

GROUP A ALUMINIUM COLUMNS

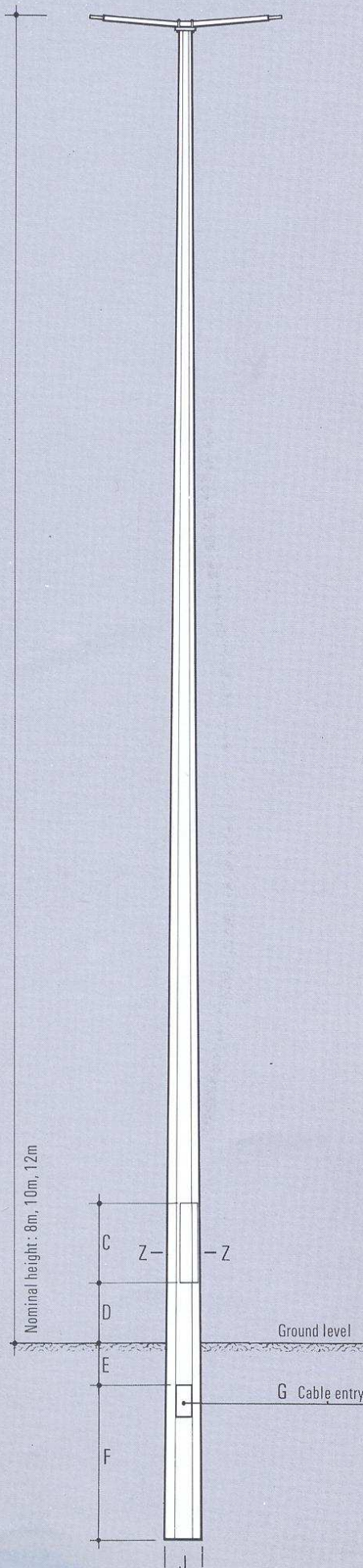
Specified for major road lighting, the Thorn range of Group A aluminium columns is designed and tested to BS 3989 and the limiting stresses imposed by CP 118:1969.

The range comprises columns for the three mounting heights of 12m, 10m and 8m recommended in the Code of Practice for road lighting BS 5489 Parts 2 and 3.

The basic design is available in alternative versions for root planting or surface flange plate at 12, 10 and 8m, or raising and lowering type/surface mounting at 10m and 8m, all suitable for side entry bracket arms, floodlight cross arms or post-top mounting column shafts are formed from NS4 aluminium sheet in tapered octagonal sections,

seam welded, and bonded together with epoxy resin under pressure. Planting roots are coated inside and out with heavy duty bitumen to 50mm above ground level, and the surface flange plate is hot dip galvanised mild steel with bitumen coat finish.

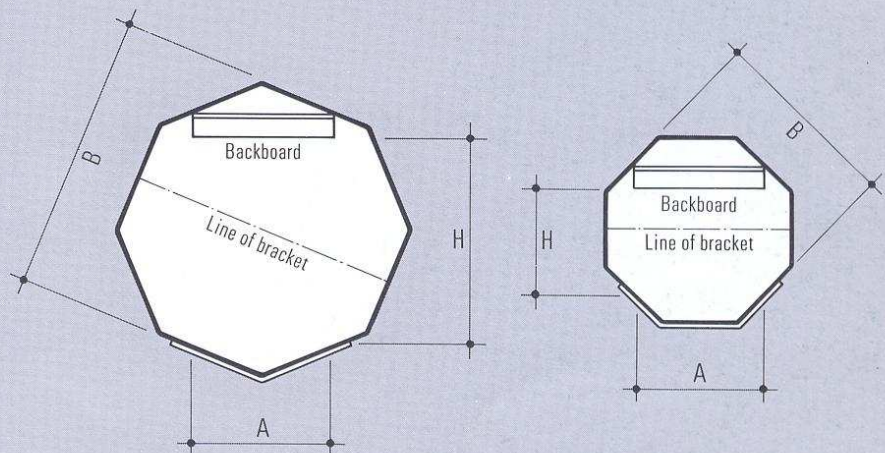
The properties of low mass, absorption of impact energy and structural stability of aluminium columns combine to provide a high degree of safety to road users. Additionally, they are corrosion resistant and require no painting or maintenance.



Range	Catalogue no.
8m column	QC8
10m column	QC10
12m column	QC12
Surface mounting : suffix	/FP
Post top mounting : suffix	/QFS1
Raising & lowering : suffix	/RL
Special for Gamma 4 lantern : suffix	/G4
8m column spare door	QCDB
10m column spare door	QC10D
12m column spare door	QC12D
Door key	QCK

Cross section of 10m and 12m columns (Z-Z)

Cross section of 8m column (Z-Z)

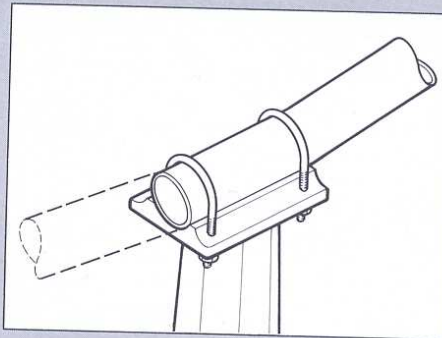


Dimensions and weights

Height: m	Dimensions: mm									Weight: kg
	A	B	C	D	E	F	G	H	J	
8	126	219	610	457	305	1219	152 x 76	130	246	62
10	136	249	610	457	305	1500	152 x 76	173	282	79
12	136	305	610	457	305	1500	152 x 76	230	342	113
8/RL										130
10/RL										141
Bracket arms										1.67 per metre
Baseboard	914 x 152mm									
Standard spigot size: 42mm \varnothing x 110mm unless otherwise specified										

GROUP A COLUMNS: BRACKETS & ACCESSORIES

Side entry bracket fixture



The die cast support plate is welded to the top of the column and the bracket arm is secured by a pair of stainless steel U bolts.

This effectively locks the tube arm into position so that it cannot rotate around the top of the column.

Torque required to tighten U bolt locknuts :
1.7973 kg/m (13 ft/lbs).

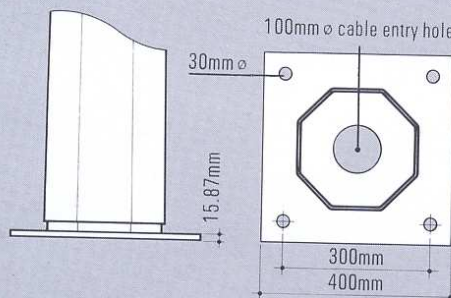
Bracket arms are in HT 30 TF aluminium alloy 63.5mm \varnothing with standard spigot size:
42mm \varnothing (1 1/4" BSP) x 110mm long.
Alternative spigot sizes are available on request.

Group A Columns: Brackets and Accessories

Single and double arm side entry brackets: 5° uplift

Catalogue no.	Arm	Outreach : m	For use with column		
			8m	10m	12m
QCB 1075	Single	0.75	●	●	●
QCB 1125	Single	1.25	●	●	●
QCB 1200	Single	2.00	●	●	●
QCB 1300	Single	3.00		●	●
QCB 2150	Double	1.50 span	●	●	●
QCB 2250	Double	2.50 span		●	●
QCB 2400	Double	4.00 span		●	●
QCB 2500	Double	5.00 span			●

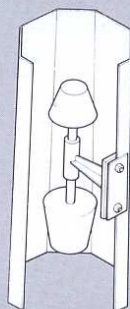
Surface mounting flange plate



A mild steel plate with welded on spigot which fits into the column base section. All hot dip galvanised and bitumen coated.

Fixing bolts:
M24 high tensile steel.
Not supplied with flange plate.

Anti vibration damper



Irrespective of form or construction, columns in certain locations may be subject to wind induced vibration. Damage to lamps and luminaires can occur due to air turbulence generated by peculiar geographical features or building formations. While it is not possible to predict where such extreme situations may occur any resultant vibration can be controlled with a multi-frequency damper. This device (catalogue reference QCM) is easily fitted inside the column or, if required, columns c/w fitted dampers can be supplied.

	Attachment	Type	Length: mm	Width: mm	Height: mm	Weight: Kg
	QFS 1	Single spigot (part of column)	76	76	—	—
	OHA 4612	Single spigot (to fit 76 x 76mm spigot)	80	80	—	0.35
	QFS 1A	Single spigot (part of column)	152	76	—	—
	QFS 2	Two spigot mounting	864	127	330	4.22
	QF 1	Single stirrup	203	127	127	1.39
	QF 2	Two stirrup mounting	864	127	127	3.54
	QF 3	Three stirrup mounting	1403	127	127	5.50
	QF 4	Four stirrup mounting	864	127	146	4.72

Note: Catalogue references are for mounting arrangements, including cross arms when used, but do not include floodlights, which are ordered separately.

Range – order references

Floodlight	Quantity	Column			Suffix to column	Mounting attachment	
		8m	10m	12m			
Sunflood	1	QC 8	QC 10	QC 12	/QFS 1*	OHA 4612	
Sunspot	1	QC 8	QC 10	QC 12	/QFS 1*	OHA 4612	
Haline	1‡	QC 8	QC 10	QC 12	/QFS 1*	OHA 4612	
	1‡	QC 8	QC 10	QC 12	—	QF 1	
	2	QC 8	QC 10	QC 12	—	QF 2	
	3	QC 8	QC 10	QC 12	—	QF 3	
Area (spigot)	4	QC 8	QC 10	QC 12	—	QF 4	
	1	QC 8	QC 10	QC 12	/QFS 1A*	—	
	2	QC 8	QC 10	QC 12	—	QFS 2	
	(stirrup)	1	QC 8	QC 10	QC 12	—	QF 1 + OAE stirrup
ON 1500	(stirrup)	2	QC 8	QC 10	QC 12	—	QF 2 + 2 x OAE stirrup
	1	QC 8	QC 10	QC 12	—	QF 1	
M 25 J	2	QC 8	QC 10	QC 12	—	QF 2	
	1	QC 8	QC 10	QC 12	—	QF 1	
	2	QC 8	QC 10	QC 12	—	QF 2	

* For single spigot mounted floodlights — QFS 1 and QFS 1A are supplied integral with the column.

‡ Alternative mounting arrangements for 1 haline flood, i.e. spigot or platform bracket.

Note: When ordering columns/mounting attachments always state floodlight(s) to be used.

GROUP B ALUMINIUM COLUMNS

Designed to meet the requirements of Group B and amenity area lighting, comprising a range of columns with alternative cross sections providing a nominal luminaire mounting height of 5 metres.

The OCG7 column is specially designed for use only with the Thorn Gamma 7 luminaire, and cannot be used with bracket arms or other post top luminaires.

Supplied either for root planting or with surface mounting flange plate (except Leader QC1).

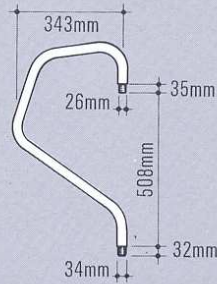
All columns except G7 type have a 1" BSP (34mm) threaded top casting for use with screw-in bracket arms or a 76 x 76mm spigot for post top mounted luminaires.

Column type	Lucerna	Leader	Sheerline	Classic	G7
	Tapped to suit bracket arm or spigot	Tapped to suit bracket arm or spigot	Tapped to suit bracket arm or spigot	Tapped to suit bracket arm or spigot	
Ground level					
Section A-A					
British standard	3939	—	3939	3989	—
Column catalogue no.	QC 0	QC 1	QC 3	QC 4	OCG 7
Surface mounting plate: suffix	/FP	—	/FP	/FP	/FP
Bracket arms	See range of bracket arms overleaf				
Post top spigot ‡	QCS 76	QCS 76	QCS 76	QCS 76	—
Base compartment dimensions:					
Door opening: mm	533 x 111	585 x 88 min.	457 x 100	457 x 96	457 x 83
Compartment depth: mm	92	69	65	102	84
Baseboard: mm	623 x 114	609 x 67	623 x 89	623 x 114	508 x 76
Cable entry slot: mm	152 x 76	152 x 76	152 x 76	152 x 76	100 x 50
Root coating	Bitumen to 50mm above ground level				
Spare door catalogue no.	QCD 0	QCD 1	QCD 3	QCD 4	QCDG 7
Door key catalogue no.	QCK LF	QCK	QCK	QCK LF	QCK

‡ See illustration overleaf.

GROUP B COLUMNS BRACKETS & ACCESSORIES

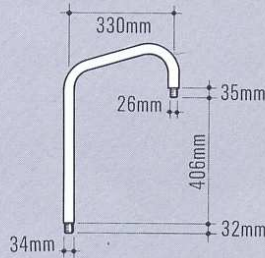
Type 1 bracket



Entry: Top screw

Range	Catalogue no.
3/4" BSP (26mm)	QCBT 126

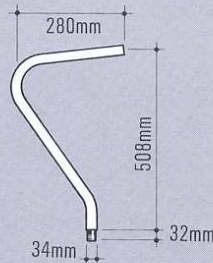
Type 2 bracket



Entry: Top screw

Range	Catalogue no.
3/4" BSP (26mm)	QCBT 226

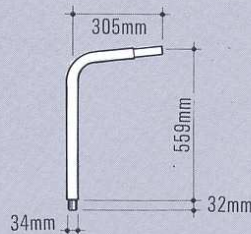
Type 3 bracket



Entry: Side plain

Range	Catalogue no.
3/4" BSP (26mm)	QCBS 326
1" BSP (34mm)	QCBS 334
1 1/4" BSP (42mm)	QCBS 342

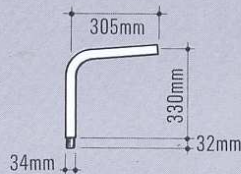
Type 4 bracket



Entry: Side plain

Range	Catalogue no.
3/4" BSP (26mm)	QCBS 426
1" BSP (34mm)	QCBS 434
1 1/4" BSP (42mm)	QCBS 442

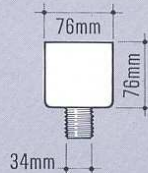
Type 5 bracket



Entry: Side plain

Range	Catalogue no.
3/4" BSP (26mm)	QCBS 526
1" BSP (34mm)	QCBS 534
1 1/4" BSP (42mm)	QCBS 542

Spigot casting

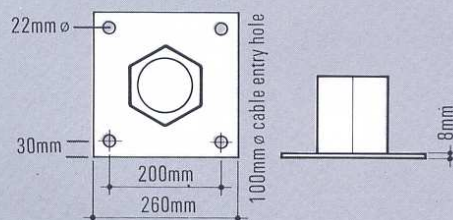


Spigot casting for QC0, QC1, QC3, and QC4 columns

Order as an accessory to any column except QCG7 for fixing post top mounted luminaires.

Catalogue no. QCS 76

Surface mounting flange plate



Surface mounting flange plate for QC0, QC3, QC4 and QCG7 columns

When ordering add suffix FP to column type example: QC0/FP

Luminaire	Lamp	W	V	Hz	Ballast G	Ignitor G	Capacitor GC	Circuit fuse: amps	Circuit diagram
Alpha 1	SOX	55	240	50	53182.4	—	2384	5	C
			200/250	50	53182.T	—	2384	5	C
	SOX	90	220	50	53365.2	—	2346	5	C
			240	50	53365.4	—	2346	5	C
Alpha 3	SON	250	220/240	50	53321.T	53282A	2386	10	A
			220/240	60	53340.T	53282A	2386	10	A
	SON	400	220/240	50	53357.T	53282A	2 x 2331	15	A
			220/240	60	53388.T	53282A	2 x 2345	15	A
	MBF	400	220	50	53309.2	—	2331	15	D
			240	50	53309.4	—	2331	15	D
240			60	53345.2	—	2331	15	D	
Alpha 4	SOX	135	220	50	53369.2	—	2386	5	C
			240	50	53369.4	—	2386	5	C
Alpha 7	SON	250	220/240	50	53321.T	53282A	2386	10	A
			220/240	60	53340.T	53282A	2386	10	A
	MBF	250	220	50	53315.2	—	2384	10	D
			240	50	53315.4	—	2384	10	D
			220	60	53341.2	—	2384	10	D
	MBF	400	200/250	50	53157.T	—	2331	15	D
220/270			60	53157.T	—	2331	15	D	
Alpha 8	SON	150	220/240	50	53335.T	53282A	2331	5	A
			220/240	60	53338.T	53282A	2331	5	A
	SON	250	220/240	50	53321.T	53282A	2386	10	A
			220/240	60	53340.T	53282A	2386	10	A
	MBF	250	220	50	53315.2	—	2384	10	D
			240	50	53315.4	—	2384	10	D
220			60	53341.2	—	2384	10	D	
Alpha 9	SOX	90	220	50	53365.2	—	2346	5	C
			240	50	53365.4	—	2346	5	C
Alpha 30	SON	250	220/240	50	53321.T	53282A	2 x 2345	10	A
			220/240	60	53340.T	53282A	2 x 2345	10	A
	SON	400	220/240	50	53357.T	53282A	2331/2346	15	A
			220/240	60	53388.T	53282A	2 x 2331	15	A
	MBF	400	220	50	53309.2	—	2346	15	D
			240	50	53309.4	—	2346	15	D
220			60	53345.2	—	2331	15	D	

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BETA CONTROL GEAR SETS

Luminaire	Lamp	W	V	Hz	Ballast G	Ignitor G	Capacitor GC	Circuit fuse: amps	Circuit diagram
Beta 4	SON	70	220/240	50	53353.4	53353.4	2383	5	A
			220/240	60	53353.4	53353.4	2383	5	A
	MBF	80	220	50	53333.2	—	2383	5	D
			240	50	53333.4	—	2383	5	D
			200/250	50	69014.T	—	2383	5	D
			208/240	60	53267.T	—	2383	5	D
	MBF	125	240	50	53306.4	—	2383	5	D
			200/250	50	53306.T	—	2383	5	D
			208/240	60	53325.T	—	2383	5	D
Beta 5 less gear	SOX	35	240	50	53331.4	53311	2420	5	B
	SOX	18	200/250	50	53182.T	—	2384	5	C
			240	50	53376.4	—	2420	5	G
Beta 5 with gear	SOX	35	240	50	53332.4	53311	2420	5	B
			200/250	50	53182.T	—	2384	5	C
Beta 6	QS unit								
	MCF	2 x 40	240	50	69082.4	—	2419	5	F
Beta 7	Ignitor G								
	SON	70	220/240	50	53320.T	53353.4*	2383	5	A
			220/240	60	53337.T	53353.4*	2383	5	A
	MBF	80	220	50	53333.2	—	2383	5	D
			240	50	53333.4	—	2383	5	D
			200/250	50	69014.T	—	2383	5	D
			208/240	60	53267.T	—	2383	5	D
	MBF	125	240	50	53306.4	—	2383	5	D
			200/250	50	53306.T	—	2383	5	D
			208/240	60	53325.T	—	2383	5	D
Beta 8	SOX	55	240	50	53182.4	—	2384	5	C
			200/250	50	53182.T	—	2384	5	C
Beta 79	SON	70	220/240	50	53320.T	53353.4	2383	5	A
			220/240	60	53337.T	53353.4	2383	5	A
	MBF	80	220	50	53333.2	—	2383	5	D
			240	50	53333.4	—	2383	5	D
			200/250	50	69014.T	—	2383	5	D
	MBF	125	220	50	53271.2	—	2383	5	D
			240	50	53271.4	—	2383	5	D
			200/250	50	53271.T	—	2383	5	D
			220/270	60	53271.T	—	2383	5	D

* Ignitor for 240V. For 220V use 53353.2.

Warning: Mineral insulated (MICC) cables should not be used in ignitor circuits, or circuits where no power factor correction capacitors are used, as the transient voltages will exceed the voltage rating of that cable.

Luminaire	Lamp	W	V	Hz	Ballast G	Ignitor G	Capacitor GC	Circuit fuse : amps	Circuit diagram
Gamma 3	SON	250	220/240	50	53321.T	53282A	2386	10	A
			220/240	60	53340.T	53282A	2386	10	A
	SON	400	220/240	50	53357.T	53282A	2 x 2331	15	A
			220/240	60	53388.T	53282A	2 x 2345	15	A
	MBF	250	220	50	53315.2	—	2370	10	D
			240	50	53315.4	—	2370	10	D
			220	60	53341.2	—	2370	10	D
	MBF	400	220	50	53309.2	—	2331	15	D
			240	50	53309.4	—	2331	15	D
			220	60	53345.2	—	2331	15	D
Gamma 4	SON	250	220/240	50	3 x 53321.T	3 x 53282A	3 x 2386	10	A x 3
			220/240	60	3 x 53340.T	3 x 53282A	3 x 2386	10	A x 3
	SON	400	220/240	50	3 x 53357.T	3 x 53282A	4 x 2386	15	A x 3
			220/240	60	3 x 53388.T	3 x 53282A	4 x 2346	15	A x 3
	MBF	250	220	50	3 x 53315.2	—	2 x 2331	10	D x 3
			240	50	3 x 53315.4	—	2 x 2331	10	D x 3
			220	60	3 x 53341.2	—	2 x 2331	10	D x 3
	MBF	400	220	50	3 x 53309.2	—	2 x 2386	15	D x 3
			240	50	3 x 53309.4	—	2 x 2386	15	D x 3
			220	60	3 x 53345.2	—	2 x 2386	15	D x 3
Gamma 5	SON	70	220/240	50	53320.T	53353.4*	2383	5	A
			220/240	60	53337.T	53353.4*	2383	5	A
	SOX	35	240	50	53331.4	53311	2420	5	B
			200/250	50	53182.T	—	2384	5	C
	MBF	80	220	50	53333.2	—	2383	5	D
			240	50	53333.4	—	2383	5	D
			200/250	50	69014.T	—	2383	5	D
	MBF	125	208/240	60	53267.T	—	2383	5	D
			240	50	53306.4	—	2383	5	D
			200/250	50	53306.T	—	2383	5	D
208/240			60	53325.T	—	2383	5	D	
Gamma 6 less gear	SON	70	220/240	50	53320.T	53353.4*	2383	5	A
			220/240	60	53337.T	53353.4*	2383	5	A
	SOX	35	240	50	53331.4	53311	2420	5	B
			200/250	50	53182.T	—	2384	5	C
	MBF	80	220	50	53333.2	—	2383	5	D
			240	50	53333.4	—	2383	5	D
			200/250	50	69014.T	—	2383	5	D
	MBF	125	208/240	60	53267.T	—	2383	5	D
			240	50	53306.4	—	2383	5	D
			200/250	50	53306.T	—	2383	5	D
208/240			60	53325.T	—	2383	5	D	
Gamma 6 with gear	SON	70	220/240	50	53320.T	53353.4	2419	5	A
			220/240	60	53337.T	53353.4	2419	5	A
	SOX	35	240	50	53332.4	53311	2420	5	C
			240	50	53333.2	—	2420	5	D
	MBF	80	240	50	53333.4	—	2420	5	D
			200/250	50	69014.T	—	2420	5	D
			220	50	53271.2	—	2419	5	D
	MBF	125	240	50	53271.4	—	2419	5	D
			200/250	50	53271.T	—	2419	5	D
			220/270	60	53271.T	—	2419	5	D
220/240			60	53271.T	—	2419	5	D	
Gamma 7	SON	70	220/240	50	53320.T	53353.4*	2383	5	A
			220/240	60	53337.T	53353.4*	2383	5	A
	MBF	80	220	50	53333.2	—	2383	5	D
			240	50	53333.4	—	2383	5	D
			200/250	50	69014.T	—	2383	5	D
			208/240	60	53267.T	—	2383	5	D

* Ignitor for 240V. For 220V use 53353.2

Warning: Mineral insulated (MICC) cables should not be used in ignitor circuits, or circuits where no power factor correction capacitors are used, as the transient voltages will exceed the voltage rating of that cable.

PRECINCT & AREA CONTROL GEAR SETS

Luminaire	Lamp	W	V	Hz	Ballast G	Ignitor G	Capacitor GC	Circuit fuse : amps	Circuit diagram
Precinct	SON	70	220/240	50	53320.T	53353.4	2383	5	A
			220/240	60	53337.T	53353.4	2383	5	A
	MBF	80	220	50	53333.2	—	2420	5	D
240			50	53333.4	—	2420	5	D	
Area	SON	150	220/240	50	53335.T	53282A	2385	5	A
			220/240	50	53338.T	53282A	2385	5	A
	SON	250	220/240	50	53321.T	53282A	2386	10	A
			220/240	60	53340.T	53282A	2386	10	A
	SON	400	220/240	50	53357.T	53282A	2 x 2331	15	A
			220/240	60	53388.T	53282A	2 x 2331	15	A
	MBI/F	250	220/240	50	53321.T	53283	2386	10	E
			220/240	60	53340.T	53283	2386	10	E
	MBI/F	400	220	50	53309.2	53283	2331	15	E
			240	50	53309.4	53283	2331	15	E
			220	60	53345.2	53283	2331	15	E
	MBF	250	220	50	53315.2	—	2370	10	D
			240	50	53315.4	—	2370	10	D
			220	60	53341.2	—	2370	10	D
	MBF	400	220	50	53309.2	—	2331	15	D
240			50	53309.4	—	2331	15	D	
220			60	53345.2	—	2331	15	E	

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	G	V	Hz	Dimensions: mm			Fixing centres mm	Weight: kg	tw: °C	Δ t: °C
				L	W	D				
Ballasts	53157.T	200/250	50	172	105	102	159	5.44	105	65
		220/270	60							
	53182.4	240	50	232	81	59	216	3.40	105	60
	53182.T	200/250	50							
	53267.T	208/240	60	172	72	58	159	1.90	105	65
	53271.2	220	50							
	53271.4	240	50	172	64	48	153	1.87	105	55
	53271.T	200/250	50							
		220/270	60	184	72	58	172	2.30	105	55
	53306.4	240	50							
	53306.T	200/250	50	150	84	102	135	4.20	130	75
	53309.2	220	50							
	53309.4	240	50	135	75	84	120	2.63	130	80
	53315.2	220	50							
	53315.4	240	50	172	64	48	153	1.87	120	60
	53320.T	220/240	50							
	53321.T	220/240	50	150	84	102	135	4.40	130	80
	53325.T	208/240	60							
	53331.4	240	50	184	72	58	172	2.30	105	60
	53332.4	240	50							
	53332.4	240	50	170	48	40	150	1.09	130	65
	53333.2	220	50							
	53333.4	240	50	170	48	40	150	1.25	120	60
	53335.T	220/240	50							
	53337.T	220/240	60	135	75	84	120	2.65	130	80
	53338.T	220/240	60							
	53340.T	220/240	60	135	75	84	120	2.63	130	75
	53341.2	220	60							
	53345.2	220	60	150	83	100	135	4.20	130	75
	53357.T	220/240	50							
	53365.2	220	50	178	92	88	165	4.00	130	85
	53365.4	220	50							
	53369.2	220	50	178	109	86	165	5.70	130	85
	53369.4	240	50							
	53376.4	240	50	178	109	86	165	5.70	130	85
	53388.T	220/240	60							
	69014.T	200/250	50	150	100	87	135	4.60	130	75
	69082.4	240	50							
				172	64	48	153	1.87	105	65
				248	64	48	229	2.72	105	65

	L	∅	Fixing stud				
				53282A	220/240	50/60	115 37
53283	220/240	50/60	115 53	8mm ∅	0.13	—	—
53311	240	50	115 37	8mm ∅	0.07	—	—
53353.2	220	50/60	115 37	8mm ∅	0.085	—	—
53353.4	240	50/60	115 37	8mm ∅	0.085	—	—

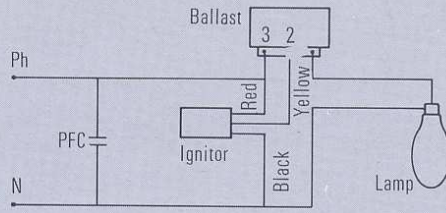
	GC	uf ±10%	Dimensions: mm		Fixing clip (GY)
			L	∅	
Capacitors	*2419	8.4	100	35	5244
	*2420	5.5	77	35	5244
	2331/TM	20	110	45	5313
	2331/BO	20	105	35	5244
	2331/BI	20	125	45	5313
	2345/TM	16	85	45	5313
	2345/BO	16	105	35	5244
	2345/BI	16	95	45	5313
	2346/TM	25	110	45	5313
	2346/BO	25	105	40	5244
	2346/BI	25	125	45	5313
	2370/TM	13	85	45	5313
	2370/BO	13	105	30	5227
	2370/BI	13	95	45	5313
	2383/BO	8	102	25	5200
	2384/TM	15	85	45	5313
	2384/BI	15	95	45	5313
	2385/TM	18	110	45	5313
	2385/BI	18	125	45	5313
	2386/BO	30	128	45	5313

1 All capacitors are complete with 300mm flexible leads except * GC 2222 } screwless pushwire termination.
 * GC 2223 }

- 2 All capacitors are rated 250V maximum, 50/60 Hz
- 3 Rated minimum/maximum temperature: -40°C to +85°C.
- 4 Average weight: 0.170 to 0.200 kg.

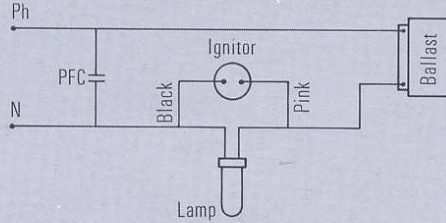
CIRCUIT DIAGRAMS

Circuit A



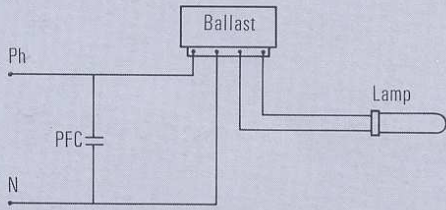
Ignitor circuit for:
 SON 70W
 SON 150W
 SON 250W
 SON 400W
 For 220V operation, connect phase to terminal 2 on ballast.

Circuit B



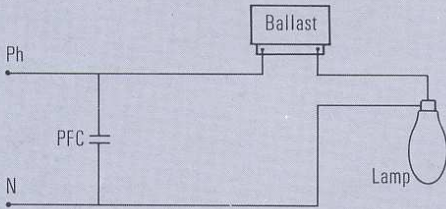
Ignitor circuit for:
 SOX 35W

Circuit C



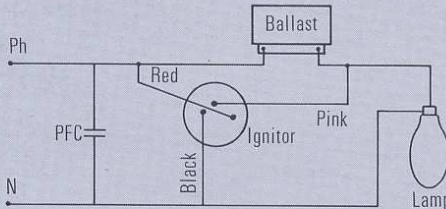
Transformer circuit for:
 SOX 35W
 SOX 55W
 SOX 90W
 SOX 135W

Circuit D



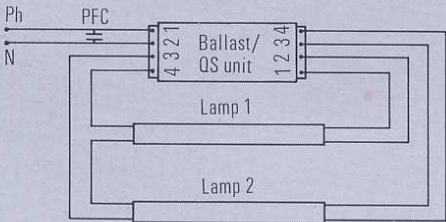
MBF 80W
 MBF 125W
 MBF 250W
 MBF 400W

Circuit E



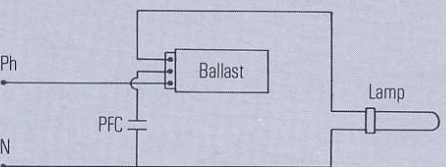
Ignitor circuit for:
 MBI/F 250W
 MBI/F 400W

Circuit F



Combined ballast/quick start unit.
 MCF 2 x 600m - 40W
 230/240V 50Hz

Circuit G



SOX 18W

Warning: Mineral insulated (MICC) cables should not be used in ignitor circuits, or circuits where no power factor correction capacitors are used, as the transient voltages will exceed the voltage rating of that cable.

Discharge lamps are compact, high output sources and their successful use is dependant on the optical control provided by properly designed luminaires.

Thorn road lighting luminaires are designed for optimum light output from SON, SOX or MBF lamps :

SON

High pressure sodium in an elliptical bulb with a diffuse coating.

SON-T

High pressure sodium in a clear tube.

SOX

Low pressure sodium with U shaped arc tube in a tubular outer envelope.

MBF

High pressure mercury in an elliptical bulb with interior surface coated with a fluorescent phosphor.

MBIF

High pressure mercury with metallic additives in an elliptical bulb with interior surface coated with a fluorescent phosphor (used only in area flood).

Supply voltage

Provided correct control gear is used all discharge lamps in this section will start and operate at minus 10% of the rated supply volts.

Fusing

See control gear section for recommended fuse ratings.

Ambient temperature

Minimum for starting :
high pressure sodium—40°C.
All other lamps —20°C.

Average run up‡ and restrike times : minutes

Lamp W	SON and SON-T		SOX		MBF		MBIF	
	RU	RS	RU	RS	RU	RS	RU	RS
35	—	—	6	*	—	—	—	—
55	—	—	6	*	—	—	—	—
70	5	1	—	—	—	—	—	—
80	—	—	—	—	3	4	—	—
90	—	—	7	*	—	—	—	—
125	—	—	—	—	3	4	—	—
135	—	—	8	*	—	—	—	—
150	4	1	—	—	—	—	—	—
250	7	1	—	—	4	4.5	2	7.5
400	5	1	—	—	4	5	2	8.5

‡ Times are typical run up to 90% light output and will vary according to location and type of luminaire.

* Restrike times for SOX lamps are variable, but can be instantaneous.

SON: HIGH PRESSURE SODIUM LAMPS

Sodium discharge operating in a sintered alumina oxide arc tube to withstand the intense chemical activity at high temperature.

SON

Elliptical bulb with a diffusing coating. Can be used in the same fitting as an MBF lamp but requires different control gear.

SON-T

Clear tubular

Starting and operation

The lamp is started by a high voltage pulse applied by an ignitor which ceases to function once the arc has struck. The lamp takes about five minutes to run up to full brightness and it will normally restrike within one minute of extinction, rapidly regaining full light output.

Colour

A pleasant golden white appearance with reasonable colour rendering. Blues and greens are subdued, yellows and reds are enhanced. All colours are distinguishable.

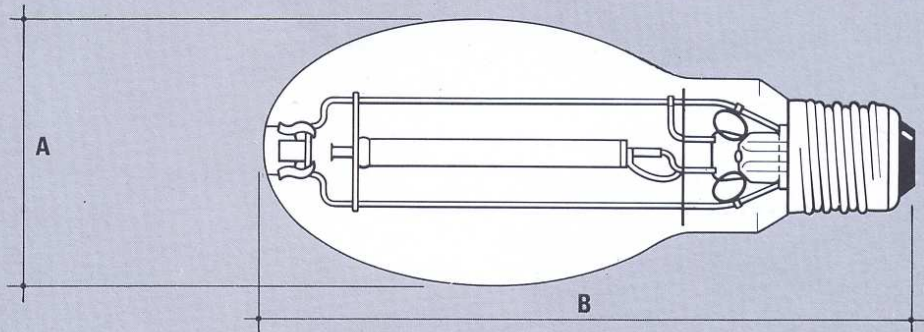
Operating position

SON: universal.
SON-T: universal

Lumens

Initial: measured after 100 hours operation.
Design: measured after 2000 hours operation; recommended as a guide for scheme planning purposes.

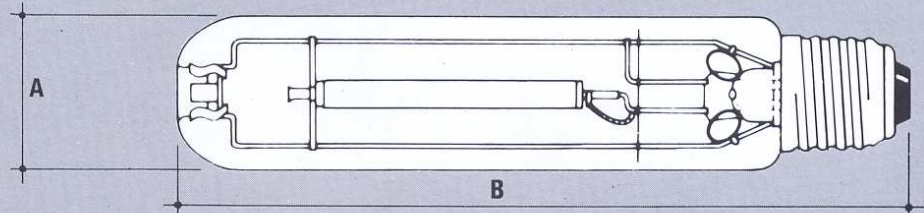
SON



Lamp dimensions

Watts	A: mm	B: mm
70	71	154
150/250	91	227
400	122	286

SON-T



Lamp dimensions

Watts	A: mm	B: mm
70	38	150
150	53	256
250	53	256
400	53	286

Range

Watts/type	Nominal lamp voltage	Lamp current: amps	Cap	Lumens initial	Lumens lighting design
70 Elliptical	95	0.93	E27	5800	5300
70 Tubular	95	0.93	E27	6000	5500
150 Elliptical	100	1.80	E40	15500	15000
150 Tubular	100	1.80	E40	16000	15500
250 Elliptical	100	3.00	E40	26500	25500
250 Tubular	100	3.00	E40	28000	27000
400 Elliptical	105	4.40	E40	46000	45000
400 Tubular	100	4.60	E40	48000	47000

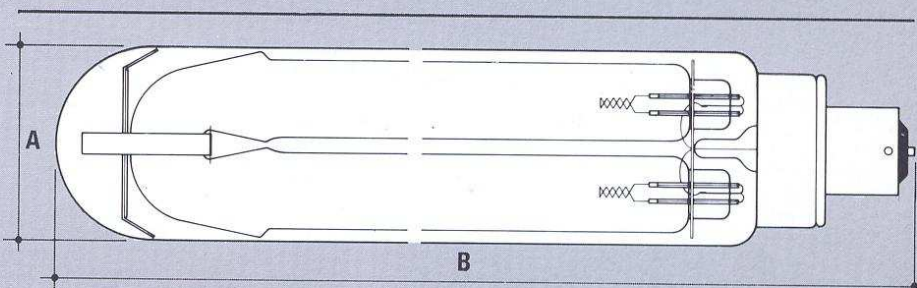
SOX: LOW PRESSURE SODIUM LAMPS

Low pressure sodium discharge operating in a U-shaped arc tube enclosed in a tubular outer bulb which has an internal infra red reflecting coating to provide thermal insulation.

Operating position

Horizontal $\pm 20^\circ$

35W and 55W ratings may also be operated in the vertical cap up position.



Lamp dimensions

Watts	A : mm	B : mm
18	53	210
35	53	311
55	53	425
90	67	528
135	67	775

Range

Watts	Nominal lamp voltage	Lamp current : amps	Cap	Lumens
18	56	0.35	B22	1800
35	70	0.6	B22	4300
55	109	0.59	B22	7500
90	112	0.94	B22	12500
135	164	0.95	B22	21500

MBF: MERCURY FLUORESCENT LAMPS

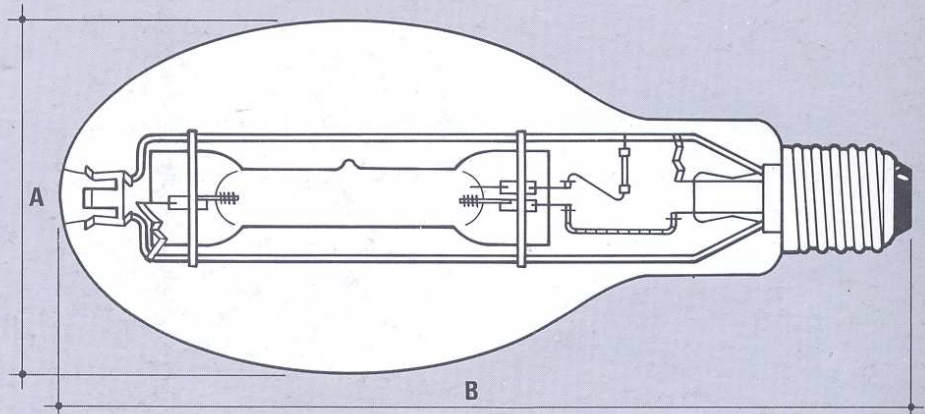
High pressure mercury vapour discharge operating in a quartz arc tube. The interior surface of the outer bulb is coated with a fluorescent phosphor which converts ultra-violet radiation from the discharge into visible light.

Lumens

Initial : measured after 100 hours operation.
Design : measured after 2000 hours operation ; recommended as a guide for scheme planning purposes.

Operating position

universal



Lamp dimensions

Watts	A : mm	B : mm
80	71	154
125	76	175
250	91	227
400	122	286

Range

Watts	Nominal Lamp voltage	Lamp current : amps	Cap	Lumens initial	Lumens lighting design
80	115	0.80	E27	3850	3650
125	125	1.15	E27	6300	5800
250	130	2.15	E40	13500	12500
400	135	3.25	E40	23000	21500

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