	11-7014	25	Internal Reflector Clear Front	E.S.
5	12	24	11-7005	25	Internal Reflector Diffusing Front	S.B.C.
6	24	150	11-7040	12	Crown Silvered Clear Back	Bosch

A transformer is normally required for the operation of these lamps.

Standard lamps

Heating lamps

Infra-red reflector (Std. bulb)

Watts	Std. Pack	Cap.	Finish
150	12	E.S.	Clear Front
275	12	E.S., B.C.	Clear Front
275	12	E.S., B.C.	Satin Front
275	12	E.S., B.C.	Red Front

Voltages : 100/130, 200/250

Infra-red reflector (Hard glass bulb)

Watts	Std. Pack	Cap.	Finish
275	12	E.S., B.C.	Clear Front
275	12	E.S., B.C.	Satin Front
275	12	E.S., B.C.	Red Front

Voltages : 200/250 only

Infra-red round bulb

Watts	Std. Pack	Cap.	Finish
250	25	E.S.	Pearl

Voltages : 100/130, 200/250

Infra-red tubular quartz

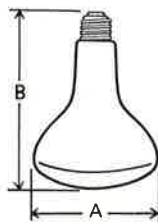
Watts	Std. Pack	Cap.	Finish
1000	1	Special	Clear

Voltages : 230/240

Carbon

Watts	Std. Pack	Cap.	Finish
65	25	B.C.	Clear
130	25	B.C.	Clear

Voltages : 220/230, 240/250

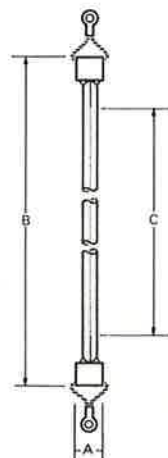


INFRA-RED REFLECTOR

	A	B
150w	126	178
275w	126	178

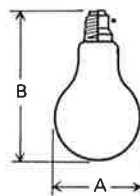
INFRA-RED ROUND BULB

	A	B
250w ES	88	180



INFRA-RED TUBULAR

	A	B	C
1000w	10	350	290



CARBON HEATERS

	A	B
65w BC	60	110
130w BC	65	117

All dimensions in mm

Standard lamps

Special service lamps

Rough service – These lamps have additional filament supports and are for use in portable handlamps and similar locations.

Watts	Std. Pack	Cap	Finish
25	25	B.C.	Pearl
40	25	B.C., E.S.	Pearl
60	25	B.C., E.S.	Pearl
100	25	B.C., E.S.	Pearl

Voltages: 40/100w – 110, 120, 200/230, 240/250; 25w – 200/230, 240/250

Fireglow – For use in heaters to provide “firelight flicker effects”.

Watts	Std. Pack	Cap	Finish
60	10	B.C.	Lacquered
60	10	3-pin B.C.	Lacquered
60	10	2-pin	Lacquered
60	10	B.C.	Natural glass
60	10	3-pin B.C.	Natural glass
60	10	2-pin	Natural glass

Voltage: 200/250

10 way packs per container

Traffic signal – For use in traffic signals.

Watts	Std. Pack	Cap	Finish
65	25	E.S., B.C.	Clear
50	1	BiPin	Clear
			12v Tungsten
			Halogen THS/50/12

Voltages: 65w in 240, 250v E.S. 250v only B.C. THS/60/12 in 12v only

Pygmy sign

Watts	Std. Pack	Cap	Finish
15 or 25	50	All lamps	Clear
15 or 25	50	E.S.	Frosted
15 or 25	50	B.C.	Colours
15 or 25	50	S.E.S.	Clear Rough Service
15	50	S.B.C.	Clear (L.V. types)

Switchboard indicator

Watts	Std. Pack	Cap	Finish
15	50	B.C.	Clear

Voltages: 100/130, 200/260

Pilot indicator

Watts	Std. Pack	Cap	Finish
6	25	All lamps	Clear
10	25	S.B.C.	Clear
		S.E.S.	
		CAND.	

Voltages: 6w – 100/130

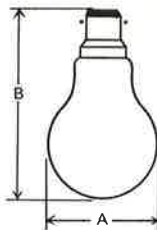
10w – 100/130, 200/260

Cooker lamp – For operation in ovens and similar up to 500°F. Special cement and consol solder on cap.

Watts	Std. Pack	Cap	Finish
25	50	E.S.	Pearl

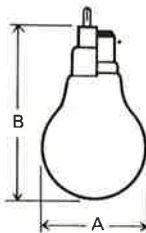
Voltage: 200/260

ROUGH SERVICE		
	A	B
25, 40 & 60W	60	105
100W	68	125



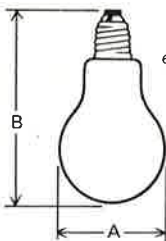
FIREGLOW

	A	B
BC	60	105
3-pin BC	60	105
2-pin	60	113



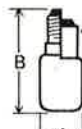
TRAFFIC SIGNAL

	A	B
65W ES	60	107



SIGN & SWITCHBOARD

	A	B
BC	28	56
ES	28	58
SBC	28	62
SES	28	63



PILOT

	A	B
SBC	18	41
Cand	18	46
SES	18	47

All dimensions in mm.

Standard lamps

Floodlighting lamps

Class B1 (Spherical bulbs)

For floodlighting of buildings and for studio and theatre spots and floodlights.

The objective average life in well-ventilated fittings is 800 hours. The burning position is within 135° from cap down.

Ref. No.	Watts	Std. Pack	Finish
B1/1	100	12	Clear
B1/2	250	12	Clear
B1/3	500	12	Clear
B1/4	1000	12	Clear

Ref. No.	Cap	Lumens at 100/110/115v	Lumens at 200/250v*
B1/1	E.S.	1,100	900
B1/2	E.S.	3,600	3,100
B1/3	G.E.S.	8,000	7,250
B1/4	G.E.S.	18,000	16,500

*Lamps available in 10v steps

Class B2 (G.L.S. bulbs)

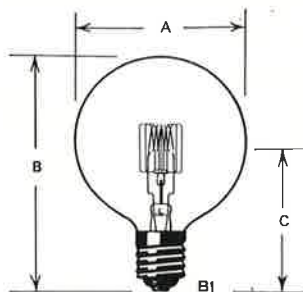
Applications are similar to Class B1 especially floodlighting from high towers for football grounds, stadiums, tattoos and similar.

The average objective life for lamps B2/1-3 is 800 hours in well-ventilated fittings. For B2/4 it is 200 hours which is very adequate for a full season of evening matches.

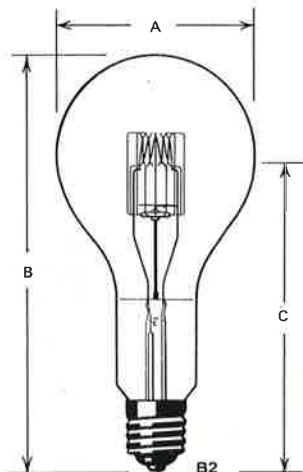
Ref. No.	Watts	Std. Pack	Finish
B2/1	500	9	Clear
B2/2	1000	6	Clear
B2/3	1500	6	Clear
B2/4	2000	6	Clear

Ref. No.	Cap	Lumens at 100/110/115v	Lumens at 200/250v*
B2/1	G.E.S.	8,000	7,250
B2/2	G.E.S.	18,000	16,500
B2/3	G.E.S.	—	26,000
B2/4	L.P.F. - P40/41	—	42,000

*Lamps available in 10v steps



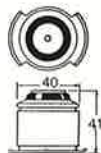
TYPE	A (max)	B (max)	C (nom)
B1/1	82	125	75
B1/2			
B1/3			
B1/4	132	190	115



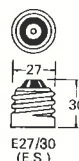
TYPE	A (max)	B (max)	C (nom)
B2/1	132	275	202
B2/2	152	309	225
B2/3	172	344	250
B2/4	172	344	207



E40/45 (G.E.S.)



LARGE PRE-FOCUS (P40/41)



E27/30 (E.S.)

All dimensions in mm.

Standard lamps

Tungsten halogen lamps

A new and powerful light source in the range of tungsten filament lamps.

Application – General illumination floodlighting and display lighting.

Range: six linear lamps – 300w, 500w, 750w, 1,000w, 1,500w, 2,000w.

Compact spotlamp – 12v, 50w.

For display lighting and new-type traffic signals.

Rated life – 2,000 hours.

Control Gear – None required.

Operating positions – Linears horizontal $\pm 4^\circ$. Single ended lamp – Universal.

Principle – The tungsten filament is enclosed in a gasfilled quartz tube, together with a carefully controlled quantity of a halogen. When the tungsten filament is heated by the electric current the halogen vaporises and controls the evaporation of the filament; the tungsten vapour being carried to the contrastingly comparative cool wall of the bulb where it combines with the halogen to form a tungsten halide. This compound then returns to the filament where it is chemically converted back to tungsten and the halogen and the action continues to repeat itself while the lamp is in operation. The regenerative cycle performs a 'self-cleaning' action on the inner surface of the bulb resulting in nearly 100% lumen maintenance.

Advantages

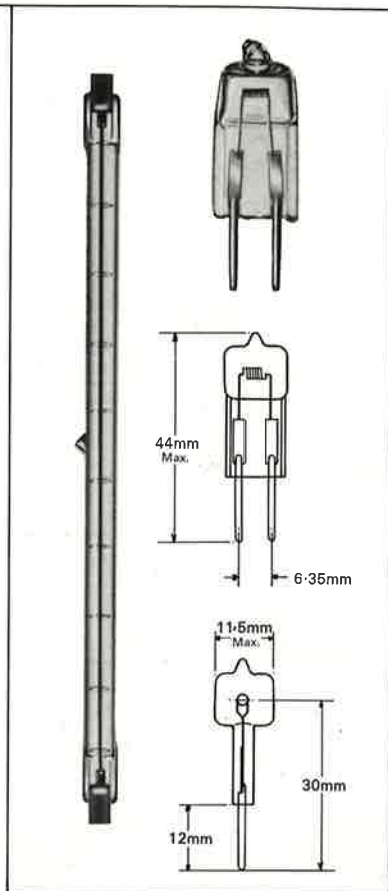
1. Up to 20% more light output compared to corresponding G.L.S. lamp.
2. Double life – 2,000 hours.
3. Constant light output through life.
4. Compact, easily controllable light source.

Watts	Voltage	Nominal Lumens
50 **	12	900
300	240/250	5,000
500	110 & 120	10,500
500		9,500
750*	200/230 and 240/250	15,000
1,000†		21,000
1,500		33,000
2,000		44,000

†Also available 110v.

*750w lamps standard 189mm O.A.L. – also available 178mm O.A.L.

**Spotlight or Traffic Signal Lamp.



Nom. watts	Voltage	Nom. lumens	Rated life hours	Nom. colour temp. °K	Overall lamp length	Bulb diam.	Nom. lighted length	Type of contacts	Burning position	Catalogue no.
50	12	900	2,000	3,000	44 max.	11.5 max.	3.5 x 2.5	Single ended bi-pin	Universal	THS/50/12
300	240/250	5,000	2,000	2,850	117 ± 0.25	10 ± 0.25	66	R7s	To within 4° of horizontal	THD/300/voltage rating
500	110	10,500	2,000	3,000	117 ± 2.5	10 ± 0.25	60	R7s†	To within 4° of horizontal	THD/500/110
500	120	10,500	2,000	3,000	117 ± 2.5	10 ± 0.25	60			THD/500/120
500		9,500	2,000	2,850	117 ± 2.5	10 ± 0.25	75			THD/500/voltage rating
750*	200/230	15,000	2,000	2,900	189 ± 2.5	10 ± 0.25	130			THD/750/voltage rating*
1,000†	240/250	21,000	2,000	3,000	189 ± 2.5	10 ± 0.25	140	R7s	To within 4° of horizontal	THD/1000/voltage rating
1,500		33,000	2,000	3,000	254 ± 2.5	10 ± 0.25	200			THD/1500/voltage rating
2,000	240/250	44,000	2,000	3,000	333 max.	11 max.	250			THD/2000/voltage rating

NOTES

All lamps with the exception of the THS/50/12 are fitted with an internal fuse. It is an advantage to have an additional fuse in the fitting or external circuit. During operation, the temperature of the lamp pinch seal should not exceed 350°C, whilst the bulb wall temperature must not drop below 250°C in order to maintain the tungsten halogen cycle.

*The Standard length of the 750w lamp is 189mm. Lamps with an overall length of 178mm are also available. Please specify length when ordering.

†The 1000w lamp is also available in 110v rating.

‡Double-ended lamp with ceramic end-caps and recessed contacts (R7s). For distance between contacts deduct 4mm from overall length.

Standard lamps

Decoration sets and spare lamps

Decoration sets for 200/250v operation



Fairy-Lites

The ever-popular family favourite. Twelve gaily coloured Mazda lamps and a spare, with flex, holders and B.C. connector.



Festive-Lites

A brand new set with the sparkle of cut crystal. Twelve new coloured crystal coated lamps and a spare with flex, holders and B.C. connector.



Satin-Lite

The soft, silky sheen of satin. Twelve coloured Mazda lamps plus spare with flex, holders and B.C. connector.



Firefly

Glowing 'pin-points' of colour add touches of brilliance and the atmosphere of a continental Fiesta. L.E.S. capped lamps.

Twentylite sets:
20 12v 1.2w lamps + a spare.



Fortylite sets:
40 6v 0.75w lamps + 2 spares.



Jack Frost

An icy, brilliant sparkle with twelve frost coated coloured lamps and a spare plus flex and B.C. connector.

Spare lamps



Fairy-Lites

Three 20 volt 3 watt Mazda lamps of different colours for use in twelve lamp sets.

15 bubbles.



Festive-Lites

Three 20 volt 3 watt Mazda lamps in a bubble pack in various colours with a crystal finish. Suitable for replacement in Fairy-Lites sets.

15 bubbles.



Satin-Lite

Three 20 volt 3 watt Mazda lamps in various attractive satin finished colours.

15 bubbles.



Fireflies

Bubble packs containing five different coloured new Mazda capless lamps. 6 volt lamps for Fortylites sets and 12 volt lamps for Twentylites sets.

20 bubbles.



Firefly (L.E.S. Capped)

Bubble packs containing five different coloured Mazda lamps. 6 volt lamps for Fortylites sets and 12 volt lamps for Twentylites sets.

2 bubbles.



Jack Frost

Three 20 volt 3 watt Mazda lamps with frosted finish in different gay colours.

15 bubbles.



Pom Pom

Individually packed 12 volt 7 watt S.E.S. spares in gay cartons.

10 lamps.

Standard lamps

Reflector lamp information

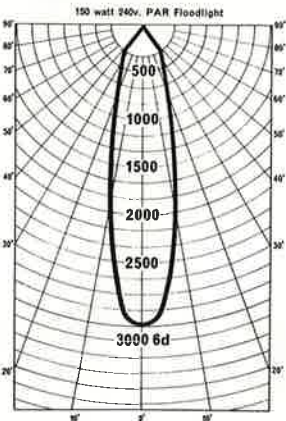
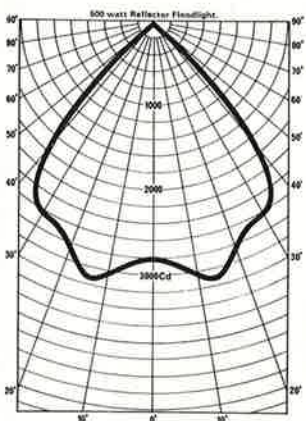
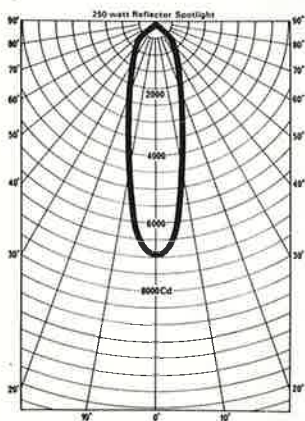
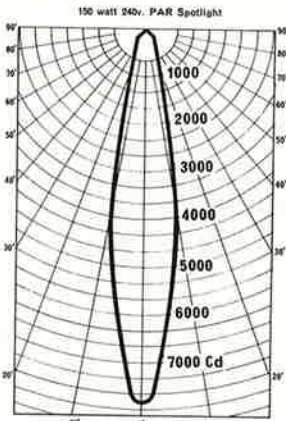
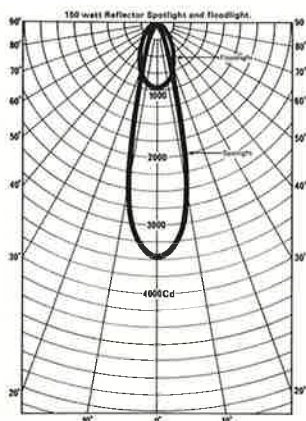
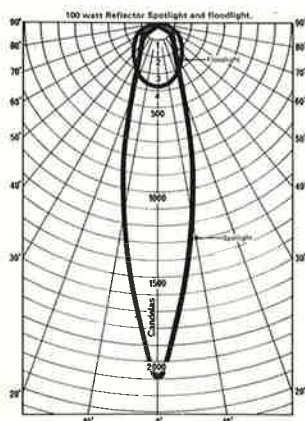
150w PAR 38 sealed beam spotlight and floodlights

These lamps, with the exception of the Cool-Ray lamp, are for indoor and outdoor applications.

The Color-Ray spotlights have internal thin film dichroic lenses which have a high transmission factor and maintain constant colour through life.

The Cool-Ray lamp has a dichroic reflector, allowing much of the heat to pass through the back of the lamp without loss of light. This lamp is for use in special fittings only, indoors. Its primary use is for the illumination of food displays, including meat and fish.

Polar Curves

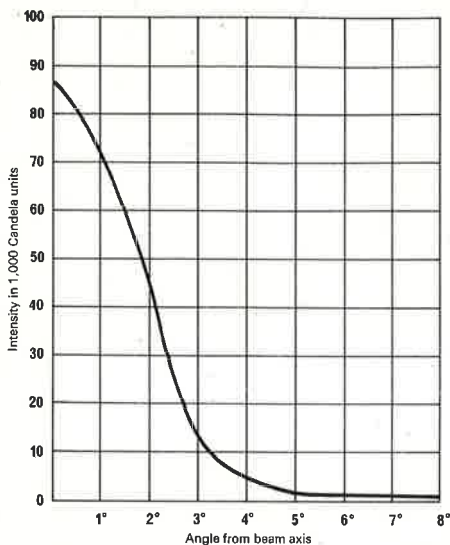


Standard lamps

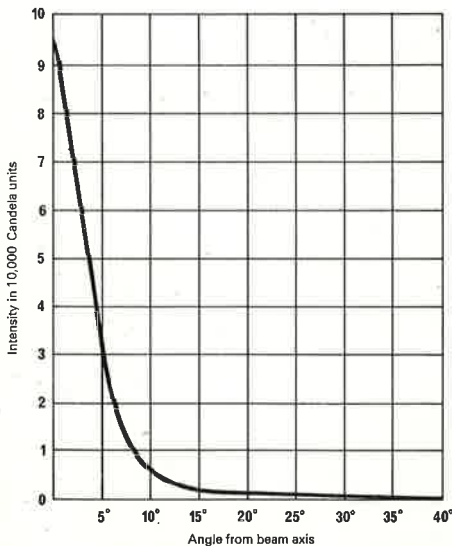
Low voltage display lamp information

The figures in brackets refer to the illustrations overleaf on page 314

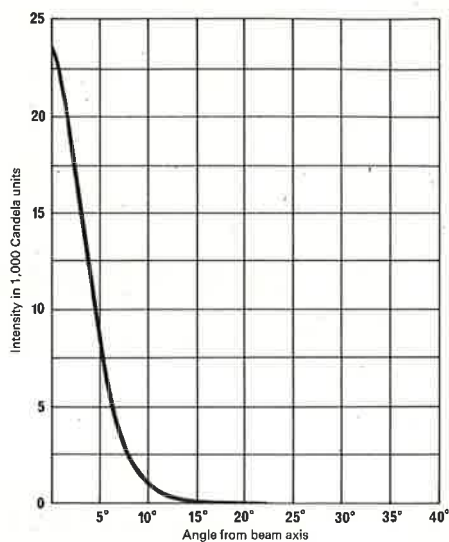
Performance data for lamps nos. (3) and (5) is not given as these lamps are for replacement only.



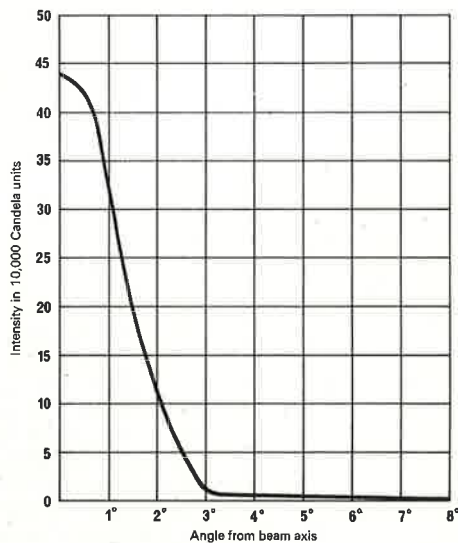
(1) Light intensity distribution 12v 50w (THS/50/12) tungsten halogen display lamp when used in Atlas ES.1050 fitting.



(4) Light intensity distribution curve of 12v 50w lamp with parabolic bulb.



(2) Light intensity distribution curve for 12v 50w crown silvered round lamp when used with Atlas DB.1050 fitting.



(6) Light intensity distribution curve for 24v 150w lamp when used with Atlas DEW.1150 fitting.



VEHICLE AND MINIATURE LAMPS

Introduction

The range of lamps shown in this catalogue covers the requirements for private and commercial vehicles in Great Britain and Western Europe. Mazda has made many outstanding and exclusive contributions to vehicle lamp progress. The Mazda wedge base and capless lamps have given the vehicle industry a more simple, more compact and overall less costly lamp and the wedge base lamp is without doubt the vehicle ancillary lamp of the future. Mazda are also the prominent manufacturers of sealed beam tungsten filament headlamps and auxiliary lamps which provide a completely sealed weatherproof lamp assembly with untarnishable reflector and filaments accurately focused in the factory for precise optical control. Mazda vehicle lamps are leaders in outstanding developments and high quality precision manufacture. All Mazda lamps are Lucas authorised spares.

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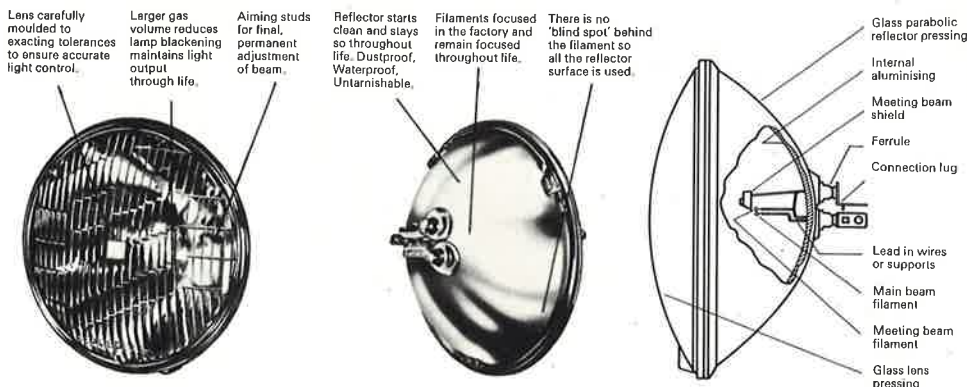
Vehicle and miniature lamps

Page no.

324	Contents
325	Sealed beam lamps
326	British and American prefocus lamps
327	British prefocus lamps
328	Tungsten halogen lamps
329	Ordinary headlamps
330-333	Ancillary lamps
334	Cycle dynamo lamps and flashlamps
335	Bus, coach and yacht lamps
336	Telephone visual lamps and telewriter lamps
337	Radio panel and miners lamps
338	Lamp cap dimensions

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Sealed beam lamps



Sealed Beam Lamps are available in various forms: single and double filament headlamps and auxiliary fog and spot lamps. The main advantages of Sealed Beam Lamps are:

- 1 The completely sealed reflector remains in perfect condition throughout the life of the lamp, it is dustproof, waterproof and untarnishable.
- 2 Filaments are accurately focused in the factory to give permanent precisely controlled beams.
- 3 There is no 'blind spot' behind the filament since all the reflector surface is used.
- 4 Large gas volume reduces lamp blackening giving 95% lumen maintenance throughout life.
- 5 Hard glass lenses are moulded integrally with the reflectors to give fine light control and add robustness.
- 6 Fitted with aiming studs to ensure final permanent beam adjustment.
- 7 Headlamp main beams are high wattage to ensure more penetration for night driving. Dipped beams have a sharp, crisp cut-off ensuring no dazzle to oncoming traffic whilst clearly lighting kerbs, road signs and pedestrians.
- 8 They have a long life and are interchangeable with metal glass reflector units fitted with separate bulbs.

SEALED BEAM UNITS

Standard Two Headlight System
 7002 12V 60/45W
 If Sidelight incorporated
 7014 12V 60/45W Pilot
 Alternative High Wattage for 7002 is
 7010 12V 75/50W
Four Headlight System 7in Units
 7013 12V 60/50W Outers R.H. Left
 7012 12V 75W Inners
Four Headlight System 5½in Standard Units
 5702 12V 50/37-5W Outer
 5700 12V 37-5W Inner
Alternative High Wattage Units
 5724 12V 75W for Inner
Ford Capri Headlight
 7502 12V 60/60W
 Alternative Higher Wattage
 And improved Beam Pattern
 7505 12V 75/60W R.H. Left

Headlamps – with 5½in diameter lens

**With pilot aperture for 1968 Vauxhall Victor*

Volts	Watts	Standard Pack	Drive	Dip	Lamp Ref. No.
12	37-5	10	R.H.	—	60-5700
12	50/37-5	10	R.H.	Left	60-5702
12	75	10	R.H.	—	60-5724
12	50/37-5	10	R.H.	Left	60-5718 *

Headlamps – with 7in diameter lens

** With pilot aperture for B.M.C. Mini Cars*

12	60/45	10	R.H.	Left	60-7002
12	75/50	10	R.H.	Left	60-7010
12	60/45	10	L.H.	Right	60-7011
12	75	10	R.H.	—	60-7012
12	60/50	10	R.H.	Left	60-7013
12	60/45	10	R.H.	Left	60-7014 *

Headlamps, rectangular

†† With pilot aperture for Ford Capri

12	60/60	10	R.H.	Left	60-7502 ††
12	75/60	10	R.H.	Left	60-7505 ††

Auxiliary lamps – with 5½in diameter lens

Volts	Watts	Standard Pack	Application	Lamp Ref. No.
12	50	10	Spot	60-5704
12	50	10	Fog	60-5706

Tungsten halogen auxiliary lamps – with 5½in diameter lens

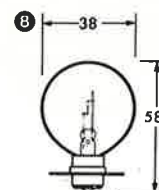
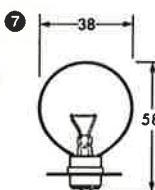
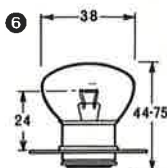
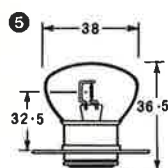
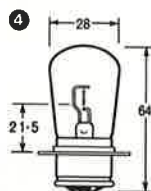
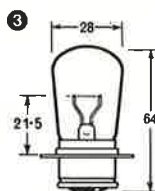
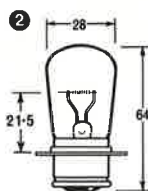
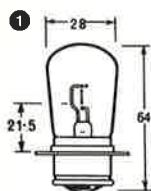
These lamps are suitable for replacement in Lucas FT9 Units – Lucas Silver Sabre and Lucas Silver Lance.

12	55	10	Fog	60-5720
12	55	10	Spot	60-5721

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British and American prefocus headlamps

All dimensions in mm.



For use in headlamps and fog and spot auxiliaries.

Single filament type—with BPF cap P22s/21 and P22d/21 as illustrated

Volts	Watts	Standard Pack	Filament	Contact	Illustration	Lamp Reference No.
12	48	10	Axial	Single	1	26-0185
12	48	10	Transverse	Single	2	26-0323
24	44	10	Axial	Double	4	26-0331
24	44	10	Transverse	Double	3	26-0330

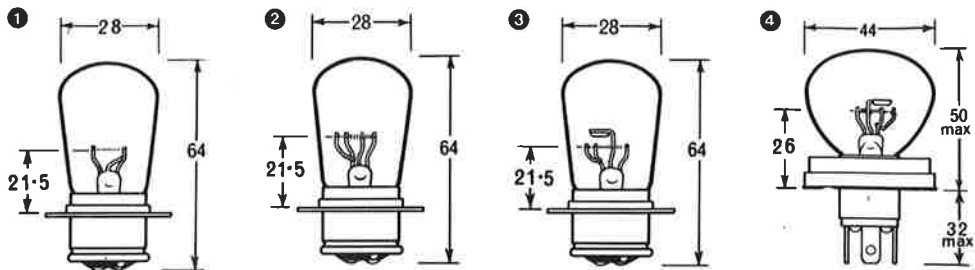
SINGLE FILAMENT TYPE—with special prefocus cap P48d/21

Volts	Watts	Standard Pack	Filament	Contact	Illustration	Lamp Reference No.
12	48	10	Axial	Double	5	26-0434
12	48	10	Transverse	Double	6	26-0432

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British prefocus headlamps

All dimensions in mm.



DOUBLE FILAMENT TYPE – with double contact caps as illustrated and transverse filaments

Volts	Watts	Standard Pack	Dip	Drive	Illustration	Lamp Reference No.
6	30/24	10	Vertical	Either	1	26-0312
12	50/40	10	Left	R.H.	3	26-0414 *
12	50/40	10	Right	L.H.	3	26-0415 *
12	60/40	10	Left	R.H.	4	26-0416 * †
12	60/40	10	Right	L.H.	4	26-0417 * †
24	44/38	10	Left	R.H.	2	26-0359

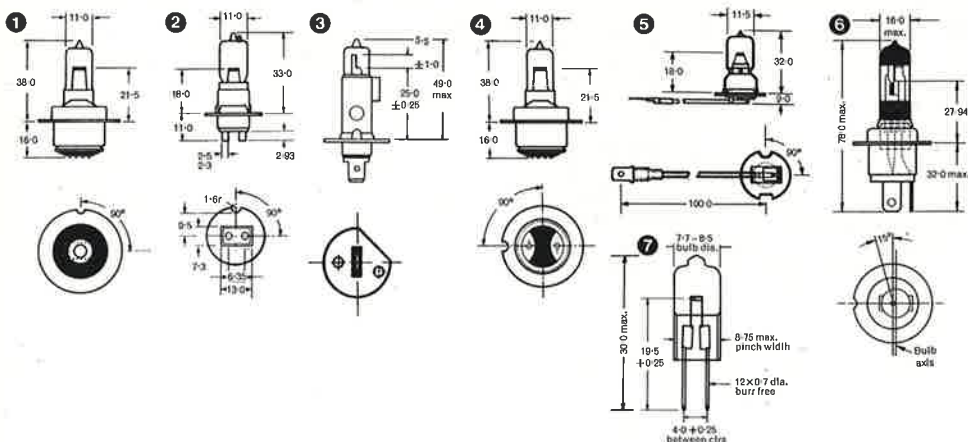
* These lamps have transverse shielded filaments (see illustrations)

† UEC – Unified European Cap

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Tungsten halogen lamps

All dimensions in mm.



The widest range in Europe for dipping headlamps and all types of fog and spot units.

These lamps of very advanced design have many advantages:

- 1 These lamps have a higher source brightness and produce more light than conventional lamps of the same wattage.
- 2 The tungsten halogen cycle gives virtually total elimination of bulb blackening ensuring that the lamp maintains full performance throughout life.
- 3 The light is 'whiter'.
- 4 Compact filaments give extremely precise optical control putting light in the right place without producing unwanted, wasteful glare.
- 5 Overall robustness, high resistance to mechanical and thermal shock.
- 6 Long life. Typical value: 350 Hrs at 12V.
- 7 The double filament headlamp and lamps (26-0450, 26-0454, 26-0458 and 26-0459) are directly interchangeable with conventional lamps fitted with BPF caps.

Volts	Watts	Standard Pack	Application and Illustration No.	Cap	Lamp Reference No.
6	50	10	Fog and Spot (1)	BPF Single	26-0454
12	55	10		Contact P22s/21	26-0450
6	50	10	Fog and Spot (5)	PL22s	26-0455
12	55	10			26-0453 *
6	50	10	Fog and Spot (2)	MPF Double	26-2949
12	55	10		Contact PK22-5	26-2951
12	55	10	Fog and Spot (3)	P145s	26-0448 †
24	70	10	Fog and Spot (1)	P22s/21	26-0459
24	70	10	Fog and Spot (4)	P22d/21	26-0458
12	60/55	10	Headlamp	G16T/23422	26-0463
6	10	10	M29 miniature halogen (7)	Bi-pin 94	85-7015
6	20	10	‡M30 (7)	Bi-pin G4	85-7016

* Internationally standardised and known as H3

† Internationally standardised and known as H1

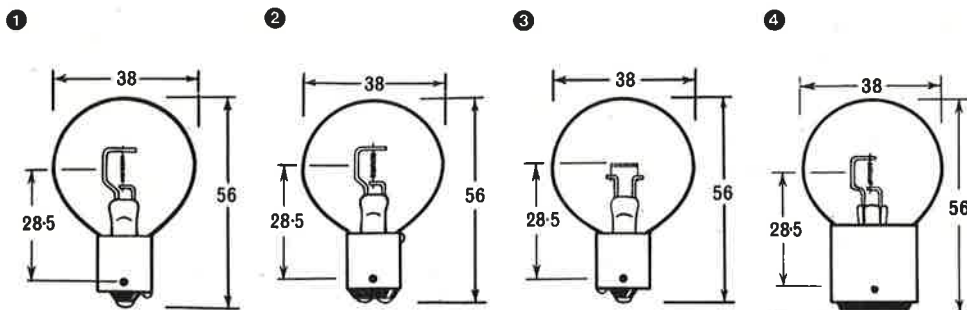
‡ These new lamps have a number of interesting possibilities. They are likely to prove useful in:

- 1 Industrial heavy duty and rechargeable torches
- 2 Aircraft safety devices
- 3 Film editor lamps
- 4 Copying machines
- 5 High intensity hand lanterns, railway signal lamps
- 6 Flashing beacons, road works, warning signs
- 7 Scientific equipment (eg densitometers, industrial endoscopes)
- 8 Medical equipment
- 9 Fibre optic systems
- 10 High-intensity desk-lights, compact reading lamps
- 11 Low-voltage shop-window or display applications
- 12 Domestic spots or flood units
- 13 Lighting pictures, etc.
- 14 Photocell energising

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Ordinary headlamps

All dimensions in mm.



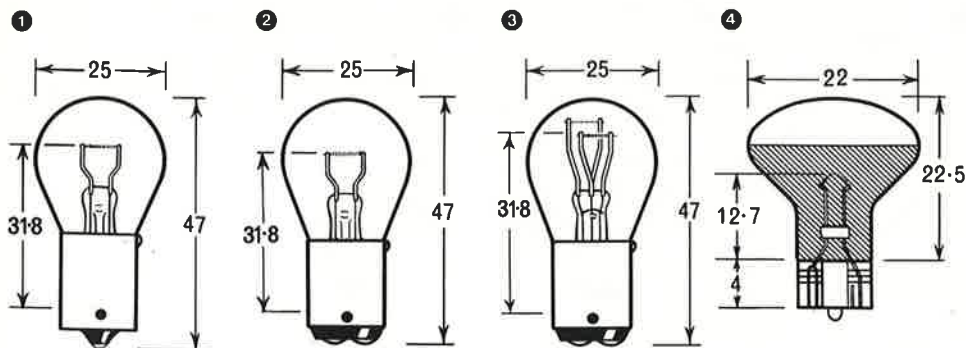
SINGLE FILAMENT TYPE

Volts	Watts	Standard Pack	Cap	Filament	Illustration	Lamp Reference No.
12	24	10	SCC	Axial	1	25-0001
12	24	10	SBC	Axial	2	25-0004
12	36	10	SCC	Axial	1	25-0002
12	36	10	SBC	Axial	2	25-0005
24	24	10	SBC	Axial	2	25-0122
24	36	10	SBC	Axial	2	25-0123

Mazda

Ancilliary lamps

All dimensions in mm.



FLASHER AND STOP/TAIL – with transverse filaments

Volts	Watts	Standard Pack	Cap	Illustration	Lamp Reference No.	ECE Regulation No.
6	21	10	SCC	1	25-0317	
6	21	10	SBC	2	25-0319	
6	5/21	10	SBC index	3	25-0384	
12	21	10	SCC	1	25-0382	P25-1
12	21	10	SBC	2	25-0335	
12	21	10	SCC	1	25-0343 *	
12	6/21	10	SBC	3	25-0381	P25-2
12	5/21	10	SBC index	3	25-0380	P25-2
24	24	10	SCC	1	25-0339	
24	24	10	SBC	2	25-0333	
24	5/21	10	SBC index	3	25-0334	

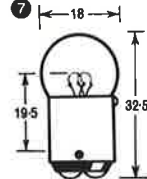
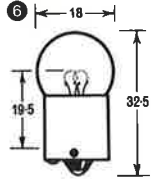
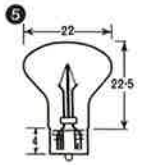
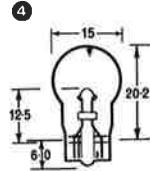
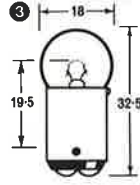
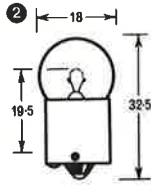
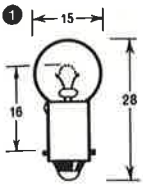
REVERSING

12	5	10	wedge base	4	20-0503 †	
12	21	10	SCC	1	25-0382	

* Amber bulb

† Externally silvered

All dimensions in mm.



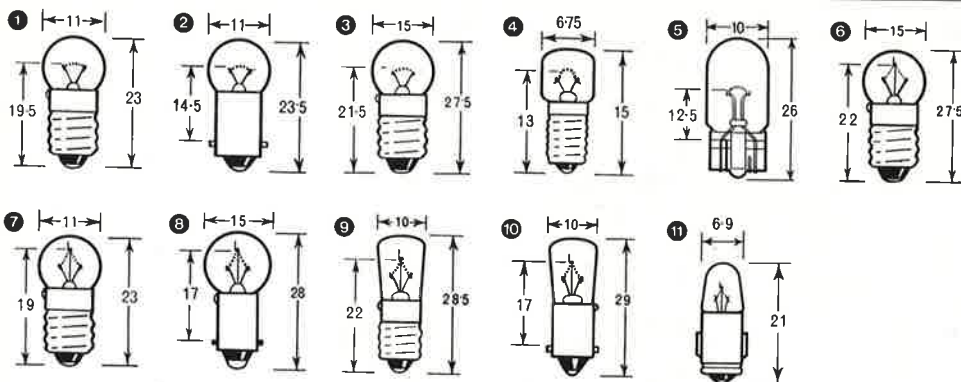
SIDE AND TAIL – with bow filaments

Volts	Watts	Standard Pack	Cap	Illustration	Lamp Reference No.	ECE Regulation No.
6	3	10	MCC	1	20-0988	
6	6	10	MCC	1	20-0951	
6	5	10	SCC	2	20-0205	
6	6	10	SBC	3	20-0206	
12	5	10	wedge base	4	20-0501	W15
12	5	10	MCC	1	20-0989	
12	5	10	SCC	2	20-0207	
12	5	10	SBC	3	20-0209	
24	5	10	wedge base	5	20-0502	
24	5	10	SCC	6	20-0149	
24	5	10	SBC	7	20-0150	
28	6	10	SBC	3	20-0228	

mazda

Ancillary lamps

All dimensions in mm.

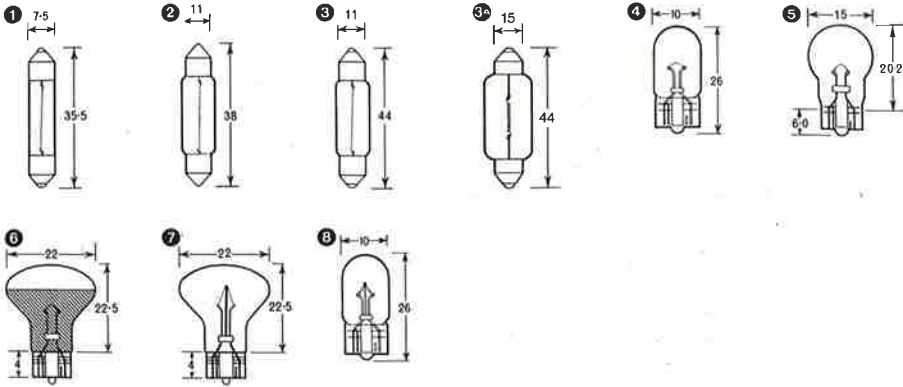


INDICATOR, PANEL AND INSTRUMENT WARNING

Volts	Watts	Standard Pack	Cap	Illustration	Lamp Reference No.	Lamp No.
6	3	10	MES	1	21-0990	
6	3	10	MCC	2	21-0841	
6	6	10	MES	3	21-0950	
12	1.5	10	LES	4	21-0280	
12	1.5	10	wedge base	5	21-2131	
12	1CP	10	wedge base	5	21-2104	
12	2	10	BA7s/11	11	21-0281	
12	2.2	10	MES	1	21-0987	
12	2.2	10	MCC	2	21-0843	
12	3	10	wedge base	5	21-0504 *	
18	3	10	MES	6	21-0985	
24	2.8	10	MES	7	21-0650	
24	2.8	10	MCC	8	21-0651	
24	2.8	10	MES	9	21-0695	
24	2.8	10	MES	6	21-0983	
24	2.8	10	MCC	10	21-2020	867
24	3	10	wedge base	5	21-0505	

* Formerly rated 2.2W

All dimensions in mm.



FESTOON FOR TRAFFICATORS AND ROOF-LIGHTS

Volts	Watts	Standard Pack	Cap	Illustration	Lamp Reference No.	E.C.E. Regulation No.
6	3	10	S7/8	1	23-0255	
6	6	10	S8-5/8	2	23-0253	
12	3	10	S7/8	1	23-0256	
12	6	10	S8-5/8	2	23-0254	
12	10	10	S8-5/8	2	23-0272	
12	18	10	S8-5/8	3A	23-0270	
12	21	10	S8-5/8	3A	23-0273	
24	6	10	S8-5/8	2	23-0653	
24	6	10	S8-5/8	3	23-0260	
24	6	10	S8-5/8	2	23-0654 *	
24	10	10	S8-5/8	2	23-0274	

WEDGE BASE (Capless)

12	1CP	10	Panels	4	21-2104	
12	1.5	10	and	4	21-2131	
12	3	10	Instruments	4	21-0504	
12	5	10	Side and No. Plate	5	20-0501	W15
12	5	10	Reversing	6	20-0503 †	
24	3	10	Indicator	8	21-0505	
24	5	10	Marker	7	20-0502	
28	2.8	10	Aircraft Panel	8	28-6624 (A400)	
28	11	10	Reading Lamp	7	28-6680 (A401)	

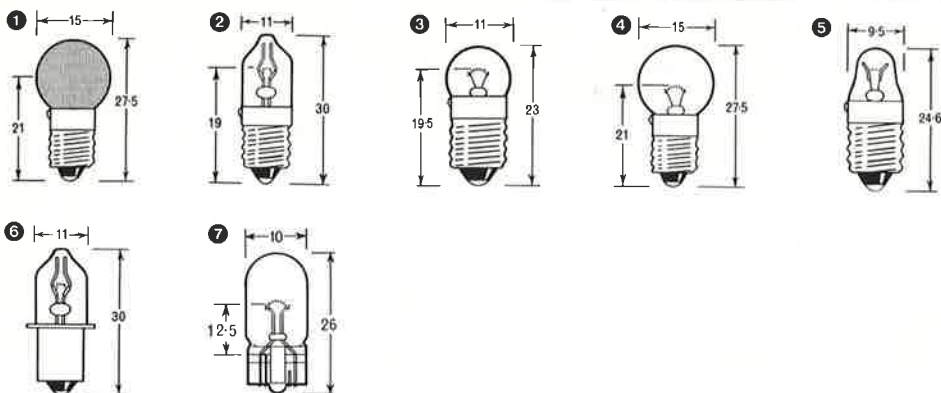
* Supported filament

† Externally silvered

mazda

Cycle dynamo and flash lamps

All dimensions in mm.



CYCLE DYNAMO LAMPS

Headlamps

Volts	Amps	Standard Pack	Cap	Finish	Illustration	Lamp Reference No.	Lamp No.
6	0.2	10	MES	Granulated	1	24-2162	843
6	0.25	10	MES	Granulated	1	24-2012	844
6	0.25	10	wedge base	Clear	7	24-2049	
6	0.3	10	MES	Granulated	1	24-2013	845
6	0.5	10	MES	Granulated	1	24-0997	
6	0.65	10	wedge base	Clear	7	24-2060	

Tail and battery operated

6	0.04	10	MES	Clear	2	24-0991	
6	0.1	10	MES	Clear	2	24-0998	
6	0.1	10	wedge base	Clear	7	24-2048	

FLASHLAMPS – with clear bulbs

Ordinary type

Volts	Amps	Standard Pack	Cap	Illustration	Lamp Reference No.	Lamp No.
1.5	0.2	10	MES	3	22-0390	
2.5	0.2	10	MES	3	22-0970	
2.5	0.3	10	MES	3	22-0972	
3.5	0.15	10	MES	3	22-0974	
3.5	0.3	10	MES	3	22-0977	
4.5	0.3	10	MES	4	22-2004	835
5	0.15	10	MES	4	22-2076	836

Lens end type

1.5	0.25	10	MES	5	22-2031	
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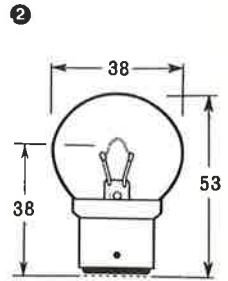
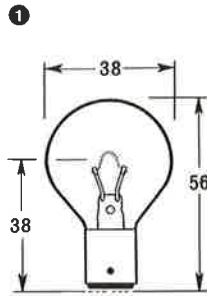
Prefocus flashlights

2.5	0.3	10	Prefocus P13-5s	6	22-2046	831
3.5	0.3	10	Prefocus P13-5s	6	22-2061	832
5.5	0.3	10	Prefocus P13-5s	6	22-2077	838

mazda

Bus, coach and yacht lamps

All dimensions in mm.



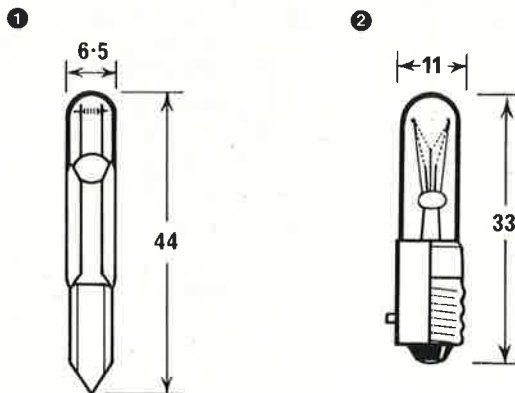
FOR INTERIOR LIGHTING

Volts	Watts	Standard Pack	Cap	Finish	Illustration	Lamp Reference No.	Lamp No.
12	24	10	BC	Pearl	1	27-3204	809
12	24	10	SBC	Pearl	2	27-3205	810
24	12	10	BC	Clear	1	27-3128	811
24	12	10	SBC	Clear	2	27-3129	812
24	12	10	BC	Pearl	1	27-3131	816
24	12	10	SBC	Pearl	2	27-3132	817
24	20	10	BC	Pearl	1	27-3184	821
24	20	10	SBC	Pearl	2	27-3182	822
40	36	10	BC	Clear	1	27-3217	

mazda

Telephone visual and telewriter lamps

All dimensions in mm.



TELEPHONE VISUAL LAMPS

Side contact plates and coloured endpieces

Volts	Amps	Standard Pack	Filament	Endpiece colour	Illustration	Lamp Reference No.
6	0.041	50	No. 2 Metal	Grey	1	24-3125
17	0.045	50	No. 2 Metal	Orange	1	24-3165
24	0.10	50	No. 2 Metal	Yellow	1	24-3171
24	0.055	50	No. 2 Metal	Yellow/Black	1	24-3172
60	0.06	50	No. 2 Metal	White/Grey	1	24-3461
12	0.117	50	No. 2 Carbon	Red	1	24-3001
36	0.075	50	No. 2 Carbon	Black	1	24-3015
50	0.107	50	No. 2 Carbon	White	1	24-3035

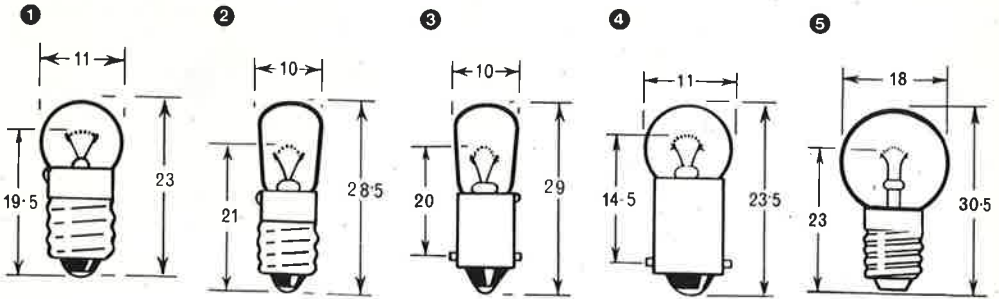
TELEWRITER LAMPS

Volts	Amps	Standard Pack	Cap	Lamp Reference No.
24	0.1	50	MCC	24-3551
24	0.1	50	MES	24-3552
50	0.05	50	MCC	24-3626
50	0.05	50	MES	24-3627

mazda

Radio panel and miners lamps

All dimensions in mm.



RADIO PANEL LAMPS

Volts	Amps	Standard Pack	Cap	Illustration	Lamp Reference No.	Lamp No.
6-2	0-3	10	MES	2	21-3025	850
6-3	0-11	10	MES	1	21-3094	
6-3	0-15	10	MCC	3	21-3074	852
6-3	0-15	10	MCC	3	21-3033 *	
6-3	0-15	10	MES	2	21-3051	853
6-3	0-25	10	MCC	3	21-3043	
6-5	0-35	10	MES	1	21-3029	
6-5	0-3	10	MCC	4	21-3030	855
6-5	0-3	10	MES	2	21-3028	857

*Long life lamp

MINERS LAMPS

Volts	Amps	Standard Pack	Cap	Illustration	Type	Lamp Reference No.
4	0-46	25	MES	1	Vacuum	24-5106
3-6	1	25	MES	5	Krypton	24-5657
4	0-8	25	MES	5	Krypton	24-5721
4	0-9	25	MES	5	Krypton	24-5726
4	1	25	MES	5	Krypton	24-5730

Mazda

Lamp cap dimensions

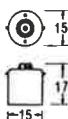
All dimensions in mm.

The dimensions and details of the caps used on the range of vehicle and miniature lamps are given below.

MCC
BA9s/14



SCC
BA15s/17



SBC
BA15d/19



SBC Index
BAY15d/19



SBC Index
BAY 15d/21



American Type
Prefocus P15s/19



MES
E10/13



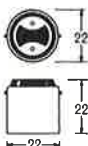
SBC
BA15d/17



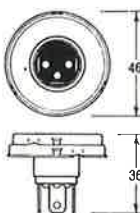
SBC
BA15d/21



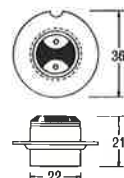
BC
B22/22



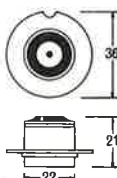
UEC
P451/41



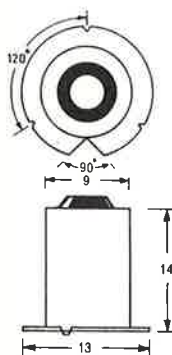
British Prefocus
P22d/21



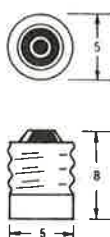
British Prefocus
P22s/21



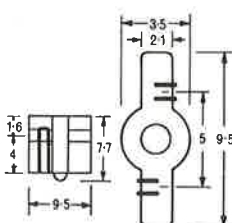
Prefocus
P13-5s



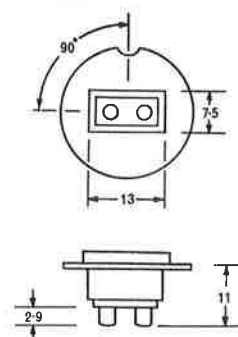
LES E5/8



Wedge base W2-1 x 9-5d



Miniature Prefocus
PK 22-6



HYTEK LAMPS

Introduction

The Mazda Hytek lamps are specialised mercury and xenon lamps manufactured to meet the needs of research and industry for advanced compact and high brightness light sources.

There is also a variety of ultra-violet sources.

These proven ranges of lamps are used for inspection and development projects in many locations and they undoubtedly have done much to maintain the superior quality and advanced design of much British industrial and engineering equipment. The lamps are manufactured to exacting specification with advanced or high techniques – hence the name Hytek.

Mazda

Hytex lamps Index

Page no.

340	Contents
341	Mercury Lamps for Projector purposes – Type MB/D
342/343	Mercury Lamps for Projector purposes – Type ME/D
344	Mercury Lamps for Long Wave U.V – Type MBW (Blacklight)
345	Mercury Lamps for Long Wave U.V – Type M1 and M2
346	Mercury Lamps for Short Wave U.V – Type MBL/D
347	Mercury Iodide Lamp – Type MBIL/H
348	Compact source Mercury Iodide Lamp for Projector purposes – 400W CSI
349	Compact source Mercury Iodide Lamp for Projector purposes – 1,000W CSI
350/351	Compact source Xenon Lamps – Type XE/D
352	Compact source and Linear source Xenon Lamp – Type XB
353	Standard Xenon Lamp '4 in 1' Housings
354	Pulsed Xenon Arc Lamps
355	Short and Long Wave U.V and Germicidal Lamps – Fluorescent Tube types
356	Neon High Intensity Obstruction Light
357/358	Xenon Flash Tubes

Mazda

Mercury lamps for projector purposes - Type MB/D

Supply voltage 200/250 AC

DESCRIPTION

Mercury vapour discharge lamps with quartz arc tubes loaded below 100W cm. of arc length and operating at pressures of 8/10 atmospheres.

The arc tubes are mounted in tubular outer bulbs, and the lamps are designed for vertical burning cap down. Restrictions in the arc tube ensure a stabilised and accurately focussed linear light source for projection purposes.

The lamps require control gear consisting of a choke and power factor correction capacitor.

TYPICAL APPLICATION

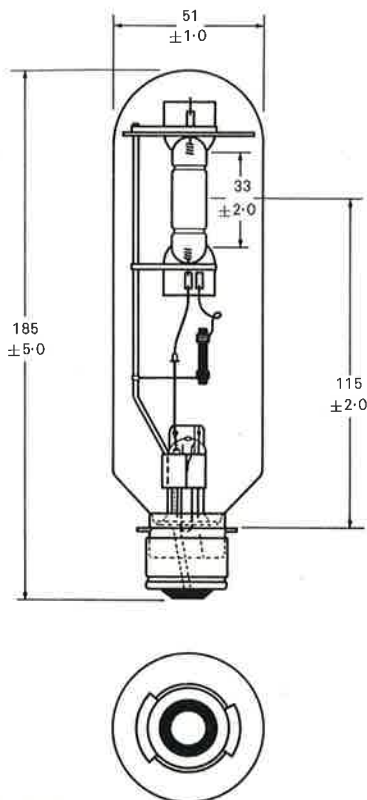
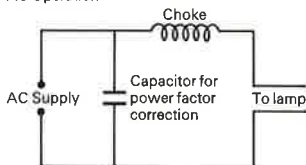
Optical instruments requiring accurate optical control eg spectroscopes, comparators, and other 'slit' instruments.

CONTROL GEAR 240V 50Hz.

Rating	Choke Catalogue No.	Capacitor Catalogue No.	Mfd rating
125W	AME 53159-4	AME C2234	8

CIRCUIT DIAGRAM

AC Operation



All dimensions in mm

LAMPS

Reference No.	Watts	Arc Length	Cap	Lamp Operating		Starting Current	Design Average Lumens	Life Hours
				Volts	Amps			
91-1159	125	33 ± 2	P28/25	110/140	1.15	2.0-1.5	4,000	1,500

342

Mazda

Mercury lamps for projector purposes – Type ME/D

CONTROL GEAR AC Operation

Rating	Supply AC	Choke Catalogue No.	Capacitor Catalogue No.	Rating mfd.	Starting Capacitor
250W	200/250V	AME 53235	AME C2275	60	—
1,000W	200/250V	4 x AME 53235	3 x AME C2276	3 x 80	0.5 mfd*

*TCC type CP142W – 1,000V working – 70°C max. working temperature or equivalent.

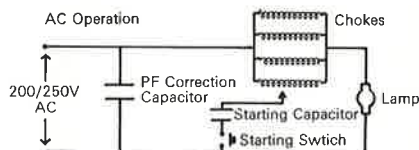
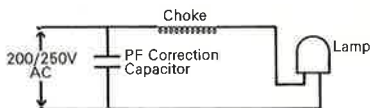
CONTROL GEAR DC Operation

Supply Volts DC	250W		1,000W	
	Series Resistance Ohms	Choke	Series Resistance Ohms	Current Rating Amps
200	35.2	AME C53235	8.9	22.5
210	37.0		9.5	22.0
220	40.6		10.2	21.6
230	43.3		10.9	21.0
240	46.0		11.5	20.8
250	48.7		12.2	20.4

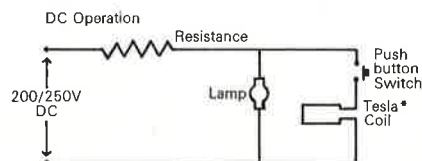
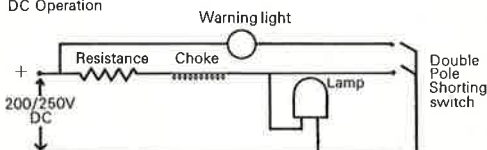
CIRCUIT DIAGRAMS – 250W LAMPS

CIRCUIT DIAGRAMS – 1,000W LAMPS

AC Operation



DC Operation



Mazda Mercury lamp for long wave u.v. Type MBW (Blacklight)

Supply voltage 200/250 AC

DESCRIPTION

Mercury vapour discharge lamps with quartz arc tubes loaded below 100W/cm of arc length and operating at pressures of 8/10 atmospheres. The quartz arc tube is enclosed in a pear shaped outer bulb of Woods glass which absorbs virtually all radiation from the arc tube other than that in the long wave U.V. of predominantly 365 Nanometers, little visible light is emitted.

The lamp is thus eminently suitable as a source of long wave U.V. radiation to excite fluorescence in susceptible substances.

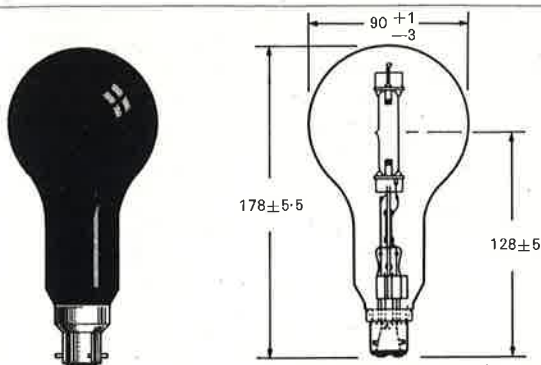
The lamp is designed for operation on 200/250W AC supplies with suitable control gear in the form of a series choke and power factor correction capacitor. It will operate in any position.

TYPICAL APPLICATIONS

As a source of long wave U.V. for bacteriological, mineralogical and forensic investigations. In connection with fluorescent pigments for various detection methods and for special effects in entertainments and shop window lighting.

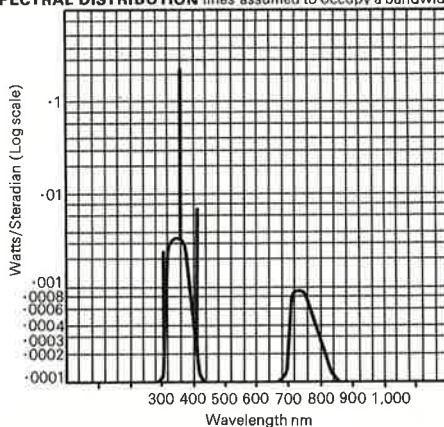
CONTROL GEAR

Rating	Choke Catalogue No.	Capacitor Catalogue No.	Mfd rating
125W	AME 53159-4	AME C2234	8

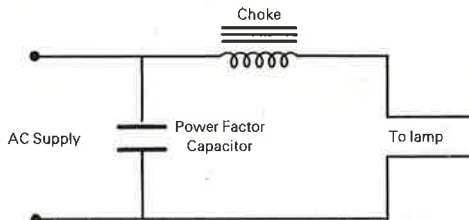


All dimensions in mm

SPECTRAL DISTRIBUTION lines assumed to occupy a bandwidth of 50NM



CIRCUIT DIAGRAM



LAMPS

Reference No.	Watts	Cap	Lamp Operating Volts	Amps	Starting Current	Life Hours
91-6217	125	B22/31 x 30 3-pin	110/140	1.15	2.0/1.5	1,500

Mazda

Miniature mercury lamps for long wave u.v. Types M1 and M2

DESCRIPTION

Low pressure discharge in mercury vapour between electrodes in a tubular glass envelope, these lamps provide both U.V. and visible radiation especially useful in providing excitation of fluorescent materials at low illumination levels. The M1 lamp is designed for operation on 24V DC supplies with suitable series resistances, and the M2 type is designed for 200/250V AC supplies with suitable control gear either in the form of a choke or series resistance.

The lamps operate in any position.

TYPICAL APPLICATION

As a source of long wave U.V. for the excitation of low lumen levels of fluorescent pigments in display work.

CONTROL GEAR M1 lamps DC Operation

Supply Rating	Series Volts	Resistance†	Heater Resistance†
4.5W	24 DC	24 Ohms	30 Ohms

†Supplied by installer.

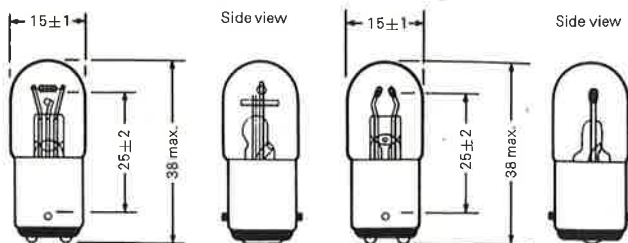
M2 LAMPS AC OPERATION

Supply Voltages	200/250V
Operating Current	0.9amps
Chokes in series	AME 62830-4 AME 62825

Alternatively series resistors of values between 480 and 160 ohms may be used in place of the series chokes to give operating currents ranging from 0.5 to 1.5 amps

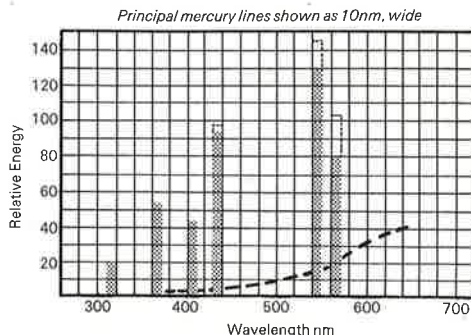
MERCURY DISCHARGE TUBE M.1

MERCURY DISCHARGE TUBE M.2

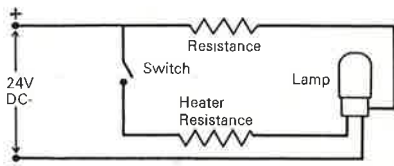


All dimensions in mm

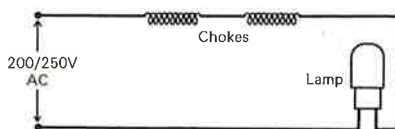
APPROXIMATE SPECTRAL ENERGY DISTRIBUTION for M 1 and M 2 Mercury discharge tubes



CIRCUIT DIAGRAMS



M1 Lamps - 24V DC Operation



M2 Lamps - 200/250V AC Operation

LAMPS

Type	Reference No.	Rating *	Supply Volts	Cap	Filament Current	Max. Arc Current	Life Hours
M1	98-9001	4.5W	22 DC Min	S.B.C.	0.8 Amp	0.75 Amp	200
M2	98-9002	4.5W	200/250 AC	S.B.C.	—	0.5/1.5 Amp	200

*At 0.75 Amp

Mazda

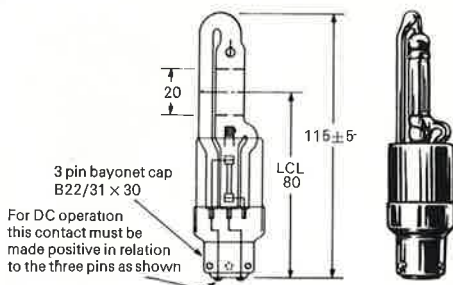
Mercury lamp for short wave u.v. – Type MBL/D

Supply voltage 200/250

DESCRIPTION

Mercury discharge lamps with bare quartz arc tubes loaded below 100W cm of arc length and operating at a pressure of 8/10 atmospheres. The lamp transmits both long wave and short wave U.V. as well as visible light. Perforated diaphragms mounted above the electrodes ensure a stabilised and accurately focussed linear light source for optical purposes.

The lamp is designed to operate in the vertical cap down position on 200/250V AC and DC supplies with suitable control gear. For AC operation this consists of a series choke and power factor correction capacitor. For DC operation, a series choke and a series resistor are required together with a quick break switch for starting purposes.



TYPICAL APPLICATION

As a source of short wave U.V. in measuring instruments eg spectral photometers.

CONTROL GEAR AC Operation

Rating	Choke Catalogue No.	Capacitor Catalogue No.	Mfd rating
125W	AME 53159-4	AME C2234	8

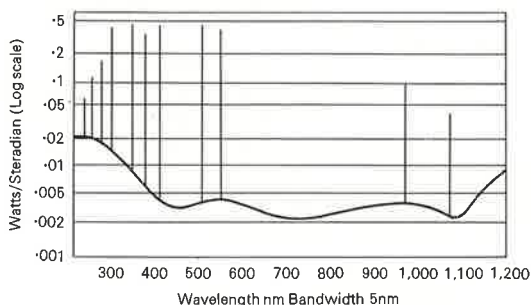
CONTROL GEAR DC Operation

Rating	Supply DC Volts	Resistor* Ohms	Current Rating Amps	Choke Reference No.
	200	79		
	210	87		
125W	220	95	2.3	AME 53159-4
	230	105		
	240	112		
	250	123		

*Supplied by installer

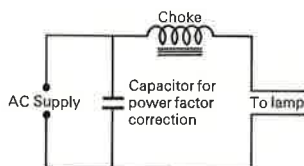
All dimensions in mm

SPECTRAL DISTRIBUTION

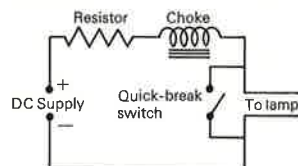


CIRCUIT DIAGRAMS

AC Operation



DC Operation



LAMPS

Reference No.	Watts	Arc Length mm	Cap	Lamp Operating Volts	Amps	Starting Current Amps	Max. Brightness Stilbs	Life Hours
91-9006	125	20	B22/31 x 30 3-pin	110	1.25	3.0	800	1,000

Mazda

Mercury iodide lamp Type MBIL/H

OD.0750 FITTING with 750W lamp and gear

Supply voltage — 200/250 A.C. Life 3,000 hours

DESCRIPTION

A mercury iodide lamp with a quartz tube loaded below 100W/cm, arc length at a pressure of 8/10 atmospheres.

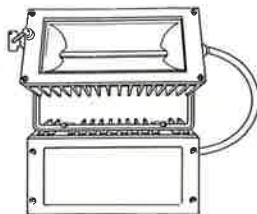
The lamp is for use in OD.0750 floodlight fitting only and the data for the lamp is this fitting is as below :—

Lighting design lamp lumens	60,000
Lamp operating position — horizontal	$\pm 20^\circ$
Total circuit watts per fitting	900
Circuit power factor (lagging)	0.80
Mains current at 240V	4.7 Amps

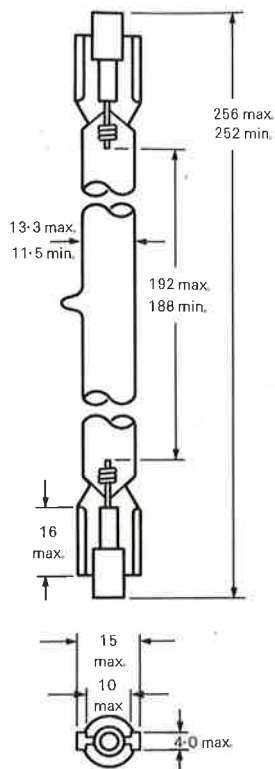
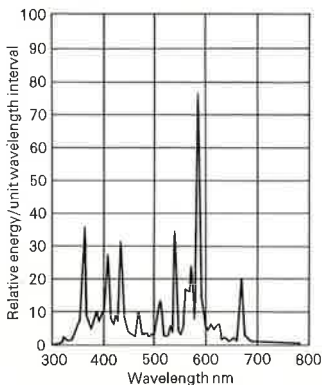
APPLICATION

The lamp is an integral part of the OD.0750 floodlight which is primarily used for high tower floodlighting applications outdoors.

Watts	Lamp Reference No.	Std. Pack
750	91-7461	1



SPECTRAL DISTRIBUTION or 750W mercury iodide lamp



All dimensions in mm

Mazda Compact source mercury iodide lamp for projector purposes 400W CSI

LAMP REFERENCE NUMBER 99-0201

DESCRIPTION

The 400 watt compact source iodide lamp is a new design of projector lamp giving white light of good colour rendering properties at an efficiency of 80 l/w for 100 hours. The source size is approximately 9mm x 5mm and the brightness is about 8,000 candelas per square cm.

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

The lamp is somewhat unconventional in appearance. It is extremely rugged. The small total physical size and the ability to operate in any position ensures that the lamp can be readily fitted into existing equipment and simplifies the design of new equipment. The single ended construction and the degree of prefocusing provided means that lamp replacement is straight-forward.

APPLICATIONS

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

In general, considerations of source size, lamp size, lamp rating and efficiency indicates that it can be used in applications which at present use 100V-240V hard glass filament projector lamps of 250W-1,000W rating to give a substantial advantage in terms of either increased light output or a reduction in input power and heat.

CONTROL GEAR

The lamp is designed for operation with control gear consisting of a choke, capacitor and starter switch which gives a high-voltage, high frequency pulse.

Control gear in box catalogue no. AME 53196.4

LAMPHOLDER

A lampholder, catalogue number L1101 is available for use with this lamp

PHYSICAL DIMENSIONS

(in millimetres)

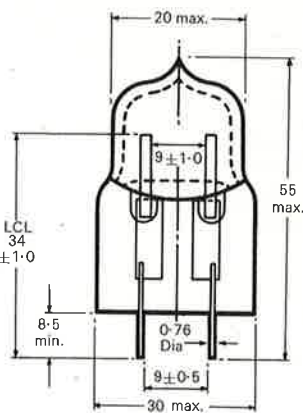
Arc Length	9±1.0
Arc Size	9 x 5
Overall Length (max.)	55
LCL	34±1
Diameter (max.)	30
Pin Length (min.)	8.5
Pin Spacing	9.0±0.5
Pin Diameter	0.76

LIFE

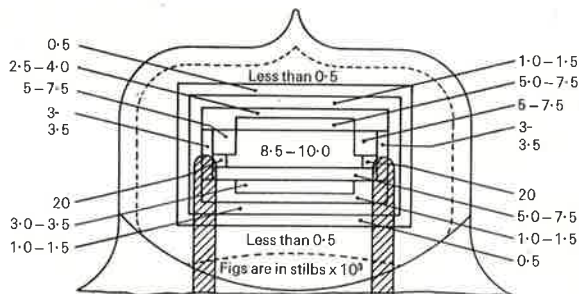
(Normal objective) - 100 hours

OPERATING POSITION

Universal



TYPICAL BRIGHTNESS DISTRIBUTION DIAGRAM



TYPICAL SPECTRAL POWER HISTOGRAM

for the 400W compact source iodide lamp

All dimensions in mm

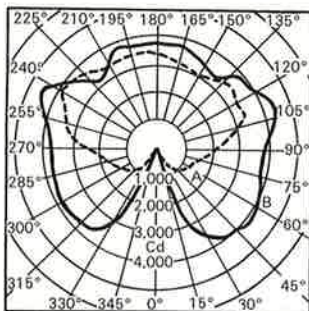
ELECTRICAL CHARACTERISTICS

Supply Volts AC	240
Arc Watts	400
Arc Volts	100
Arc Current (amps)	5
Run up Time (secs.)	30
Re-starting Time (mins.)	3/5

LUMINOUS CHARACTERISTICS

Initial Lum. Eff. (min.)	80 lumens/watt
Lumen Maintenance	90%
Colour Rendering	Good
Chromaticity Co-ordinates	x=0.433 y=0.382

TYPICAL CANDLEPOWER DISTRIBUTION IN VERTICAL PLANES



A - through electrodes
B - normal to electrodes



Plan view of lamp

Mazda

Compact source mercury iodide lamp for projector purposes 1,000W CSI

DESCRIPTION

The 1000W Compact Source Iodide Lamp gives white light of good colour rendering at an efficacy of 93L/W for 200 hours life.

APPLICATIONS

The high efficacy, robustness and small size of this lamp, makes it eminently suitable for projector purposes such as for follow spotlights.

ELECTRICAL CHARACTERISTICS

Supply volts	240
Arc watts	1000
Arc volts	75 – 85
Arc current	15 amps (approx.)
Run-up time	30 secs
Re-start time	2–5 mins

DIMENSIONS

Arc Length	14 – 15.5mm
Overall length	85mm max excluding pins
Light centre length	63.5 ± 2mm
Diameter	32mm max
Cap	Medium Bipost – G22

LUMINOUS CHARACTERISTICS

Initial efficacy L/W	93
Lumen maintenance	80%
Colour rendering	Good

LIFE

(Nominal objective) – 200 hours

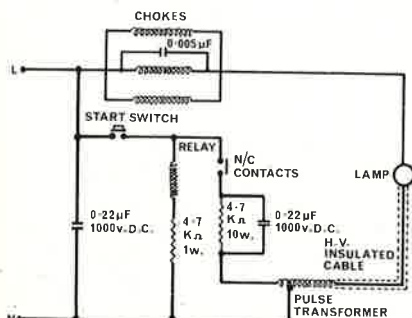
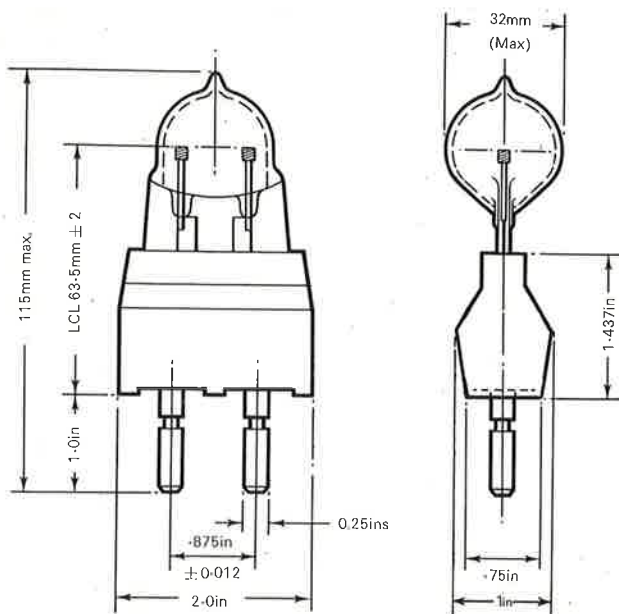
OPERATING POSITION

Universal

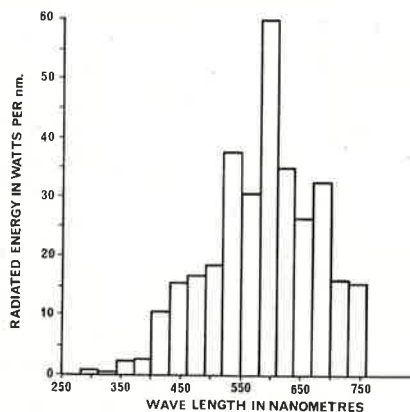
CONTROL GEAR

Control gear and box AME 53255

LAMP REFERENCE NUMBER 99-0221



Spectral Power Histogram



Chromaticity coordinates X=0.424 : y=0.402

Mazda

Compact source xenon lamps Type XE/D

DESCRIPTION

Xenon compact source discharge lamps consist of an arc burning between electrodes of tungsten in a high pressure atmosphere of pure xenon contained in a quartz bulb.

The high brightness light source emits virtually continuous radiation, extending from the ultra-violet through the visible into the infra-red. The approximate colour temperature is 5,600°K, similar to noon sunlight.

All lamps require a starter unit to strike the arc. In addition AC lamps require control gear in the form of a series inductance and a power factor correction capacitor, while DC lamps require series resistances.

Alternatively the DC lamps may be run off AC supplies using a rectifier ballast unit.

All starters require a 200/250V 50c/s 2 amp supply.

APPLICATION

High speed photography and cinematography
Colour matching
Fadeometer testing
Graphic arts
Optical instruments
Laboratory and general scientific purposes.

POSITION OF BURNING

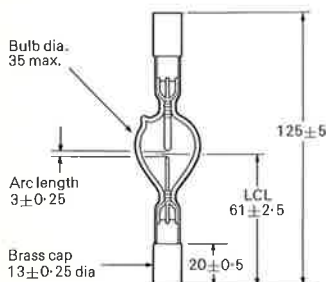
Vertical $\pm 15^\circ$ except for 2KW 3 electrode lamp which burns vertically or horizontally $\pm 15^\circ$.

CAPS

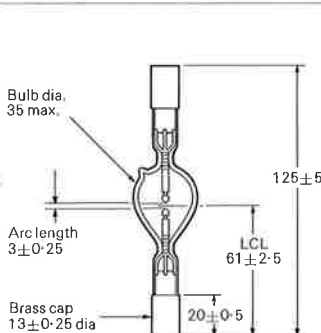
All lamps are fitted with special cylindrical caps. Lamps of 500W and 2KW have a cone centre for mounting, and a flexible lead.

250W/DC

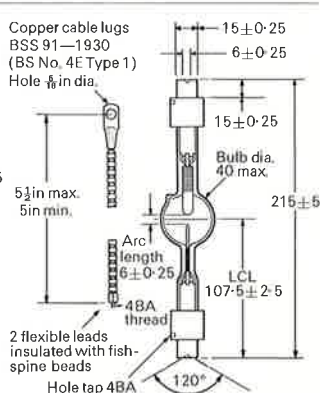
All dimensions in mm unless otherwise stated.



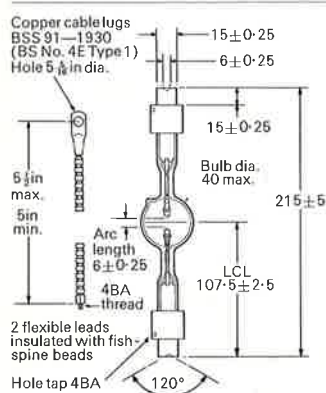
250W/AC



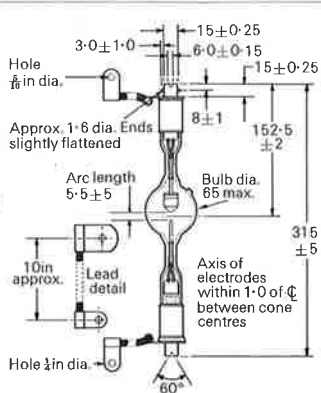
500W/DC



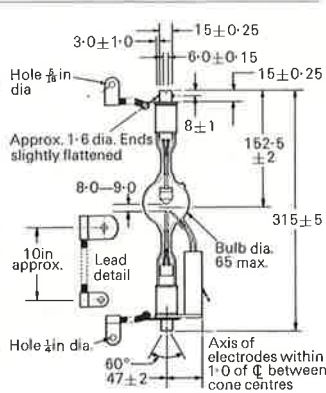
500W/AC



2 KW 2 Electrode



2KW DC 3 electrodes



Mazda

Compact source xenon lamps Type XE/D

LAMPS

Rating Watts	Reference No.	Supply Volts	Arc size mm	Lamp Volts	Operating Amps	Lumens	Luminance*	Life Hours
250	98 - 0352	65 min. DC	3 x 2	16.5	15	5,000	11,000	1,500
250	98 - 0351	200/520 AC	3 x 2	16	17	5,000	10,000	500
500	98 - 1002	65 min. DC	5 x 3	22	23	12,000	20,000	1,000
500	98 - 1001	200/250 AC	5.5 x 3	20	27	11,000	11,000	500
2KW 2 Electrode	98 - 1506	65 min. DC	4.5 x 4	25	80	70,000	120,000	1,000
2KW 3 Electrode	98 - 1503	35 min. DC	7.5 x 4	27	74	64,000	67,000	1,000

*Luminance—Average luminance of brightest circle of 2mm diam., in candelas/sq.cm.

CONTROL GEAR for AC lamps on 200/250V/50Hz supplies

Rating	Catalogue No.	Starter	Chokes	Capacitors			Mains Current Amps
		Catalogue No.	Watts Loss	Mfd	Catalogue No.		
250W	AME 53239	4 x AME 53235	100	160 or 200	2 x AME C2276 2 x AME C2275 + AME C2276	5 2	
500W	AME 53239	6 x AME 53235	150	240 or 300	3 x AME C2276 3 x AME C2275 + AME C2276	8½ 4½	

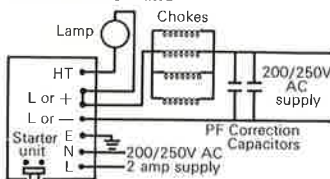
CONTROL GEAR for DC lamps on 35/65V DC supplies

Rating	DC Supply Volts	Starter Catalogue No.	Series Resistance	Current Amps
			Ohms	
250W	65V min.	AME 53239	$\frac{V-16.5}{15}$	15
500W	65V min	AME 53239	$\frac{V-25}{23}$	23
2KW 2 Electrode	65V min	AME 53233	$\frac{V-25}{80}$	80
2KW 3 Electrode	35V min	AME 53234	$\frac{V-27}{74}$	74

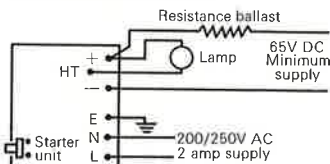
CONTROL GEAR for DC lamps on 200/250V 50Hz supplies

Rating	Starter Catalogue No.	Rectifier Ballast Catalogue No.
250W	AME 53239	AME 53236
500W	AME 53239	AME 53236
2KW 2 Electrode	AME 53233	AME 53237
2KW 3 Electrode	AME 53234	AME 53238

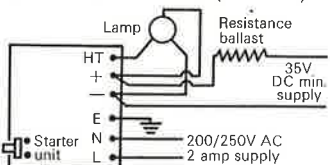
CIRCUIT DIAGRAMS



For AC types 250W and 500W



For DC types 250W and 2KW (2 Electrode)



For 2KW (3 electrode)

Mazda

Linear source xenon lamps - Type XB

DESCRIPTION

Linear source xenon lamps consist of an arc burning between tungsten electrodes operating in an atmosphere of pure xenon contained in a tubular quartz bulb. The spectrum of the radiation is virtually continuous extending from the ultra-violet through the visible into the infra-red. The colour of the visible radiation is very similar to noon sunlight with a colour temperature of approximately 5,600°K. Light output may be modified over a wide range without appreciably altering the colour of the light by adjusting the power input.

The lamps require a starter unit to initiate the arc, and a series inductance and power factor correction capacitor are also required. For further details see Control Gear and Accessories Catalogue.

APPLICATION

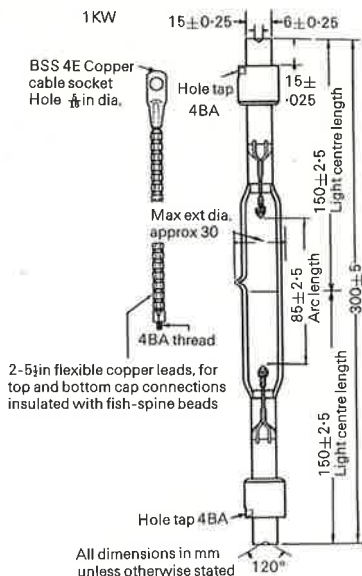
High speed photography and cinematography
Colour matching
Fadeometer testing
Graphic arts
Optical instruments
Laboratory and general scientific purposes.

POSITION OF BURNING

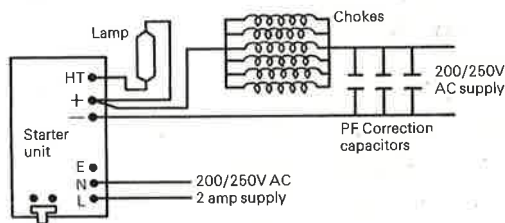
Vertical $\pm 15^\circ$.

CAPS

Special cylindrical caps with a cone centre for mounting, and a flexible lead.



CIRCUIT DIAGRAM



LAMPS

Rating	Reference No.	Supply Volts	Arc Length (mm)	Lamp Operating Volts	Amps	Lumens	Life
1KW	98-0125	200/250V 50c/s	85 \pm 2.5	42	25	22,000	500

CONTROL GEAR

Rating	Starter Reference No.	Chokes Reference No.	Capacitors MFD	Reference No.	Mains Current Amps
1 KW	AME 53239	6 x AME 53235	240 or 300	3 x AME C2276 3 x AME C2276 + AME C2275	7 $\frac{1}{2}$ 5

Mazda

Standard xenon lamp '4 in 1' housings

GENERAL SPECIFICATION

The '4 in 1' system Four optical systems each 90° apart, can be illuminated by a single xenon lamp. The '4 in 1' range of two standard lamp housings has been designed to accommodate 250W or 500W-2KW xenon lamps.

Construction and finish Both lamp-houses are in 16 SWG mild steel welded construction and finished in grey synthetic stoving enamel.

Lamp mounts and shields The mount is a unit assembly, is fully adjustable and retains the xenon lamp between spring loaded retention cups. The lamp is surrounded by a metal box type heat shield which also provides mechanical protection. The lamp housings are supplied with four plastic feet for free standing operation.

Mechanical adjustments All mechanical adjustments are carried out by varying the position of the lamp mount assembly.

Electrical connections Provision for three cable inlets has been made, in addition to an earth connection.

250W HOUSING CATALOGUE No. AME 6078

Dimensions

Base	6in x 6in
Overall height	10½in
Optical centre line height from table surface	5in
Weight	10lbs

Optical features Provision is made for mounting a standard 2in x 2in heat filter to the lamp shield.

Cooling Under normal operating conditions, convection cooling only is necessary. For continuous operation or for operation in confined spaces, forced air cooling may be necessary.

Safety The front panel is retained by four screws and cannot be accidentally opened. The housing must be effectively earthed before switching on. Unauthorised persons should not have access to the housing interior once electrical connection has been made.

500W/2KW HOUSING CATALOGUE No. AME 6077

Dimensions

Base	12in x 12in
Overall height	26in
Optical centre line height from table surface	9½in
Weight	50lbs

Optical features Provisions is made for the attachment of a rear aluminised spherical mirror by means of an adjustable mount



AME 6078



AME 6077

attached to the lamp shield. On the opposite face provision is made for mounting a standard 2in x 2in heater filter. The aluminised reflector is supplied as part of the standard unit, but heat filters are not included.

SAFETY REQUIREMENTS

Ventilation Xenon lamps when in operation, generate ozone. Adequate room ventilation or the use of a ducted system where necessary, must be provided.

U.V radiation The radiation from a xenon lamp is rich in ultra-violet, and when the eyes and skin are exposed directly to the radiation, harmful effects such as conjunctivitis and skin irritation may be experienced. A completely sealed lamphouse system will ensure maximum safety.

ADDITIONAL FACILITIES

The standard housings are designed for free standing use. However, to ensure precise registration of the housing in one or more

optical systems, provision has been made for Kinematic mounting. A special Kinematic base plate suitable for either housing, providing location for PT1 standard optical benches is available.

Other available accessories include –

Heat filters.
Special lens mounts to accept a range of standard lenses, condensers and other proprietary optical systems.
Fan cooling units for 250W housing ducts.

Enquiries for these additional features should be made to –
Goulding & Partners (Consultant Engineers) Ltd, 1a Essex Road, Acton, London W.3.

Mazda

Pulsed xenon arc

DESCRIPTION

These pulsed xenon arc lamps consist of an arc between tungsten electrodes operating in an atmosphere of pure xenon contained in a tubular quartz bulb. Until recently, the standard light source for copyboard illumination in photo reproduction has been the open carbon arc. Over the last two or three years special discharge lamps have been utilised, particularly pulsed xenon arc lamps.

The spectrum of the radiation is virtually continuous extending from the ultra-violet through the visible into the infra-red. The colour of the visible radiation is very similar to noon sunlight having a colour temperature of 5,600°K. Light output is controlled by the gear which pulses the lamp for a specific period, Application : Photo-reproduction.

CONTROL GEAR

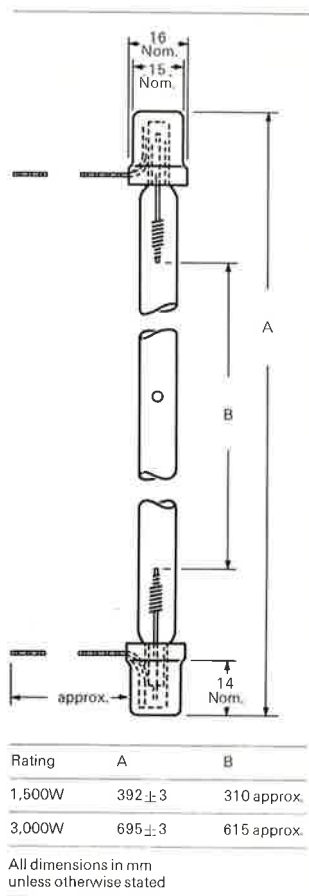
The lamp is designed to operate with control gear which provides a 100 cps pulse rate for a pulse width of one millisecond at half peak. Suitable gear for operating the lamp is manufactured by Thymer, Ascorlux, & Littlejohn. Other companies have gear under development.

LAMP SPECIFICATION

Type	Pulsed Xenon Arc
Cap	Ceramic with flexible leads
Operating Position	Universal. Forced cooling essential
Arc Voltage	110 ± 5
Supply Voltage	200/250V 50Hz
Pulsed Frequency	100Hz
Design Wattage	1,500 and 3,000
Efficiency	25 lumens per watt
Life	500 hours
Arc Length	310mm nominal

LAMPS

Rating	Lamp Reference No.
1,500W	98-2015
3,000W	98-2030



Mazda

Short and long wave u.v. fluorescent tube types

FLUORESCENT TYPE GERMICIDAL TUBES

These lamps are in standard fluorescent lamp sizes. The lamps are made without phosphors, and the tube is a special glass which transmits short wave U.V.

Approximately 95% of the radiated energy is in the 253.7 Nanometers band which is near the maximum for germicidal effectiveness. The lamps are useful for the irradiation of airborne bacteria or moulds, and also for the irradiation of surfaces on which bacteria and/or mould spores have collected.

A publication 'Germicidal Radiation and its Application' is available on request.

TYPICAL APPLICATION

For hospitals etc.: for sterilising purposes.

TUBES

Lamp Rating	Reference No.	Nominal Dimensions ft and in mm	Std. Pack
15W	92-2013	18" x 1" 457 x 25	25
30W	92-4540	3' x 1" 914 x 25	25

LONG WAVE ULTRA-VIOLET FLUORESCENT TYPE TUBES

The germicidal tubes shown are short wave ultra-violet sources. Long wave ultra-violet fluorescent type tubes as below are also available and details are given on pages 28Q, 28I

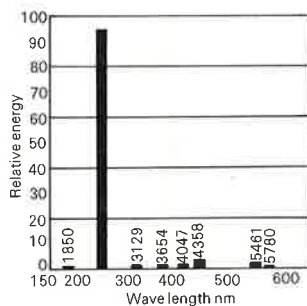
Type	Ratings
Ultra-Violet (Non filter)	5ft 65/80W, 4ft 40W, 2ft 20W, 1½ft 15W, 12in 8W
Blacklight blue U.V	4ft 40W, 1½ft 15W, 12in 8W, 9in 6W, 6in 4W

FITTINGS AND CONTROL GEAR

All tubes on this page go into standard fittings and operate on standard fluorescent control gear.

The 30W tube operates on 200/250V AC and the 15W on 100/250V AC. Alternatively two 15W tubes may be run as a series pair on 200/250V AC.

SPECTRAL ENERGY DISTRIBUTION GERMICIDAL TUBE



Mazda

Linear neon high intensity obstruction lights

DESCRIPTION

The 160W linear neon high intensity obstruction Light is designed to give red light at high efficiency, with long life and low power consumption. The main spectral energy line is at 640 nanometres, and the lamp is designed to operate either as a static burning source or, by means of an electronic switching unit, to operate as an occulting beacon which flashes up to 180 per minute.

APPLICATIONS

For use on masts, chimneys or buildings which constitute a hazard or obstruction to military and civil aviation.

FITTINGS AND CONTROL GEAR

Details of a specially designed fitting unit including control gear, are available on request. Details of a separate flashing control unit are also available.

LAMP DATA

Watts 160

Nominal arc current 1.33 amps

Nominal arc voltage 157

Initial light output 2,000 lumens

Minimum light output at 4,000 hours 1,850 lumens

Rated life continuous burning 4,000 hours

Rated life flashing 30 million flashes

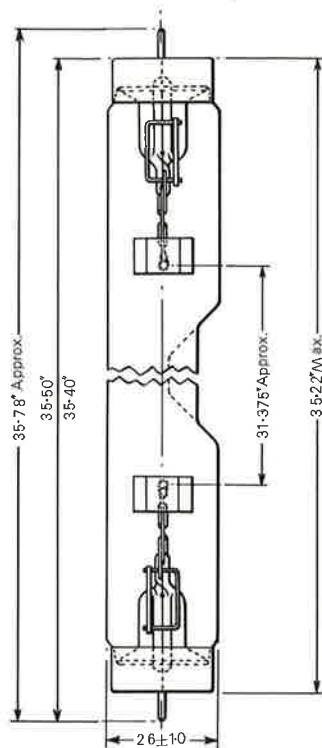
DIMENSIONS

Diameter 26mm \pm 1mm

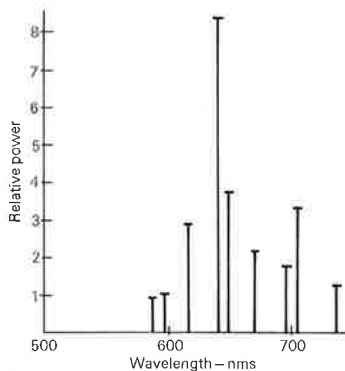
Overall length 35.78in maximum

Caps G 13/10 \times 24 - bi-pin

LAMP REFERENCE NUMBER 98-4501



160W LINEAR NEON LAMP
Spectral energy diagram



Mazda

Xenon flash tubes

DESCRIPTION

A Xenon flash tube is a light source giving a pulse of high intensity and extremely short duration. The flash times are in the range millionths and thousandths of a second depending on the type. There are generally two categories, namely 'Single Flash' types in which maximum intensity flashes can be repeated at fairly long intervals, eg one every ten seconds, and 'Stroboscopic' types where somewhat lower power flashes can be repeated at

intervals up to, for example 300 per second.

APPLICATIONS

High Speed Photography
Optical Instruments Stroboscopes
Laboratory and general scientific purposes.

CIRCUITS AND CONTROL GEAR

The performance characteristics can be varied over a relatively wide range by the

design of the circuit, usually of the electronic type.

This control gear is not supplied by Thorn Lighting Limited but details of suitable circuits are obtainable on request.

PHYSICAL CHARACTERISTICS

Single Flash Types

Type	Lamp Reference No.	Overall Length mm	LCL mm	Arc Length mm	Bulb Dia. mm	Anode	CAPS Cathode	Trigger
SF7	97 - 2507	122 ±5	65 ±5	30	26 ±2	ES	9mm ferrule	9mm ferrule
FA32	97 - 2032	65 max.	—	50	7	fly leads	fly leads	fly leads
FA10	97 - 2010	50 ±2	—	—	8	2 pin 2 amp	2 pin 2 amp	nickel strip
FA5	97 - 2005	148 ±4	74 ±2	5	32 ±2	9mm ferrule	9mm ferrule	9mm ferrule
FA7	97 - 2007	80 ±2*	45*	—	31	UX 4 pin ~ 35mm	UX 4 pin ~ 35mm	UX 4 pin ~ 35mm

Stroboscopic Types

Type	Lamp Reference No.	Overall Length mm	LCL mm	Bulb Dia. mm	Cap
FA7S - 1	97 - 2108	90 ±2*	45*	31 ±2	UX 4 pin 35mm
FA2S	97 - 2102	90 ±5*	45*	46 ±2	3 pin 5 amp

*Excluding cap pins.

Note: Single flash types FA7 and FA32 can also be used as stroboscopic tubes.

ELECTRICAL CHARACTERISTICS

Single Flash Types

Type	Operating Voltage	Max. Loading Watt/Secs.	Max. Repetition Rate at max. Loading	Trigger Volts	Approx. Peak Lumens	Flash Duration microsecs $\frac{1}{10}$ peak	$\frac{1}{2}$ peak
SF7	7500	56	1 in 10 secs	12KV	100.0 million	3	1
FA32	500	65	1 in 10 secs	8KV	5.5 million	800	350
FA10	250	100	1 in 10 secs	4KV	3.5 million	2620	865
FA5	1000/2000	150	1 in 10 secs	12KV	2.0 million	†	†
FA7	2500	200	1 in 10 secs	4KV	24.5 million	800	290

†1 millisecc to $\frac{1}{2}$ peak.

Stroboscopic Types

Type	Operating Volts	Max. Power Watts	Max. Repetition Rate	Trigger Volts
FA32	500	4	50/sec	8KV
FA7S - 1	2000	12	300/sec	4KV
FA7	2500	14	50/sec	4KV
FA2S	2000	36	300/sec	8KV

358

PHOTOGRAPHIC LAMPS

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.

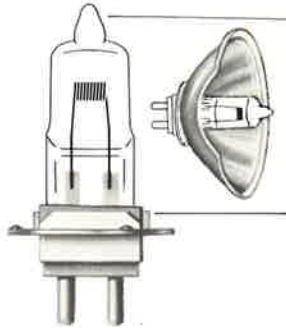
Photographic lamp Index

361	A1 class 50–100w (illustrations of A1/17, A1/45, A1/215)
362	A1 class 150w (illustrations of A1/24, A1/216, L1042)
363	A1 class 200–300w (illustrations of A1/201, A1/223)
364	A1 class 420 & 500w (illustrations of A1/205, A1/227)
365	A1 class 600–750w (illustrations of A1/223, A1/228, A1/53)
366	A1 class 1000–1200w (illustrations of A1/207, A1/208)
367	F class Micro-projector lamps (illustrations)
368	G class Exciter lamps (illustrations of
369	Classes EM & T lamps (illustrations of E3M29 & T3)
370	Photographic lamps classes P1 (illustrations of P/1, P1/6, P1/15, P/11, P/12)
371	Photographic lamps P2, P3, P4 (illustrations of P3/3, P4/1)
372	Flash bulbs
373	Flashcubes

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.



A1/229 8V 50W Tungsten Halogen Lamp
The A1/229 has been designed particularly for Super 8 cine projectors. It is a complete optical system comprising a tungsten halogen lamp integral with an aluminised 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	Maximum Diameter	Dimensions mm		Nominal Lumens	Base	Filament Formation	Average Life (Hours)	Special Features
				Maximum Overall Length	Light Centre Length					
A1/17	8	50	33 x 44	69	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	240/250	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	—
A1/203	12	100	41 x 50	95	44 ± 0.5	—	Small Pre-Focus P35s	M	25	A.B.H.I.
A1/209	12	100	11	45	24 ± 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 }
A1/203 – Focal Distance 36.5 mm.

atlas

Projector lamps

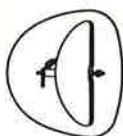


Diagram of A1 24 showing flattened front face of bulb.



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.

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.

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					
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	M	50	E.I.J.M.N.
A1/234	15	150	11.5	45	30±0.25	4650	2 Pin G6.35	N	50	E.J.

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

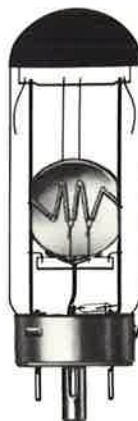
R 3 or 4 amp H.B.C. fuse necessary
S 5 or 6 amp H.B.C. fuse necessary
T 6 or 7 amp H.B.C. fuse necessary

Operating position base down with the following exceptions:
A1/211 – 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
A1/232 – horizontal
A1/18 } Focal Distance 43.2 mm.
A1/184 }
A1/194 }
A1/211 }
A1/24 – Focal Distance 57.2 mm.
A1/210 – Focal Distance 56.0 mm.



A1/233 Tungsten Halogen Lamp

The A1/233 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 The 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					
A1/25	115	200	26	90	35±1	4400	S.B.C. BA15d	J2	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	M	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.

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

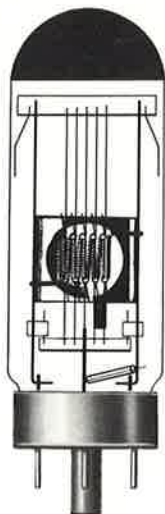
J Minimum bulb wall temperature 350°C
K Dual Voltage
L External integral aluminised mirror
M External integral dichroic mirror
N Light centre length not specified
O Internal proximity reflector
P Due to internal reflector nominal lumens not shown
Q Linear overhead projector lamp

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

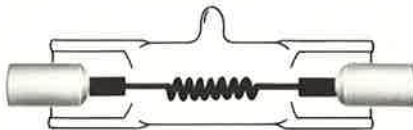
Operating position base down with the following exceptions:
A1/233 – Base down to horizontal
A1/235 – Base down to horizontal

atlas

Projector lamps



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, O.
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.

- 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
- R Linear overhead projector lamp

- R 3 or 4 amp H, B, C fuse necessary
- S 6 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
A1/46 – Base up

atlas Projector lamps



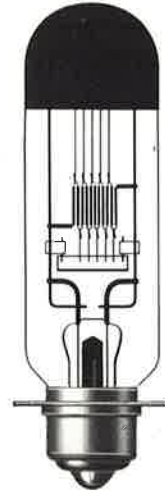
A1/233 240V 650W Tungsten Halogen Overhead Projector Lamp

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 DVR.



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

A mains 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.



A1/53

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	Light Centre Length					
A1/228	120	600	13.5	93.5	—	16500	Double Ended R7s	K	75	E.J.Q.
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	36.5 ± 1	16500	Polarised 2 Pin GX9.53	J2	50	E.J.K.R.
A1/9	115	750	39	140	55.5 ± 0.5	19500	Med Pre-Focus P28s	E8	25	A.B.
A1/9	240, 250	750	39	140	55.5 ± 0.5	18000	Med Pre-Focus P28s	E10	25	A.B.C.
A1/52	115	750	37	135	81 ± 0.5	19500	3 Pin Ring P39s	E8	25	B.D.
A1/53	115	750	39	135	59 ± 0.5	19500	Large B.H. P46s	E8	25	A.B.
A1/53	240, 250	750	39	135	59 ± 0.5	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 integral mirror nominal lumens not shown

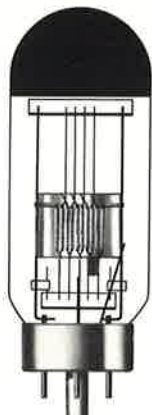
- J Minimum bulb wall temperature 350°C
K Dual Voltage
L External integral aluminised mirror
M External integral dichroic mirror
N Light centre length not specified.
Mirror rim to film gate 32 mm
O Internal proximity reflector
P Due to internal reflector nominal lumens not shown
Q Linear overhead projector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

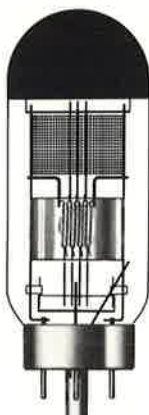
Operating position base down with the following exceptions:
A1/228 - Horizontal
A1/52 - Base up
A1/233 - Base down to horizontal

atlas

Projector lamps



A1/207 1000w Proximity
Reflector Tru-Focus Lamp



A1/208 1200w 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	A8	100	—
A1/57	240, 250	1000	66	240	120 ± 5	23000	G.E.S. E40s	A6	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	E10	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.
A1/191	110	1200	39	140	55.5 ± 0.5	36000	Med Pre-Focus P28s	E8	10	A.B.
A1/197	115	1200	39	135	59 ± 0.5	36000	Large B.H. P46s	E8	10	A.B.
A1/208	115	1200	39	118	39.7 ± 1	—	Tru-Focus G17q	E8	10	A.B.O.P.

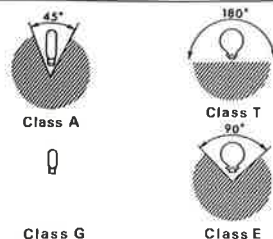
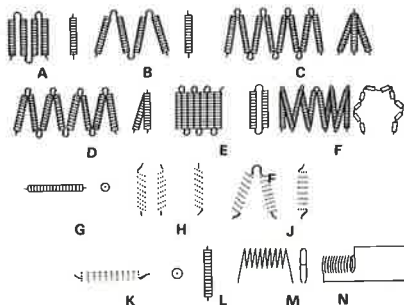
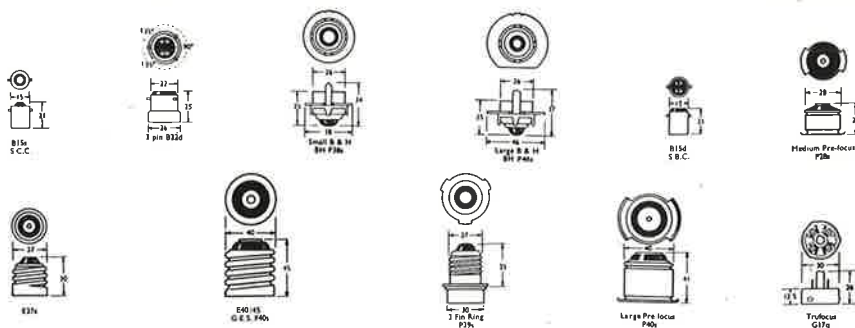
- A Obscured top
 B Forced cooling necessary. Maximum bulb wall temperature 500°C
 C Voltage range in 10 volt steps
 D Offset filament
 E Operates on Tungsten Halogen principle
 F Internal integral aluminised mirror
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 H Silvered bulb
 I Due to integral 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

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
A1/46, A1/62
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					
F/30	4	8	37	67	100	S.E.S. E14s	10±2	100	A
F/8	12	12	37	62	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/88	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	675	Small Pre-Focus P30s	—	200	A.C.
F/4	12	48	52	81	950	S.E.S. E14s	—	100	B
F/38	12	48	40	65	850	S.B.C. BA15d	—	100	B
F/76	12	50	40	72	950	Bosch BA20s	—	50	B
F/77	12	50	40	70	950	S.E.S. E14s	—	50	B
F/14	12	100	62	91	2250	E.S. E27s	—	100	B
F/63	12	100	62	98	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

atlas

Projector lamps



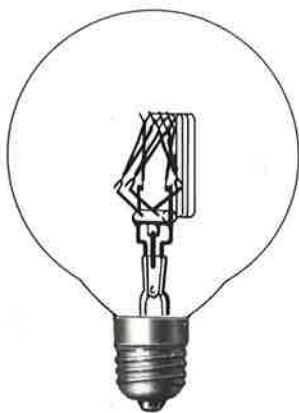
Class G Exciter Lamps
A range of high efficiency lamps for the sound heads of cinema projectors.

CLASS G EXCITER LAMPS

Lamp Ref.	Volts	Amps	Maximum Diameter	Dimensions mm		Nominal Lumens	Base	Filament Formation	Average Life (Hours)	Special Features
				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°



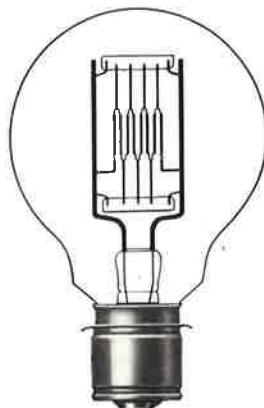
E/3 Class E Epidiascope Lamps

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.



T/3 Class T Theatre Spotlights

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 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	A.E.
E/3	240, 250	500	102	145	85 ± 5	10300	E.S. E27s	C8	100	A.E.

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.
M31	6	10	19.0	37.5	19.0 ± 1.5	125	S.C.C. BA15s	G	200	C

A Operates on Tungsten Halogen Principle

B Operating position universal

C Operating position vertical base down to horizontal

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.

Operating positions

A Vertical base down ±45°

B Vertical base down ±75°

C Vertical base down ±90°

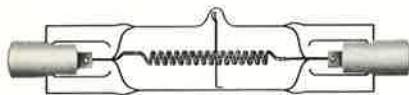
D Vertical base up ±15°

E Voltage range in 10 volt steps

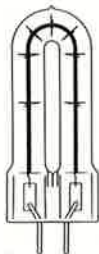
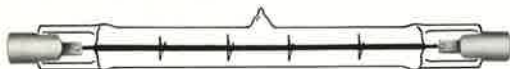
atlas

Photographic lamps

**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 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 15 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

Lamp Ref.	Volts	Watts	Dimensions mm				Nominal Lumens	Base	Average Life (Hours)	Special Features
			Max. Dia.	Max. pip protuber- ance from bulb axis	Nominal Contact Length	Max. Clear- ance Length				
P1/8	30	250	12	10.2	74.9 ± 1.6	78.3	80	8000 Double ended R7s	12	A
*P1/1 (PP.1)	240/250	275	61	—	—	—	108.5	8300 B.C. B22d	3	B.C.
*P1/1 (PP.1)	240/250	275	61	—	—	—	110	8300 E.S. E27s	3	B.C.
*P1/6 (PP.3R)	240/250	375	97	—	—	—	133.5	13000 B.C. B22d	4	B.E.F.H.
*P1/6 (PP.3R)	240/250	375	97	—	—	—	135	13000 E.S. E27s	4	B.E.F.H.
*P1/2 (PP.2)	240/250	500	82	—	—	—	164.5	15000 B.C. B22d	6	B.C.
*P1/2 (PP.3)	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	15	A.B.K.
P1/16	115	850	23	—	—	—	65	28000 2 Pin Ceramic G6.35	15	A.K.
P1/17	240/250	1250	23	—	—	—	85	4000 GY9-53	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

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

Class P2. Operating Position :- Universal
With the following exceptions:
P2/7 Horizontal ± 4°
P2/10 Horizontal ± 4°
P2/12 Horizontal ± 4°
P2/14 Horizontal ± 4°
P2/15 Horizontal ± 4°
P2/18 Horizontal ± 4°

Class P3. Operating Position :- Universal

Class P4. Operating Position :- Horizontal ± 4°

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.

*These new catalogue numbers should now be used,
since they replace the previous series numbers as
shown in brackets.

atlas Photographic lamps



P/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, P2/15: Horizontal $\pm 40^\circ$

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	Max. 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.
*P2/4	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.B.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.B.K.
P2/12	240, 250	1250	12	10.2	185.7 \pm 1.6	189.1	190	33500 Double ended R7s	200	A.B.L.
P2/13	240, 250	800	15.0	11.4	74.9 \pm 1.6	78.3	80.0	24000 Double ended R7s	50	A.B.K.
P2/14	220, 240	800	15	6	89	91	93	200,00 Double ended R7s	50	E.S.
P2/15	220, 240	625	12	10.2	115	117	119	16,250 Double ended R7s	75	E.R.
P2/16	220, 230, 240, 250	650	23	—	—	—	65	17500 G6-35	50	E.K.R.
P2/17	220, 230, 240, 250	1000	23	—	—	—	65	28000 G6-35	50	E.K.S.
P2/18	240	800	12	10.2	114.2 \pm 1.6	117.6	119.5	20,800 Double ended R7s	75	A.K.

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.

*These new catalogue numbers should now be used, since they replace the previous series numbers as shown in brackets.

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 $\pm 40^\circ$

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.

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.

*These new catalogue numbers should now be used since they replace the previous series numbers as shown in brackets.

atlas mazda

Photo-Flashbulbs

Full exposure data is printed on every flash carton.

Some features of Thorn Photo-Flashbulbs.

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

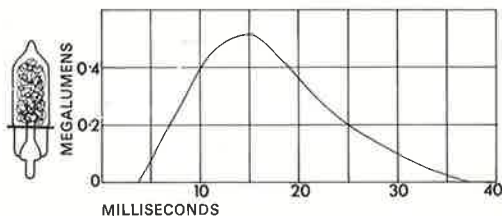
Zirconium Filling. The use of zirconium foil enables Thorn to pack more light into less space thus giving greater economy, greater efficiency and flexibility.

Precision Manufacture. Dependability is of prime importance in flash photography. With Thorn 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.

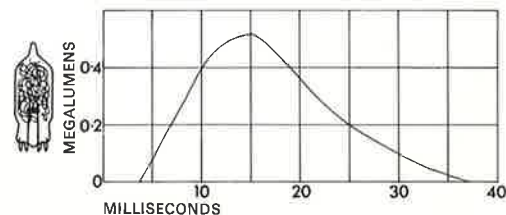
Atlas Tru-Flash Type 1B/Mazdaflash MF1B Specification

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



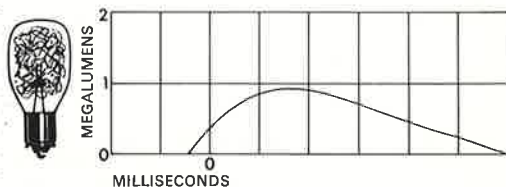
Atlas Mini-Flash Super AG1B/Mazdaflash Super AG1B Specification

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 and Mazdaflash 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

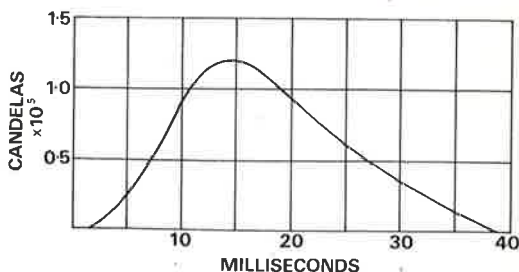


Simple to fit on the camera – simple to remove, either manually or by automatic ejection, and only just warm to the touch after four bulbs have been fired. The plastic cube itself acts as a protective shield for each bulb.

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.



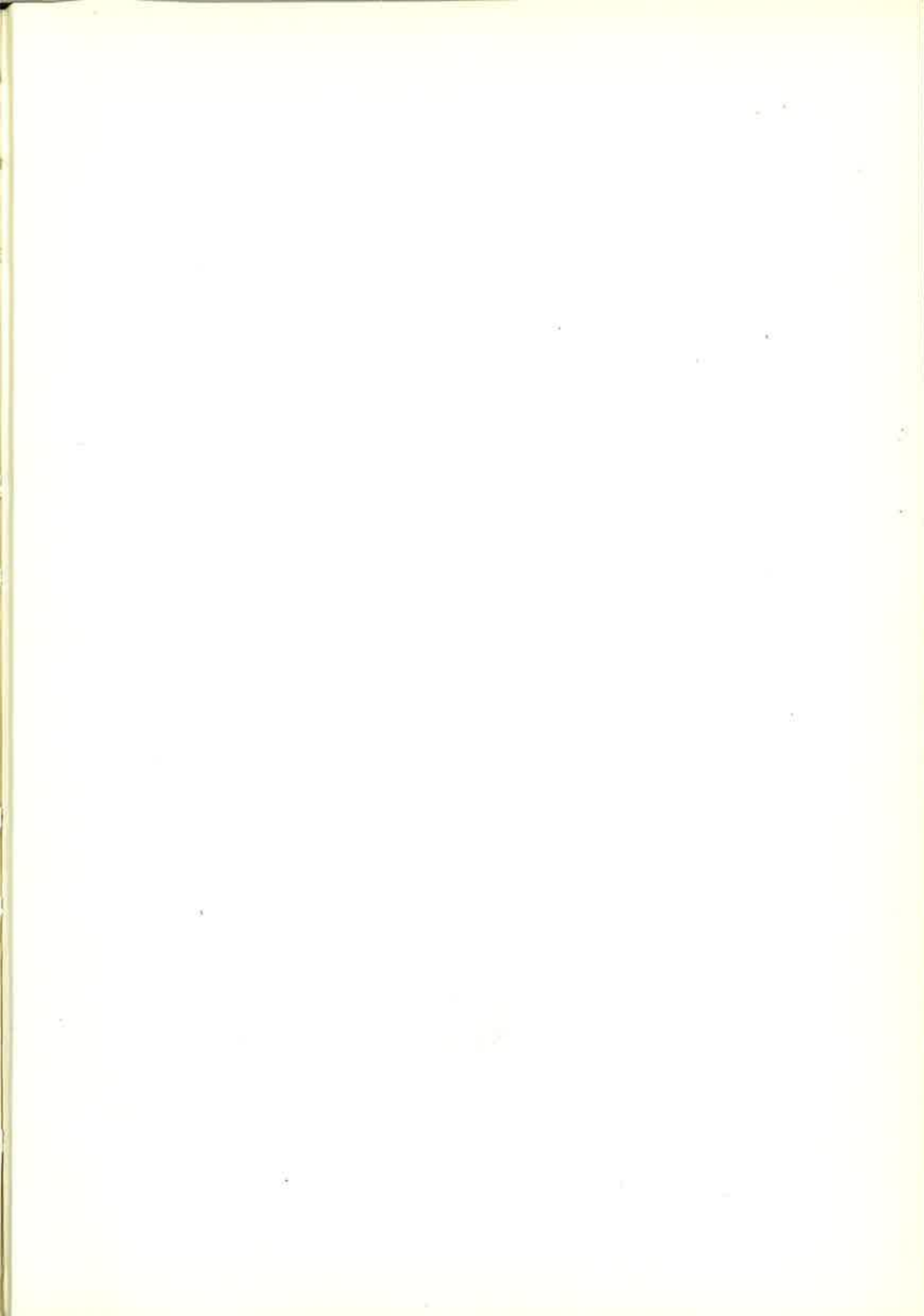
Exposure Data

ASA Film Speed	12	25	40	100	160	320
	to	to	to	to	to	to
	13	32	64	125	200	500
DIN	10	15	17	21	23	26
	to	to	to	to	to	to
	12	16	19	22	24	28
Shutter Sync	Shutter Speed					
	GUIDE NOS.					
X	1/25–1/30	32	50	64	100	140 200
X or M	1/50–1/60	22	36	45	72	90 140
M	1/100–1/125	18	28	36	56	72 110
M	1/200–1/300	15	24	28	45	56 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





[illegible]

[illegible]

