Abacus®
Leaders in Lighting

THE COMPLETE RANGE OF BASE-HINGED & STANDARD COLUMNS

LIGHTING COLUMNS

WELCOME TO THE WORLD OF ABACUS LIGHTING

Abacus Lighting has over 55 years experience in the lighting industry, manufacturing and supplying lighting columns for a broad range of applications.

From road and amenity lighting, floodlighting and security lighting to CCTV cameras, and more recently small scale wind turbines, our products are meeting the continually changing needs of our customers.

The lighting column range is designed to the EN40 standard, and we provide within this brochure indicative headloads for most products dependent on the wind zone for the intended column location. The wind zone map of the UK and the complete city and region listing is included so you can assess which specific product or products you need for your project.

Your assurance and peace of mind comes from a long established UK based company, dedicated to quality and the highest levels of customer service. Abacus is certified to ISO9001 across all the company's activities, ISO14001 for environmental management, and now also ISO18001 for health & safety management systems.

Find out more about our base-hinged and standard columns online.

www.abacuslighting.com

INVESTORS IN PEOPLE

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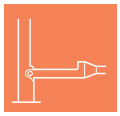
RISQS AUDITED

THE QUEEN'S AWARDS FOR ENTERPRISE: INTERNATIONAL TRADE 2017

PRODUCT GUIDE



Base-hinged columns

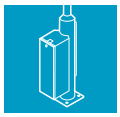
Standard columns

GRP Composite columns

Mid-hinged columns

Paint shop facility

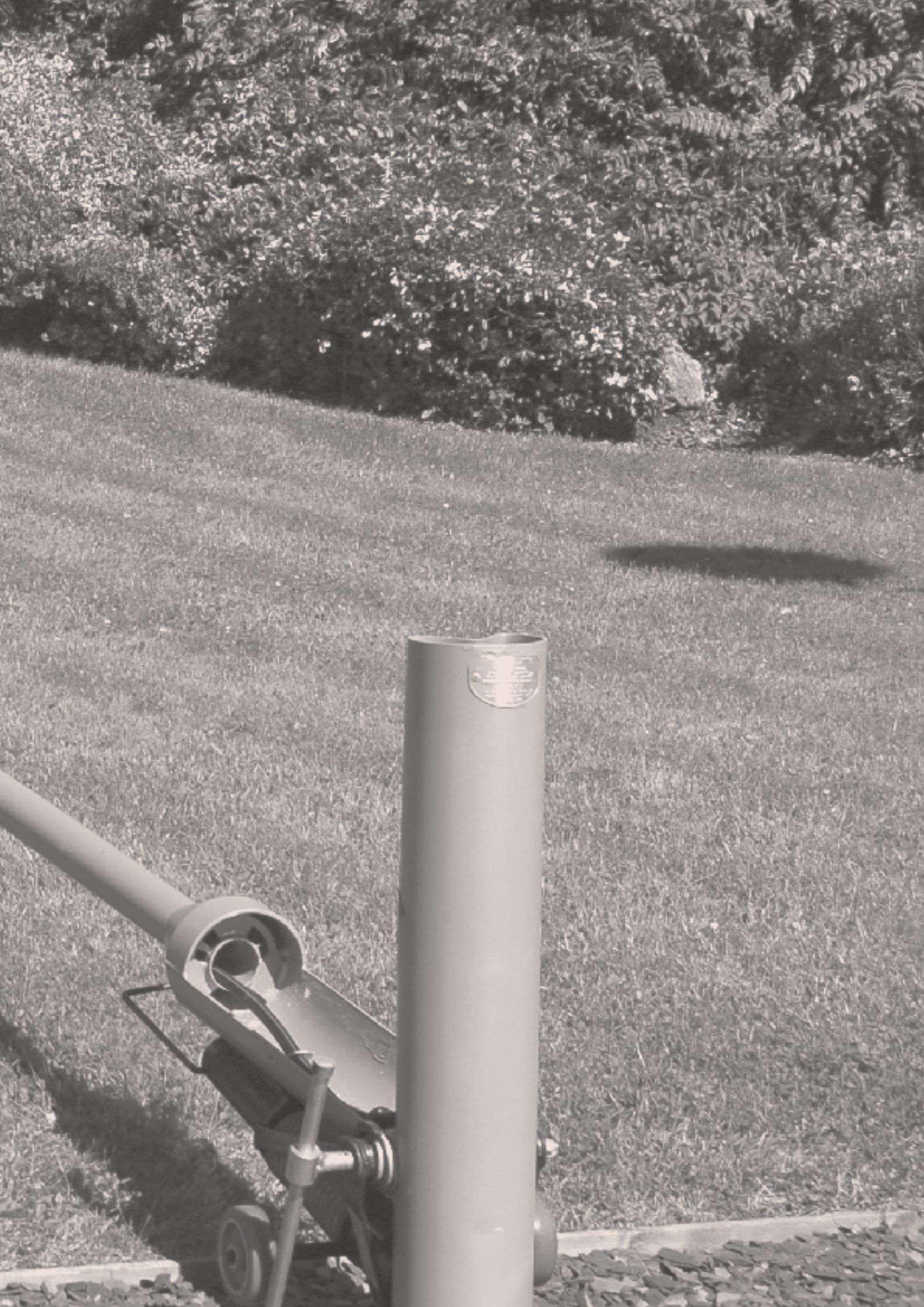
Brackets



Sport columns range

Wind zone map

Foundations



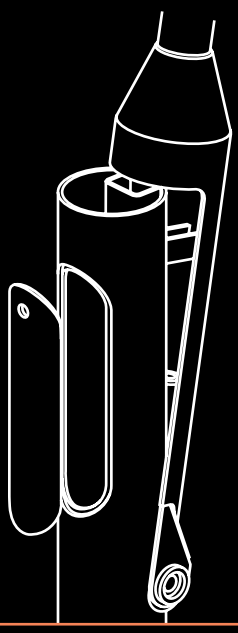
LIGHT DUTY BASE-HINGED COLUMNS & THE RAILWAY

The base-hinged column is now a standard on international railway platforms. Its popularity is all down to quick, safe and easy operation, together with long term durability, often in harsh environments.

Flush Door Innovation

There's the choice of a flush door in the base of light and medium duty columns, giving easy access to any equipment in the column.

The flush door enables a locking device in the base of the column; as a result, the standard locking screw on the side of the column is not required.



Aluminium Model

The light duty column is also available in aluminium, with a bead blasted finish for an attractive contemporary look. The aluminium model has the advantage of being both lightweight and durable and offers the same ease of use as the standard base-hinged column.

For more information see page 10.

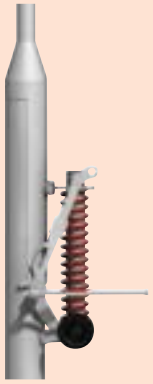
AMENITY LIGHTING APPLICATIONS

Ideally suited to often difficult access locations such as:

- Pathways
- Public parks
- Car parks
- Industrial areas

Counterbalance Units - RLS168 / RLH168

The column is lowered by means of a spring counterbalance unit, RLS168 (see right), available in a range of strengths based on column height and headload, or with a universal hydraulic unit, the RLH168 (see page 12 for full details).



RLS168

RLH168

To see the base-hinged columns in operation visit our YouTube channel
www.youtube.com/AbacusLighting

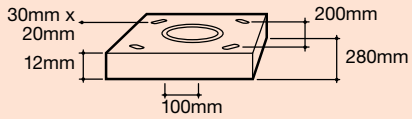
LIGHT DUTY

4-8M BASE-HINGED COLUMN Patent No: 968113

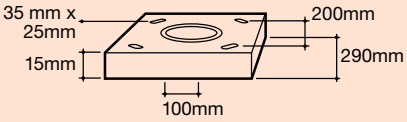
Designed to EN40. Hot dip galvanised to BS EN ISO 1461:2009. Manufactured in steel tube to EN10210

Flange Plate

Type 0 FA000G Bolts/cross brace M16 x 500mm
FC020 Template



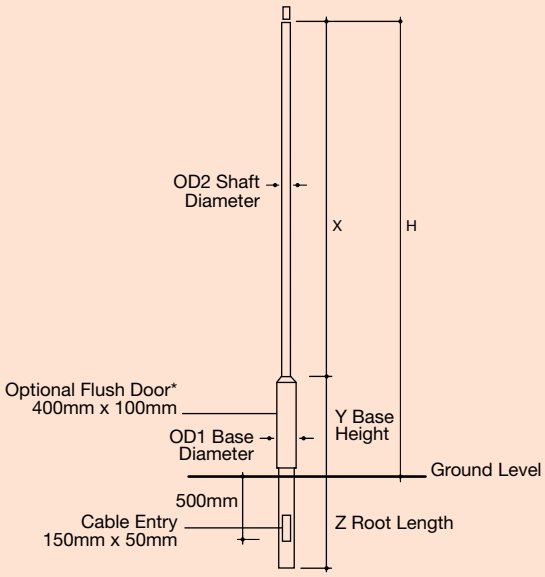
Type 1 FA001G Bolts/cross brace M20 x 500mm
FC021 Template



Accessories

XXSC003F	Tamper resistant locking screw
XXSC003F	Key for locking screw
ELSAB1/6A	Single fuse cut-out, 6A, loop in/out (not fitted)
ELSAB12/6A	Twin fuse cut-out, 6A, loop in/out (not fitted)

Column Dimensions



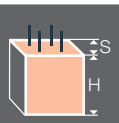
***Flush Door Option**
Flush door enables internal locking mechanism. Side fitted locking screw not required on this model. Add /FD suffix.

Root Mounted

Product Code	Height	OD1	OD2	x	y	z	Weight (kg)	OTM (kNm)	Shear (kN)	Min. Concrete Diameter*	Counterbalance Type & Max. Weight
T041RLS	4m	168	76	2875	1050	800	50	4.9	1.4	607	**RLS168 - Yellow** 18kg **RLS168 - White** 28kg **RLS168 - Red** 38kg **RLS168 - Blue** 53kg **RLH168 -** 53kg
T051RLS	5m	168	76	3875	1050	800	59	4.7	1.2	569	**RLS168 - Yellow** 11kg **RLS168 - White** 19kg **RLS168 - Red** 28kg **RLS168 - Blue** 40kg **RLH168 -** 40kg
T061RLS	6m	168	76	4860	1050	1000	67	4.6	1.1	291	**RLS168 - White** 11kg **RLS168 - Red** 19kg **RLS168 - Blue** 29kg **RLH168 -** 29kg
T081RLS	8m	168	89	6830	1050	1200	87	5.3	1.2	198	**RLS168 - Blue** 11kg **RLS168 - Green** 17kg **RLH168 -** 17kg

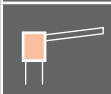
*Root concrete diameter based on poor soil or better, min. 230kN/m² per m

Flange Plate Mounted

Dimensions (mm) Product Code	 Height	 OD1	 OD2	 x	 y	 Flange Plate	 Weight (kg)	 OTM (kNm)	 Shear (kN)	 Concrete Dimension*	Counterbalance Type & Max. Weight
T041RLS /FP	4m	168	76	2875	1050	Type 0	47	4.9	1.4	750 x 800	**RLS168 - Yellow** 10kg **RLS168 - White** 20kg **RLS168 - Red** 29kg **RLS168 - Blue** 53kg **RLH168** - 53kg
T051RLS /FP	5m	168	76	3875	1050	Type 0	52	4.7	1.2	750 x 800	**RLS168 - Yellow** 10kg **RLS168 - White** 18kg **RLS168 - Red** 27kg **RLS168 - Blue** 40kg **RLH168** - 40kg
T061RLS /FP	6m	168	76	4860	1050	Type 0	57	4.6	1.1	750 x 800	**RLS168 - White** 10kg **RLS168 - Red** 18kg **RLS168 - Blue** 28kg **RLH168** - 29kg
T081RLS /FP	8m	168	89	6830	1050	Type 1	72	5.3	1.2	750 x 900	**RLS168 - Blue** 11kg **RLS168 - Green** 17kg **RLH168** - 17kg

*Concrete dimension based on a minimum ground bearing pressure of 150kN/m² (Passive concrete design). (S = square dimension, H = depth)

Outreach & Floodlight Brackets

		Outreach Brackets  Single (S)  Double (D)		Spigot Lengths /SP 230mm /SP1 100mm	Floodlight Brackets 	
Height	Projection Length	 Overlap Fit on Shaft	 Flush Fit on Spigot	Type/Bolt Centres (mm)	 Overlap Fit on Shaft	 Flush Fit on Spigot
4m		**T041RLS**	**T041RLS/SP+/SP1***		**T041RLS**	**T041RLS/SP**
	0.30m	PR2-03/S or /D	PR1-03/S or /D*	Single	FL1/1	FL0/1
	0.50m	PR2-05/S or /D	PR1-05/S or /D*	Double (600)	FL1/2	FL0/2
5m		**T051RLS**	**T051RLS/SP+/SP1***		**T051RLS**	**T051RLS/SP**
	0.30m	PR2-03/S or /D	PR1-03/S or /D*	Single	FL1/1	FL0/1
	0.50m	PR2-05/S or /D	PR1-05/S or /D*	Double (600)	FL1/2	FL0/2
6m		**T061RLS**	**T061RLS/SP+/SP1***		**T061RLS**	**T061RLS/SP**
	0.30m	PR2-03/S or /D	PR1-03/S or /D*	Single	FL1/1	FL0/1
	0.50m	PR2-05/S or /D	PR1-05/S or /D*	Double (800)	FL1/3	FL0/3
8m		**Post top lanterns only**			**T081RLS**	**T081RLS/SP**
				Single	FL2/1	FL1/1
				Double (800)	Post top floodlight only	

*Outreach brackets series PR1 & PR2 below 0.50m projection fit onto 100mm spigot (/SP1). 0.50m + on standard 230mm spigot (/SP). Please refer to pages 37-39.

Column Headload Capacity (m²)

Based on UK rationalised wind loading factors for EN40

Product Code	Lantern Mounting/ Projection	Max. Headload (kg)	Light 396	Medium 429	Heavy 466	Very Heavy 576
T041RLS	Post Top	53	1.161	1.062	0.969	0.763
	0.25m Single Outreach	15	0.305	0.279	0.254	0.2
	0.50m Single Outreach	10	0.225	0.206	0.187	0.145
T051RLS	Post Top	38	0.787	0.714	0.645	0.493
	0.25m Single Outreach	15	0.25	0.227	0.205	0.157
	0.50m Single Outreach	10	0.186	0.168	0.151	0.114
T061RLS	Post Top	28	0.543	0.485	0.43	0.312
	0.25m Single Outreach	10	0.204	0.183	0.163	0.12
	0.50m Single Outreach	10	0.147	0.131	0.116	0.083
T081RLS	Post Top	17	0.16	0.133	0.109	0.06
	0.25m Single Outreach	8	0.06	0.05	–	–

For complete information on foundation options please refer to www.abacuslighting.com/base-hinged-fixed-columns.asp

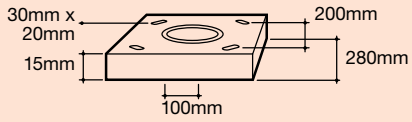
ALUMINIUM

4-6M BASE-HINGED COLUMN Patent No: 968113

Designed to EN40. Finished bead blasted for a high quality look

Flange Plate

Type 0 FA000G Bolts/cross brace M16 x 500mm
FC020 Template



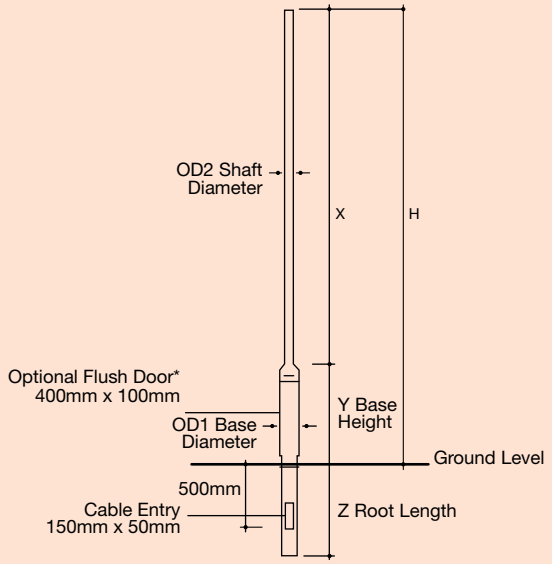
Accessories

XXSC003F	Tamper resistant locking screw
XXSC003F	Key for locking screw
ELSAB1/6A	Single fuse cut-out, 6A, loop in/out (not fitted)
ELSAB12/6A	Twin fuse cut-out, 6A, loop in/out (not fitted)

***Brackets**
Outreach brackets to suit customers' requirements can be supplied in the same material.

***Flush Door Option**
Flush door enables internal locking mechanism. Side fitted locking screw not required on this model. Add /FD suffix.

Column Dimensions



Root Mounted

Product Code	Height	OD1	OD2	x	y	z	Weight (kg)	OTM (kNm)	Shear (kN)	Min. Concrete Diameter*	Counterbalance Type & Max. Weight
AL041RLS	4m	165	76	2890	1050	800	30	3.0	1.0	373	**RLS168 - Yellow** 22kg **RLS168 - White** 32kg **RLS168 - Red** 48kg
AL051RLS	5m	165	76	3875	1050	800	34	2.9	0.9	357	**RLS168 - Yellow** 15kg **RLS168 - White** 22kg **RLS168 - Red** 33kg
AL061RLS	6m	165	76	4860	1050	1000	39	2.8	0.9	188	**RLS168 - Yellow** 9kg **RLS168 - White** 15kg **RLS168 - Red** 24kg

*Root concrete diameter based on poor soil or better, min. 230kN/m² per m

Flange Plate Mounted

Product Code	Height	OD1	OD2	x	y	Flange Plate	Weight (kg)	OTM (kNm)	Shear (kN)	Concrete Dimension*	Counterbalance Type & Max. Weight
AL041RLS /FP	4m	165	76	2890	1050	Type 0	26	2.9	1.0	650 x 750	**RLS168 - Yellow** 22kg **RLS168 - White** 32kg **RLS168 - Red** 48kg
AL051RLS /FP	5m	165	76	3875	1050	Type 0	30	2.9	0.9	650 x 750	**RLS168 - Yellow** 15kg **RLS168 - White** 22kg **RLS168 - Red** 33kg
AL061RLS /FP	6m	165	76	4860	1050	Type 0	35	2.8	0.9	650 x 750	**RLS168 - Yellow** 9kg **RLS168 - White** 15kg **RLS168 - Red** 24kg

*Concrete dimension based on a minimum ground bearing pressure of 150kN/m², (S = square dimension, H = depth)
For complete information on foundation options please refer to www.abacuslighting.com/base-hinged-fixed-columns.asp

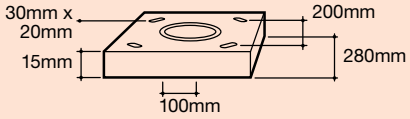
STAINLESS STEEL

5-6M BASE-HINGED COLUMN Patent No: 968113

Designed to EN40. Manufactured in grade 304 as standard. Available on request in grade 316 for harsher environmental conditions. Finished bead blasted

Flange Plate

Type 0 FA000G Bolts/cross brace M16 x 500mm
FC020 Template



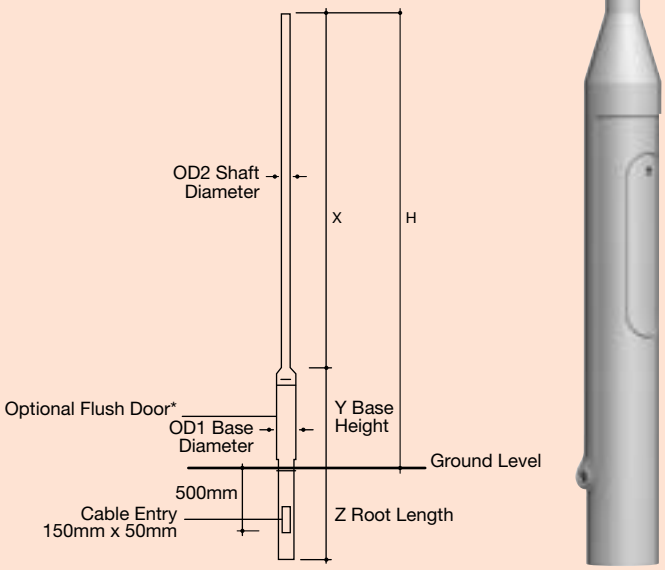
Accessories

ELSAB1/6A Single fuse cut-out, 6A, loop in/out (not fitted)
ELSAB12/6A Twin fuse cut-out, 6A, loop in/out (not fitted)

***Brackets**
Outreach brackets to suit customers' requirements can be supplied in the same material.
Note: 6m column is available for post top mounting only.

***Flush Door Option**
Flush door enables internal locking mechanism. Side fitted locking screw not required on this model. Add /FD suffix.

Column Dimensions



Root Mounted

Product Code	Height	OD1	OD2	x	y	z	Weight (kg)	OTM (kNm)	Shear (kN)	Min. Concrete Diameter*	Counterbalance Type & Max. Weight
SL51RLS	5m	168	76	3905	1020	800	57	3.6	1.0	448	**RLS168 - Yellow** 10kg **RLS168 - White** 18kg **RLS168 - Red** 27kg **RLS168 - Blue** 38kg
SL61RLS	6m	168	76	4890	1020	1000	68	3.6	1.0	232	**RLS168 - Yellow** 4kg **RLS168 - White** 10kg **RLS168 - Red** 18kg **RLS168 - Blue** 28kg

*Root concrete diameter based on poor soil or better, min. 230kN/m² per m
For the 316 grade add /316 to product code

Flange Plate Mounted

Product Code	Height	OD1	OD2	x	y	Flange Plate	Weight (kg)	OTM (kNm)	Shear (kN)	Concrete Dimension*	Counterbalance Type & Max. Weight
SL51RLS /FP	5m	168	76	3905	1020	Type 0	53	3.6	1.0	700 x 800	**RLS168 - Yellow** 10kg **RLS168 - White** 18kg **RLS168 - Red** 27kg **RLS168 - Blue** 38kg
SL61RLS /FP	6m	168	76	4890	1020	Type 0	64	3.6	1.0	700 x 800	**RLS168 - Yellow** 4kg **RLS168 - White** 10kg **RLS168 - Red** 18kg **RLS168 - Blue** 28kg

*Concrete dimension based on a minimum ground bearing pressure of 150kN/m², (S = square dimension, H = depth)
For complete information on foundation options please refer to www.abacuslighting.com/base-hinged-fixed-columns.asp

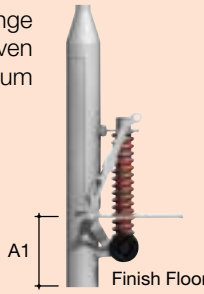
COUNTERBALANCE UNITS

TO OPERATE LIGHT DUTY BASE-HINGED RANGE

Spring Counterbalance - RLS168

The spring unit, type RLS168, is available in a range of coloured springs. Each spring type has a given capacity, based on the column height and maximum safe working load.

Column key is inserted into the end of the operating lever. Column key item no.XXSC006F



Column Position = Raised, Docked and Locked

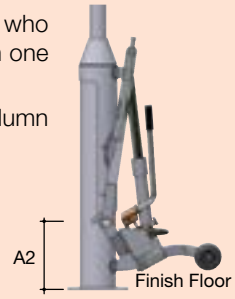
Column Position = Lowered, Un-docked and Un-locked

A1 Design height of the pivot above finished floor level is 300mm. If this distance is less than 230mm, difficulty in fitting counterbalance will be experienced

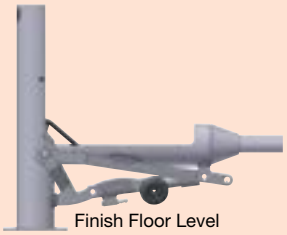
Hydraulic Counterbalance - RLH168

This hydraulic unit is popular with companies who have multiple column heights and headloads on one site or over a number of sites.

The advantage is that it can operate the full column range regardless of height and headload.



Column Position = Raised, Docked and Locked



Column Position = Lowered, Un-docked and Un-locked

A2 Design height of the pivot above finished floor level is 300mm. If this distance is less than 250mm, difficulty in fitting counterbalance will be experienced

Counterbalance Product Code	Safe Working Load (kg)				Counterbalance Weights (kg)
	4m	5m	6m	8m	
RLS168-Yellow	18	11	-	-	22
RLS168-White	28	19	11	-	23
RLS168-Red	38	28	19	-	23.5
RLS168-Blue	53	40	29	11	25
RLS168-Green	-	-	-	17	26.5
RLH168	53	40	29	17	40

Column Carrier - RL900M

Features

The Abacus Column Carrier System has been designed to safely and conveniently move base-hinged columns and guide them into position for installation with minimum effort.

- Designed specifically for the root mounted spring raise and lowering column up to 168Ø and a maximum 6m mounting height
- Enables a column to be safely transported to its installation location and provides a stable platform for the column to be worked on, prior to erection
- The column carrier can be used by one man for moving columns to the installation site
- The column can be lifted into place safely and easily by two men

Note: See page 16 for further images of the product

MEDIUM DUTY

The path to safe, easy long-life maintenance

The medium duty range of base-hinged columns offers a range of headload weights of between 40kg and 90kg, dependent on column height.

This provides for a versatile range of applications including:

- Lighting, utilising heavier lantern types
- CCTV with or without lighting
- Smaller scale windmill/solar panel combinations
- Lighting with signage panels

Counterbalance Unit - RLH168

A single universal hydraulic counterbalance unit is used to operate the medium duty range of columns.

RLH168

To see the base-hinged columns in operation visit our YouTube channel www.youtube.com/AbacusLighting.com

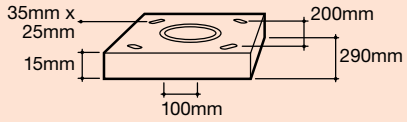
MEDIUM DUTY

5-8M BASE-HINGED COLUMN Patent No: 968113

Designed to EN40. Hot dip galvanised to BS EN ISO 1461:2009. Manufactured in steel tube to EN10210

Flange Plate

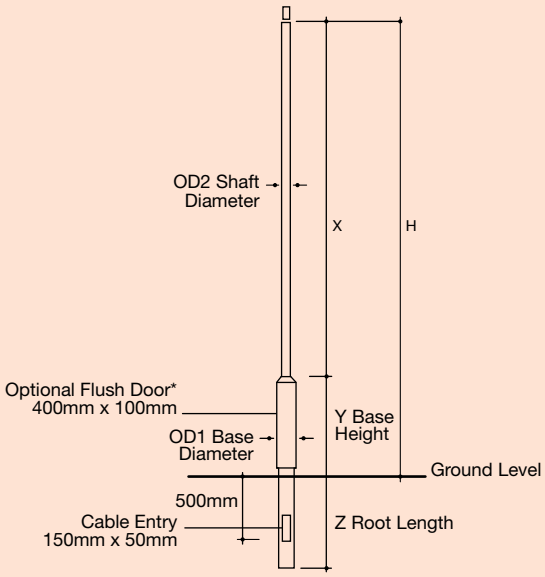
Type 1 FA001G Bolts/cross brace M20 x 500mm
FC021 Template



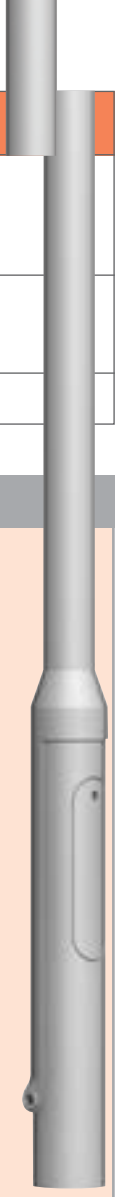
Accessories

XXSC003F Tamper resistant locking screw
XXSC006F Key for locking screw
ELSAB1/6A Single fuse cut-out, 6A, loop in/out (not fitted)
ELSAB12/6A Twin fuse cut-out, 6A, loop in/out (not fitted)

Column Dimensions



***Flush Door Option**
Flush door enables internal locking mechanism. Side fitted locking screw not required on this model. Add /FD suffix.



Root Mounted

Product Code	Height	OD1	OD2	x	y	z	Weight (kg)	OTM (kNm)	Shear (kN)	Min. Concrete Diameter*	Counterbalance Type & Max. Weight (kg)	
T058RLH	5m	168	114	3815	1050	800	82	9.8	2.2	1167	RLH168	90
T068RLH	6m	168	114	4860	1050	1000	90	9.5	1.9	586	RLH168	70
T088RLH	8m	168	114	6830	1050	1200	106	9.2	1.6	333	RLH168	40

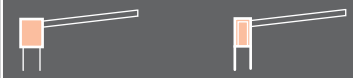
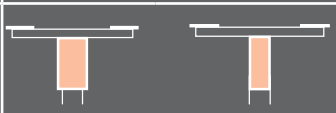
*Root concrete diameter based on poor soil or better, min. 230kN/m² per m

Flange Plate Mounted

Product Code	Height	OD1	OD2	x	y	Flange Plate	Weight (kg)	OTM (kNm)	Shear (kN)	Concrete Dimension*	Counterbalance Type & Max. Weight (kg)	
T058RLH/FP	5m	168	114	3815	1050	Type 1	74	9.8	2.2	900 x 950	RLH168	90
T068RLH/FP	6m	168	114	4860	1050	Type 1	82	9.5	1.9	900 x 950	RLH168	70
T088RLH/FP	8m	168	114	6830	1050	Type 1	98	9.2	1.6	900 x 950	RLH168	40

*Concrete dimension based on a minimum ground bearing pressure of 150kN/m², (S = square dimension, H = depth)
For complete information on foundation options please refer to www.abacuslighting.com/base-hinged-fixed-columns.asp

Outreach & Floodlight Brackets

Height	Projection Length	Outreach Brackets  Single (S) Double (D)  Overlap Fit on Shaft / Flush Fit on Spigot		Spigot Lengths /SP 230mm /SP1 100mm Type/Bolt Centres (mm)	Floodlight Brackets   Overlap Fit on Shaft / Flush Fit on Spigot	
5m		**T058RLH**	**T058RLH/SPor/SP1***		**T058RLH**	**T058RLH/SP**
	0.30m	PR6-03/S or /D	PR7-03/S or /D*	Single	FL4/1	FL5/1
	0.50m	PR6-05/S or /D	PR7-05/S or /D*	Double (800)	FL4/3	FL5/3
				Triple (800)	FL4/5	FL5/5
6m		**T068RLH**	**T068RLH/SP**		**T068RLH**	**T068RLH/SP**
	0.50m	PR6-05/S or /D	PR7-05/S or /D	Single	FL4/1	FL5/1
	1.00m	PR6-10	PR7-10/S or /D	Double (800)	FL4/3	FL5/3
				Triple (800)	FL4/5	FL5/5
8m		**T088RLH**	**T088RLH/SP**		**T088RLH**	**T088RLH/SP**
	0.50m	PR6-05/S or /D	PR7-05/S or /D	Single	FL4/1	FL5/1
	1.00m	PR6-10	PR7-10/S or /D	Double (800)	FL4/3	FL5/3
	1.25m	PR6-125/S or /D	PR7-125/S or /D	Triple (800)	FL4/5	FL5/5

*Outreach brackets series PR1 & PR2 below 0.50m projection fit onto 100mm spigot (/SP1). 0.50m + on standard 230mm spigot (/SP)
For complete bracket information please refer to pages 37-39

Column Headload Capacity (m²)

Based on UK rationalised wind loading factors for EN40

Product Code	Lantern Mounting/ Projection	Max. Headload (kg)	Light 396	Medium 429	Heavy 466	Extra Heavy 576
T058RLH	Post Top	90	1.881	1.728	1.583	1.266
	0.50m Single Outreach	10	0.665	0.661	0.56	0.447
	0.75m Single Outreach	10	0.534	0.49	0.448	0.357
	1.00m Single Outreach	10	0.442	0.404	0.369	0.292
T068RLH	Post Top	70	1.392	1.274	1.163	0.923
	0.75m Single Outreach	10	0.472	0.432	0.394	0.311
	1.00m Single Outreach	10	0.391	0.357	0.325	0.255
	1.50m Single Outreach	10	0.28	0.254	0.23	0.176
T088RLH	Post Top	40	0.547	0.496	0.448	0.351
	0.50m Single Outreach	10	0.307	0.279	0.253	0.199
	0.75m Single Outreach	10	0.247	0.224	0.202	0.157
	1.00m Single Outreach	10	0.199	0.179	0.161	0.123

For complete information on column headloads refer to www.abacuslighting.com/base-hinged-fixed-columns.asp

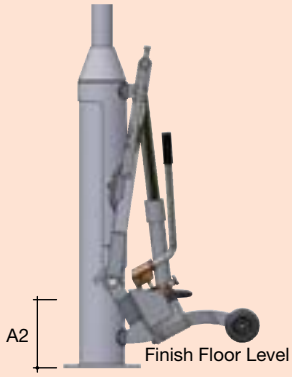
COUNTERBALANCE UNITS

TO OPERATE MEDIUM DUTY BASE-HINGED RANGE

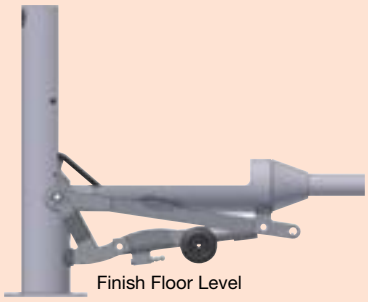
Hydraulic Counterbalance - RLH168

This hydraulic unit is popular with companies who have multiple column heights and headloads on one site or over a number of sites.

The advantage is that it can operate the full column range regardless of height and headload.



Column Position = Raised, Docked and Locked



Column Position = Lowered, Un-docked and Un-locked

A2 Design height of the pivot above finished floor level is 300mm. If this distance is less than 250mm, difficulty in fitting counterbalance will be experienced

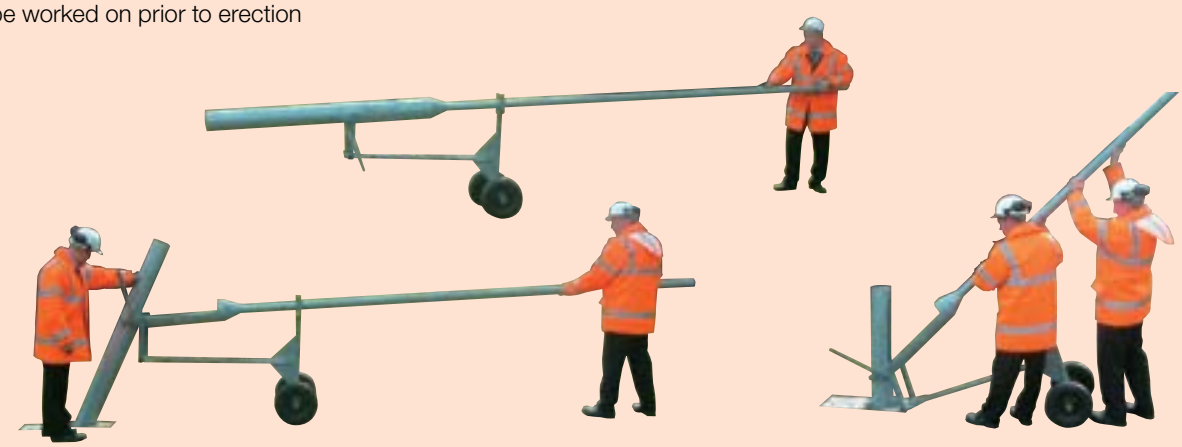
Counterbalance Product Code	Safe Working Load (kg)			Counterbalance Weights (kg)
	5m	6m	8m	
RLH168	90	70	40	40

Column Carrier – RL900M

Features

The Abacus Column Carrier System has been designed to move base-hinged columns safely and conveniently and guide them into position for installation with the minimum of effort.

- Designed specifically for the root mounted base hinged column up to 168Ø and a maximum 6m mounting height
- Enables a column to be transported safely to its installation location and provides a stable platform for the column to be worked on prior to erection
- The column carrier can be used by one man for moving columns to the installation site
- The column can be lifted into place safely and easily by two men



HEAVY DUTY

The path to safe, easy long-life maintenance

Our range of heavy duty base-hinged columns offers a choice of headload weights of between 36kg and 105kg, depending on the column height.

The range can be operated by a manually or electrically operated counterbalance unit – just contact our sales office for availability. It can be used in a wide variety of settings:

- Floodlighting for sports & amenity facilities
- Security lighting
- Road lighting in locations that are difficult to access
- CCTV with or without lighting
- Smaller scale windmill/solar panel combinations
- Lighting with signage panels

You can see the step-by-step operation of our heavy duty column range on the Abacus website, www.abacuslighting.com. Go to the base-hinged column section to see the complete range available.

Amenity Lighting Applications

Base-hinged lighting columns located close to overhead power cables.

Sports Columns

Our sports pack range can be maintained at ground level safely and easily, and is ideally suited to smaller facilities needing 8m to 12m height sports lighting columns.

We supply our sports columns with the appropriate control gear and fit protection equipment for quick on-site installation. There's no need for maintenance platforms as lamps can be changed and floodlights cleaned at ground level.

To find out more about our range of sports pack columns that are fully pre-wired and ready for installation, turn to pages 40-43.

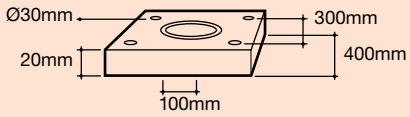
HEAVY DUTY

6-12M BASE-HINGED COLUMN

Designed to EN40. Hot dip galvanised to BS EN ISO 1461:2009. Manufactured in steel tube to EN10210

Flange Plate

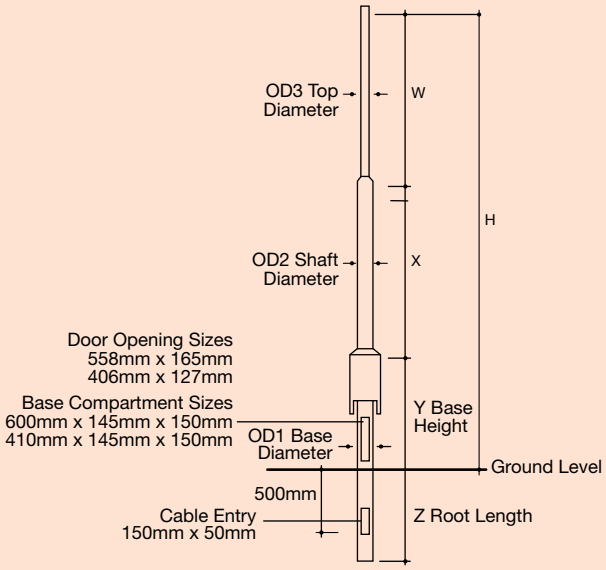
Type 2 FA002G Bolts/cross brace M24 x 600mm
FC022 Template



Accessories

ELSAB1/6A Single fuse cut-out, 6A, loop in/out (not fitted)
ELSAB12/6A Twin fuse cut-out, 6A, loop in/out (not fitted)

Column Dimensions



Root Mounted

Product Code	H	OD1	OD2	OD3	w	x	y	z	Weight (kg)	OTM (kNm)	Shear (kN)	Min. Concrete Diameter*	Counterbalance Type & Max. Weight (kg)	
T067RLH	6m	219	140	114	2035	2370	1505	1200	106	15.3	2.8	557	RLH1M RLH2M	120 185
T087RLH	8m	219	140	114	3157	3200	1505	1200	137	14.5	2.3	519	RLH1M RLH2M	68 112
T107RLH	10m	219	140	114	4115	4230	1505	1500	164	14.2	2.1	264	RLH1M RLH2M	40 76
T127RLH	12m	219	140	114	5065	5250	1505	1700	185	14.1	1.9	220	RLH1M RLH2M	18 48

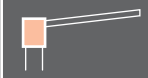
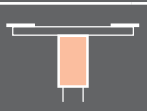
*Root concrete diameter based on poor soil or better, min. 230kN/m² per m

Flange Plate Mounted

Product Code	H	OD1	OD2	OD3	w	x	y	Flange Plate	Weight (kg)	OTM (kNm)	Shear (kN)	Concrete Dimension*	Counterbalance Type & Max. Weight (kg)	
T067RLH/FP	6m	219	140	114	2035	2370	1505	Type 2	102	15.3	2.8	1050 x 1200	RLH1M RLH2M	120 185
T087RLH/FP	8m	219	140	114	3157	3200	1505	Type 2	122	14.6	2.3	950 x 1100	RLH1M RLH2M	68 112
T107RLH/FP	10m	219	140	114	4115	4230	1505	Type 2	145	14.2	2.1	950 x 1100	RLH1M RLH2M	40 76
T127RLH/FP	12m	219	140	114	5065	5250	1505	Type 2	173	14.1	1.9	950 x 1100	RLH1M RLH2M	18 48

*Concrete dimension based on a minimum ground bearing pressure of 150kN/m², (S = square dimension, H = depth)
For complete information on foundation options please refer to www.abacuslighting.com/base-hinged-fixed-columns.asp

Outreach & Floodlight Brackets

Height	Projection Length	Outreach Brackets  Single (S)	 Double (D)	Spigot Lengths /SP 230mm /SP1 100mm	Floodlight Brackets 	
		 Overlap Fit on Shaft	 Flush Fit on Spigot	Type/Bolt Centres (mm)	 Overlap Fit on Shaft	 Flush Fit on Spigot
6m		**T067RLH**	**T067RLH/SP**		**T067RLH**	**T067RLH/SP**
	0.30m	PR6-03/S or /D	PR7-03/S or /D	Single	FL4/1	FL5/1
	0.50m	PR6-05/S or /D	PR7-05/S or /D	Double (800)	FL4/3	FL5/3
				Triple (800)	FL4/5	FL5/5
8m		**T087RLH**	**T087RLH/SP**		**T087RLH**	**T087RLH/SP**
	0.50m	PR6-05/S or /D	PR7-05/S or /D	Single	FL4/1	FL5/1
	1.00m	PR6-10/S or /D	PR7-10/S or /D	Double (800)	FL4/3	FL5/3
	1.50m	PR6-15/S or /D	PR7-15/S or /D	Triple (800)	FL4/5	FL5/5
10m		**T107RLH**	**T107RLH/SP**		**T107RLH**	**T107RLH/SP**
	0.50m	PR6-05/S or /D	PR7-05/S or /D	Single	FL4/1	FL5/1
	1.00m	PR6-10/S or /D	PR7-10/S or /D	Double (800)	FL4/3	FL5/3
	1.50m	PR6-15/S or /D	PR7-15/S or /D	Triple (800)	FL4/5	FL5/5
12m		**T127RLH**	**T127RLH/SP**		**T127RLH**	**T127RLH/SP**
	0.50m	PR6-05/S or /D	PR7-05/S or /D	Single	FL4/1	FL5/1
	0.75m	PR6-075/S or /D	PR7-075/S or /D	Double (800)	FL4/3	FL5/3

NOTE: Check column headload and wind load capacities
For complete bracket information please refer to pages 37-39

Column Headload Capacity (m²)

Based on UK rationalised wind loading factors for EN40

Product Code	Lantern Mounting/ Projection	Max. Headload (kg)	Light 396	Medium 429	Heavy 466	Extra Heavy 576
T067RLH	Post Top	185	2.453	2.255	2.069	1.661
	0.50m	12	0.741	0.681	0.624	0.50
	1.00m	12	0.499	0.457	0.418	0.332
T087RLH	Post Top	112	1.075	0.985	0.901	0.724
	0.50m	12	0.408	0.374	0.341	0.272
	1.00m	12	0.275	0.25	0.227	0.178
	1.50m	12	0.194	0.175	0.157	0.119
T107RLH	Post Top	76	0.608	0.553	0.503	0.40
	0.50m	12	0.247	0.224	0.203	0.16
	1.00m	12	0.167	0.150	0.135	0.103
	1.50m	12	0.114	0.101	0.089	0.063
T127RLH	Post Top	48	0.312	0.279	0.252	0.195
	0.50m	12	0.136	0.121	0.108	0.082
	0.75m	12	0.108	0.096	0.085	0.062

For complete information on column headloads refer to www.abacuslighting.com/base-hinged-fixed-columns.asp

COUNTERBALANCE UNITS

TO OPERATE HEAVY DUTY BASE-HINGED RANGE

Manual Units - RLH1M and RLH2M

The two manually operated units, RLH1M (light loads only) and RLH2M, lower and raise the columns in a straightforward way.

The operating instructions for the units can be found on the Abacus website, in conjunction with a video of the column operation.

Counterbalance Product Code	Safe Working Load (kg)				Counterbalance Weights (kg)
	6m	8m	10m	12m	
RLH1M	120	68	40	18†	52
RLH2M	185	112	76	48†	93

†Post top applications only

STANDARD COLUMN RANGE

Abacus manufactures and supplies a wide range of standard columns in tubular, octagonal and conical styles, often in a choice of galvanised steel or aluminium. We also offer a variety of brackets designed to accommodate most standard luminaires, as well as a bespoke service, tailoring columns and brackets to specific requirements for your project.

A range of architecturally-styled columns are available with complementary brackets. A shield-shaped flush door enhances its appeal for amenity and architectural applications.

You can also enhance the appearance and longevity of your products with a wide range of paint finishes and surface protections; from standard finishes to specialist options such as marine and anti-graffiti protection. See page 36 for further information.

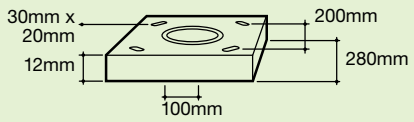
LIGHT DUTY

4-12M TUBULAR STEEL

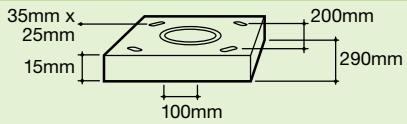
Designed to EN40. Hot dip galvanised to BS EN ISO 1461:2009. Manufactured in steel tube to EN10210

Flange Plate

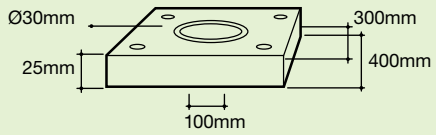
Type 0 FA000G Bolts/cross brace M16 x 500mm
FC020 Template



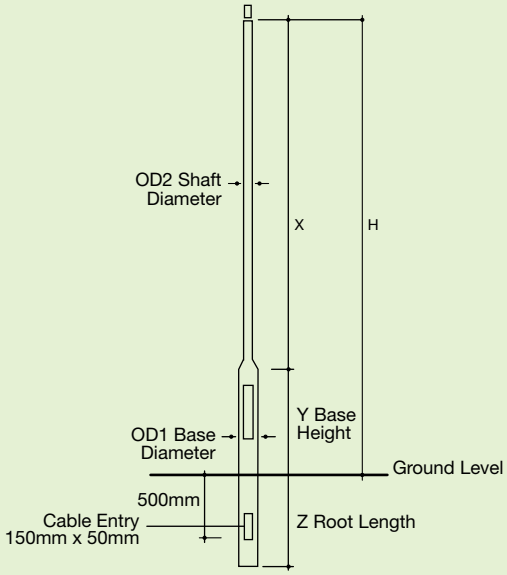
Type 1 FA001G Bolts/cross brace M20 x 500mm
FC021 Template



Type 2 FA002G Bolts/cross brace M24 x 600mm
FC022 Template



Column Dimensions



Accessories **ELSAB1/6A** Single fuse cut-out, 6A, loop in/out (not fitted) **ELSAB12/6A** Twin fuse cut-out, 6A, loop in/out (not fitted)

Root Mounted

Product Code	Height	OD1	OD2	x	y	z	Door Opening	Weight (kg)	OTM (kNm)	Shear (kN)	Min. Concrete Diameter*
TB040	4m	140	60	2690	1250	800	500x100	31	3.3	1.0	950
TB050	5m	140	76	3675	1250	800	500x100	41	4.3	1.1	525
TB060	6m	140	76	4660	1250	1000	500x100	49	4.2	1.0	269
TB081	8m	168	89	6630	1250	1200	600x115	67	7.1	1.4	262
TB108	10m	168	114	8600	1250	1500	600x115	116	12.8	1.9	239
TB128/SP	12m	194	140/127	9840	1750	1700	600x115	188	20.7	2.5	262

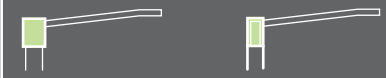
*Root concrete diameter based on poor soil or better, min. 230kN/m² per m

Flange Plate Mounted

Product Code	Height	OD1	OD2	x	y	Door Opening	Flange Plate	Weight (kg)	OTM (kNm)	Shear (kN)	Concrete Dimension*
TB040/FP	4m	140	60	2690	1250	500x100	Type 0	32	3.3	1.0	700 x 800
TB050/FP	5m	140	76	3675	1250	500x100	Type 0	40	4.3	1.1	750 x 800
TB060/FP	6m	140	76	4660	1250	500x100	Type 0	47	4.2	1.0	750 x 800
TB081/FP	8m	168	89	6630	1250	600x115	Type 1	59	7.1	1.4	850 x 950
TB108/FP	10m	168	114	8600	1250	600x115	Type 2	121	12.8	1.9	950 x 1100
TB128/FP/SP†	12m	194	140/127	9840	1750	600x115	Type 2	188	20.7	2.5	1200 x 1250

*Concrete dimension based on a minimum ground bearing pressure of 150kN/m², (S = square dimension, H = depth) †Supplied as standard with spigot, length 230mm
For complete information on foundation options please refer to www.abacuslighting.com/base-hinged-fixed-columns.asp

Outreach & Floodlight Brackets

Height	Projection Length	Outreach Brackets  Single (S) Double (D)  Overlap Fit on Shaft	Flush Fit on Spigot	Spigot Lengths /SP 230mm /SP1 100mm Type/Bolt Centres (mm)	Floodlight Brackets ØM20   Overlap Fit on Shaft	Flush Fit on Spigot
4m		**TB040**			**TB040**	
	0.30m	PR1-03/S or /D	-	Single	FL0/1	-
	0.50m	PR1-05/S or /D	-	Double (600)	FL0/2	-
				Double (800)	FL0/3	-
5m		**TB050**	**TB050/SP + /SP1***		**TB050**	**TB050/SP**
	0.30m	PR2-03/S or /D	PR1-03/S or /D*	Single	FL1/1	FL0/1
	0.50m	PR2-05/S or /D	PR1-05/S or /D*	Double (600)	FL1/2	FL0/2
				Double (800)	FL1/3	FL0/3
6m		**TB060**	**TB060/SP + /SP1***		**TB060**	**TB060/SP**
	0.30m	PR2-03/S or /D	PR1-03/S or /D*	Single	FL1/1	FL0/1
	0.50m	PR2-05/S or /D	PR1-05/S or /D*	Double (600)	FL1/2	FL0/2
				Double (800)	FL1/3	FL0/3
8m		**TB081**	**TB081/SP**		**TB081**	**TB081/SP**
	0.50m	PR4-05/S or /D	PR2-05/S or /D	Single	FL2/1	FL1/1
	1.0m	PR4-10/S or /D	PR2-10/S or /D	Double (600)	FL2/2	FL1/2
				Double (800)	FL2/3	FL1/3
10m		**TB108**	**TB108/SP**		**TB0108**	**TB108/SP**
	0.50m	PR6-05/S or /D	PR7-05/S or /D	Single	FL4/1	FL5/1
	1.0m	PR6-10/S or /D	PR7-10/S or /D	Double (600)	FL4/2	FL5/2
	1.5m	PR6-15/S or /D	PR7-15/S or /D	Double (800)	FL4/3	FL5/3
12m			**TB128/SP**			**TB128/SP**
	0.50m	-	PR5-05/S or /D	Single	-	FL3/1
	1.0m	-	PR5-10/S or /D	Double (600)	-	FL3/2
	1.5m	-	PR5-15/S or /D	Double (800)	-	FL3/3
	2.0m	-	PR5-20/S or /D	Triple (800)	-	FL3/5

*Outreach brackets series PR1 & PR2 below 0.50m projection fit onto 100mm spigot (/SP1). 0.50m + on standard 230mm spigot (/SP)

For complete bracket information please refer to pages 37-39

Column Headload Capacity (m²)

Based on UK rationalised wind loading factors for EN40

Product Code	Lantern Mounting/Projection	Max. Headload (kg)	Light 396	Medium 429	Heavy 466	Extra Heavy 576
TB040	Post Top	35	0.727	0.663	0.603	0.47
	0.25m Single Outreach	10	0.71	0.648	0.589	0.459
	0.50m Single Outreach	10	0.634	0.578	0.524	0.406
TB050	Post Top	35	0.672	0.609	0.548	0.417
	0.25m Single	10	0.697	0.631	0.569	0.434
	0.50m Single	10	0.625	0.564	0.507	0.383
TB060	Post Top	50	0.407	0.361	0.317	0.222
	0.50m Single	10	0.376	0.335	0.296	0.212
	0.75m Single	10	0.315	0.279	0.245	0.171
TB081	Post Top	35	0.302	0.265	0.231	0.159
	0.50m Single	10	0.308	0.27	0.235	0.161
	0.75m Single	10	0.281	0.245	0.211	0.141
TB108	Post Top	35	0.476	0.429	0.387	0.301
	0.50m Single	10	0.411	0.37	0.332	0.256
	1m Single Outreach	10	0.327	0.292	0.26	0.196
TB128/SP	Post Top	60	0.721	0.669	0.611	0.441
	1m Single Outreach	20	0.404	0.372	0.341	0.273
	1.5m Single Outreach	20	0.267	0.245	0.223	0.175

For complete information on column headloads refer to www.abacuslighting.com/base-hinged-fixed-columns.asp

STANDARD COLUMNS

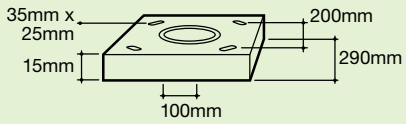
MEDIUM DUTY

5-12M TUBULAR STEEL

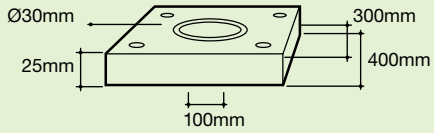
Designed to EN40. Hot dip galvanised to BS EN ISO 1461:2009. Manufactured in steel tube to EN10210

Flange Plate

Type 1 FA001G Bolts/cross brace M20 x 500mm
FC021 Template



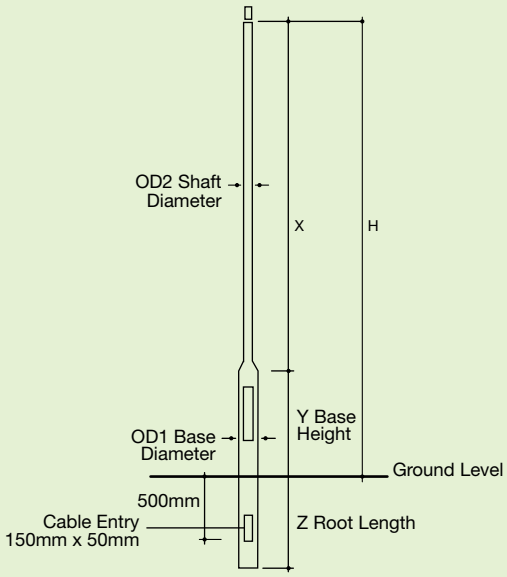
Type 2 FA002G Bolts/cross brace M24 x 600mm
FC022 Template



Accessories

ELSAB1/6A Single fuse cut-out, 6A, loop in/out (not fitted)
ELSAB12/6A Twin fuse cut-out, 6A, loop in/out (not fitted)

Column Dimensions



Root Mounted

Product Code	Height	OD1	OD2	x	y	z	Door Opening	Weight (kg)	OTM (kNm)	Shear (kN)	Min. Concrete Diameter*
TB051	5m	168	76	3675	1250	800	600x115	37	5.0	1.3	600
TB061	6m	168	89	4660	1250	1000	600x115	54	7.3	1.6	460
TB088	8m	168	114	6630	1250	1200	600x115	86	8.8	1.6	320
TB108/L/SP†	10m	168	140/127	8370	1250	1500	600x115	153	13.6	1.9	250
TB128/L/SP†	12m	194	168/152	9840	1750	1700	600x115	193	20.8	2.6	260

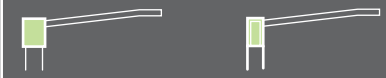
*Root concrete diameter based on poor soil or better, min. 230kN/m² per m
†Supplied as standard with spigot, length 230mm

Flange Plate Mounted

Product Code	Height	OD1	OD2	x	y	Door Opening	Flange Plate	Weight (kg)	OTM (kNm)	Shear (kN)	Concrete Dimension*
TB051/FP	5m	168	76	3675	1250	600x115	Type 1	43	5.0	1.3	750 x 800
TB061/FP	6m	168	89	4660	1250	600x115	Type 1	50	7.3	1.6	850 x 950
TB088/FP	8m	168	114	6630	1250	600x115	Type 2	99	8.8	1.6	900 x 950
TB108/L/FP/SP†	10m	168	140/127	8370	1250	600x115	Type 2	150	13.6	1.9	950 x 1100
TB128/L/FP/SP†	12m	194	168/152	9840	1750	600x115	Type 2	169	20.8	2.6	1050 x 1200

*Concrete dimension based on a minimum ground bearing pressure of 150kN/m², (S = square dimension, H = depth)
†Supplied as standard with spigot, length 230mm
For complete information on foundation options please refer to www.abacuslighting.com/base-hinged-fixed-columns.asp

Outreach & Floodlight Brackets

Height	Projection Length	Outreach Brackets  Single (S) Double (D)  Overlap Fit on Shaft / Flush Fit on Spigot		Spigot Lengths /SP 230mm /SP1 100mm Type/Bolt Centres (mm)	Floodlight Brackets ØM20   Overlap Fit on Shaft / Flush Fit on Spigot	
5m		**TB051**	**TB051/SP + /SP1***		**TB051**	**TB051/SP**
	0.30m	PR2-03/S or /D	PR1-03/S or /D*	Single	FL1/1	FL0/1
	0.50m	PR2-05/S or /D	PR1-05/S or /D*	Double (600)	FL1/2	FL0/2
				Double (800)	FL1/3	FL0/3
6m		**TB061**	**TB061/SP + /SP1***		**TB061**	**TB061/SP**
	0.30m	PR4-03/S or /D	PR2-03/S or /D*	Single	FL2/1	FL1/1
	0.50m	PR4-05/S or /D	PR2-05/S or /D*	Double (600)	FL2/2	FL1/2
				Double (800)	FL2/3	FL1/3
8m		**TB088**	**TB088/SP**		**TB088**	**TB088/SP**
	0.50m	PR6-05/S or /D	PR7-05/S or /D	Single	FL4/1	FL5/1
	1.0m	PR6-10/S or /D	PR7-10/S	Double (600)	FL4/2	FL5/2
				Double (800)	FL4/3	FL5/3
10m			**TB108/L/SP**			**TB108/L/SP**
	0.50m	-	PR5-05/S or /D	Single	-	FL3/1
	1.0m	-	PR5-10/S or /D	Double (600)	-	FL3/2
	1.5m	-	PR5-15/S or /D	Double (800)	-	FL3/3
12m			**TB128/L/SP**			**TB128/L/SP**
	0.50m	-	PR8-05/S or /D	Single	-	FL7/1
	1.0m	-	PR8-10/S or /D	Double (600)	-	FL7/2
	1.5m	-	PR8-15/S or /D	Double (800)	-	FL7/3
	2.0m	-	PR8-20/S or /D	Triple (800)	-	FL7/5

*Outreach brackets series PR1 & PR2 below 0.50m projection fit onto 100mm spigot (/SP1). 0.50m + on standard 230mm spigot (/SP)
For complete bracket information please refer to pages 37-39

Column Headload Capacity (m²)

Based on UK rationalised wind loading factors for EN40

Product Code	Lantern Mounting/Projection	Max. Headload (kg)	Light 396	Medium 429	Heavy 466	Extra Heavy 576
TB051	Post Top	35	0.851	0.774	0.7	0.54
	0.50m Single Outreach	10	0.78	0.709	0.641	0.492
	0.75m Single Outreach	10	0.715	0.648	0.585	0.447
TB061	Post Top	50	0.959	0.872	0.79	0.613
	0.50m Single Outreach	12	0.894	0.815	0.74	0.576
	0.75m Single Outreach	12	0.785	0.715	0.648	0.502
TB088	Post Top	60	0.487	0.439	0.396	0.308
	0.50m Single Outreach	16	0.38	0.342	0.307	0.237
	0.75m Single Outreach	16	0.333	0.299	0.267	0.203
TB108/L/SP	Post Top	75	0.581	0.536	0.496	0.365
	0.50m Single Outreach	16	0.457	0.421	0.387	0.285
	1m Single Outreach	16	0.366	0.335	0.307	0.22
TB128/L/SP	Post Top	75	0.749	0.658	0.571	0.376
	1m Single Outreach	20	0.42	0.386	0.354	0.263
	1.5m Single Outreach	20	0.278	0.255	0.232	0.183

For complete information on column headloads refer to www.abacuslighting.com/base-hinged-fixed-columns.asp

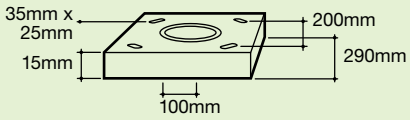
HEAVY DUTY

5-12M TUBULAR STEEL

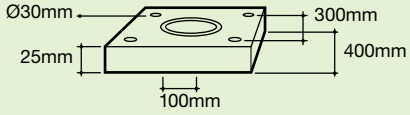
Designed to EN40. Hot dip galvanised to BS EN ISO 1461:2009. Manufactured in steel tube to EN10210

Flange Plate

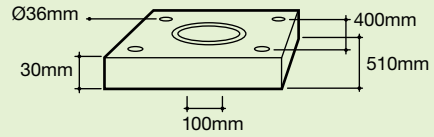
Type 1 FA001G Bolts/cross brace M20 x 500mm
FC021 Template



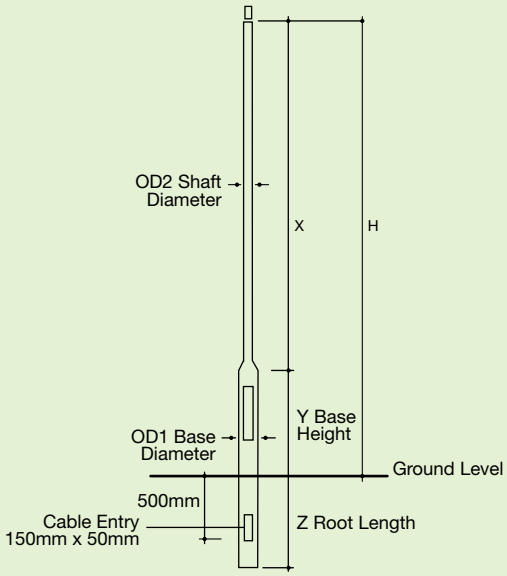
Type 2 FA002G Bolts/cross brace M24 x 600mm
FC022 Template



Type 3 FA003G Bolts/cross brace M30 x 800mm
FC023 Template



Column Dimensions



Accessories **ELSAB1/6A** Single fuse cut-out, 6A, loop in/out (not fitted) **ELSAB12/6A** Twin fuse cut-out, 6A, loop in/out (not fitted)

Root Mounted

Product Code	Height	OD1	OD2	x	y	z	Door Opening	Weight (kg)	OTM (kNm)	Shear (kN)	Min. Concrete Diameter*
TB058	5m	168	114	3675	1250	1000	600x115	59	9.1	2.1	575
TB068	6m	168	114	4660	1250	1000	600x115	67	9.0	1.8	556
TB088/H	8m	194	114	6630	1250	1200	600x115	101	13.0	2.2	467
TB108/H/SP†	10m	194	140/127	8370	1250	1500	600x115	158	19.5	2.5	358
TB128/H/SP†	12m	219	168/152	9840	1750	1700	600x115	257	36.4	3.9	454

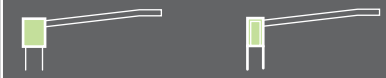
*Root concrete diameter based on poor soil or better, min. 230kN/m² per m
†Supplied as standard with spigot, length 230mm

Flange Plate Mounted

Product Code	Height	OD1	OD2	x	y	Door Opening	Flange Plate	Weight (kg)	OTM (kNm)	Shear (kN)	Concrete Dimension*
TB058/FP	5m	168	114	3675	1250	600x115	Type 1	75	9.1	2.1	900 x 950
TB068/FP	6m	168	114	4660	1250	600x115	Type 2	78	9.0	1.8	900 x 950
TB088/H/FP	8m	194	114	6630	1250	600x115	Type 2	108	13.0	2.2	950 x 1100
TB108/H/FP/SP†	10m	194	140/127	8370	1250	600x115	Type 2	158	19.5	2.5	1050 x 1200
TB128/H/FP/SP†	12m	219	168/152	9840	1750	600x115	Type 3	258	36.4	3.9	1250 x 1300

*Concrete dimension based on a minimum ground bearing pressure of 150kN/m², (S = square dimension, H = depth)
†Supplied as standard with spigot, length 230mm
For complete information on foundation options please refer to www.abacuslighting.com/base-hinged-fixed-columns.asp

Outreach & Floodlight Brackets

Height	Projection Length	Outreach Brackets  Single (S) Double (D)  Overlap Fit on Shaft	Flush Fit on Spigot	Spigot Lengths /SP 230mm Type/Bolt Centres (mm)	Floodlight Brackets ØM20   Overlap Fit on Shaft	Flush Fit on Spigot
5m		**TB058**	**TB058/SP**		**TB058**	**TB058/SP**
	0.30m	PR6-03/S or /D	PR7-03/S or/D	Double (800)	FL4/3	FL5/3
	0.50m	PR6-05/S or /D	PR7-05/S or/D	Triple (600)	FL4/4	FL5/4
				Triple (800)	FL4/5	FL5/5
6m		**TB068**	**TB068/SP**		**TB068**	**TB068/SP**
	0.30m	PR6-03/S or /D	PR7-03/S or /D	Double (800)	FL4/3	FL5/3
	0.50m	PR6-05/S or /D	PR7-05/S or /D	Triple (600)	FL4/4	FL5/4
				Triple (800)	FL4/5	FL5/5
8m		**TB088/H**	**TB088/H/SP**		**TB088/H**	**TB088/H/SP**
	1.0m	PR6-10/S or /D	PR7-10/S or /D	Double (800)	FL4/3	FL5/3
	1.5m	PR6-15/S or /D	PR7-15/S or /D	Triple (600)	FL4/4	FL5/4
				Triple (800)	FL4/5	FL5/5
10m			**TB108/H/SP**			**TB108/H/SP**
	1.5m	-	PR5-15/S or /D	Double (800)	-	FL3/3
	2.0m	-	PR5-20/S or /D	Triple (600)	-	FL3/4
	2.5m	-	PR5-25/S or /D	Triple (800)	-	FL3/5
				Quadruple (800)	-	FL3/7
12m			**TB128/H/SP**			**TB128/H/SP**
	1.5m	-	PR8-15/S or /D	Double (800)	-	FL7/3
	2.0m	-	PR8-20/S or /D	Triple (600)	-	FL7/4
	2.5m	-	PR8-25/S or /D	Triple (800)	-	FL7/5
				Quadruple (800)	-	FL7/7

For complete bracket information please refer to pages 37-39

Column Headload Capacity (m^2)

Based on UK rationalised wind loading factors for EN40

Product Code	Lantern Mounting/Projection	Max. Headload (kg)	Light 396	Medium 429	Heavy 466	Extra Heavy 576
TB058	Post Top	60	1.824	1.675	1.533	1.224
	0.50m Single Outreach	20	1.138	1.043	0.954	0.76
	0.75m Single Outreach	20	0.99	0.907	0.829	0.658
TB068	Post Top	75	1.301	1.19	1.084	0.857
	0.50m Single Outreach	20	0.903	0.825	0.751	0.592
	0.75m Single Outreach	20	0.793	0.723	0.658	0.516
TB088/H	Post Top	100	0.838	0.764	0.696	0.553
	0.50m Single Outreach	20	0.866	0.799	0.735	0.59
	0.75m Single Outreach	20	0.659	0.608	0.558	0.45
TB108/H/SP	Post Top	100	0.992	0.916	0.845	0.647
	1m Single Outreach	20	0.446	0.411	0.377	0.302
	1.5m Single Outreach	20	0.297	0.272	0.248	0.195
TB128/H/SP	Post Top	100	1.653	1.495	1.344	1.007
	1m Single Outreach	20	0.428	0.394	0.362	0.29
	2m Single Outreach	20	0.363	0.332	0.302	0.235

For complete information on column headloads refer to www.abacuslighting.com/base-hinged-fixed-columns.asp

STANDARD COLUMNS

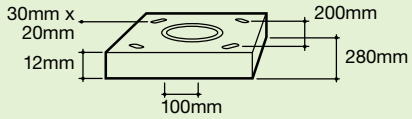
LIGHT DUTY with integral projection arm

5-6M TUBULAR STEEL

Designed to EN40. Hot dip galvanised to BS EN ISO 1461:2009. Manufactured in steel tube to EN10210

Flange Plate

Type 0 FA000G Bolts/cross brace M16 x 500mm
FC020 Template

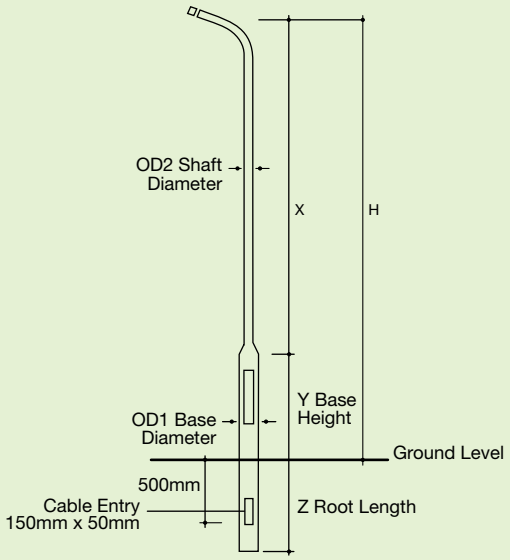


Integral Projection Arm

Accessories

ELSAB1/6A Single fuse cut-out, 6A, loop in/out (not fitted)
ELSAB12/6A Twin fuse cut-out, 6A, loop in/out (not fitted)

Column Dimensions



Root Mounted

Product Code	Height	OD1	OD2	x	y	z	Door Opening	Weight (kg)	OTM (kNm)	Shear (kN)	Min. Concrete Diameter*
TB0504	5m	140	76	3750	1250	800	500x100	43	5.0	1.3	607
TB0604	6m	140	76	4750	1250	1000	500x100	50	4.8	1.1	307

*Root concrete diameter based on poor soil or better, min. 230kN/m² per m

Flange Plate Mounted

Product Code	Height	OD1	OD2	x	y	Door Opening	Flange Plate	Weight (kg)	OTM (kNm)	Shear (kN)	Concrete Dimension*
TB0504/FP	5m	140	76	3750	1250	500x100	Type 0	43	5.0	1.3	750 x 800
TB0604/FP	6m	140	76	4750	1250	500x100	Type 0	50	4.8	1.1	750 x 800

*Concrete dimension based on a minimum ground bearing pressure of 150kN/m², (S = square dimension, H = depth)
For complete information on foundation options please refer to www.abacuslighting.com/base-hinged-fixed-columns.asp

Column Headload Capacity (m²) - Based on UK rationalised wind loading factors for EN40

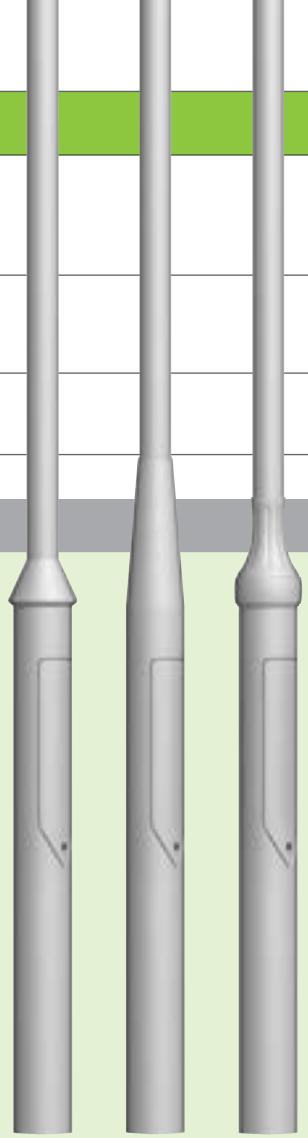
Product Code	Lantern Mounting/Projection	Max. Head Load (kg)	Light 396	Medium 429	Heavy 466	Extra Heavy 576
TB0504	0.30	10	0.835	0.759	0.686	0.529
	0.75	10	0.651	0.591	0.534	0.41
TB0604	0.30	10	0.586	0.509	0.453	0.332
	0.75	10	0.474	0.421	0.371	0.263

For complete information on column headloads refer to www.abacuslighting.com/base-hinged-fixed-columns.asp

STYLED

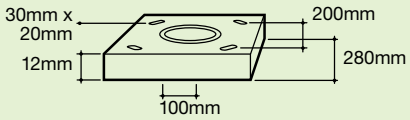
4-8M COLUMNS

Designed to EN40. Hot dip galvanised to BS EN ISO 1461:2009
Manufactured in steel tube to EN10210

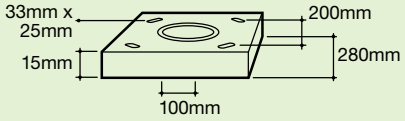


Flange Plate

Type 0 FA000G Bolts/cross brace M16 x 500mm
FC020 Template



Type 1 FA001G Bolts/cross brace M20 x 500mm
FC021 Template



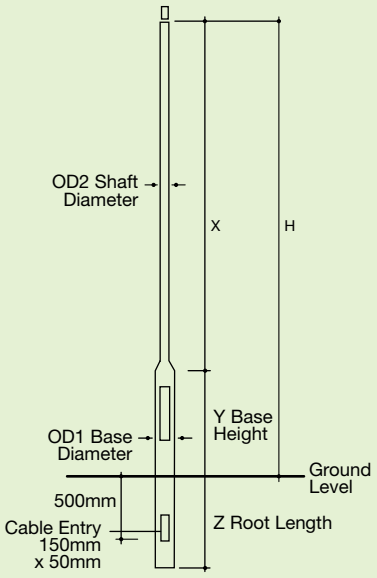
Single Arm

CHC/S/XX/76 or 89

Twin Arm

CHC/D/XX/76 or 89/SP - reduction spigot 230mm

Column Dimensions



HiCone TB0xx/HC | LoCone TB0xx/LC | Classic TB0xx/CL

Accessories	**ELSAB1/6A** Single fuse cut-out, 6A, loop in/out (not fitted) **ELSAB12/6A** Twin fuse cut-out, 6A, loop in/out (not fitted) **Available in RAL colour of choice: add /xxxx for colour reference**

Root Mounted

Dimensions (mm) Product Code	Height	OD1	OD2	x	y	z	Door Opening	Weight (kg)	OTM (kNm)	Shear (kN)	Min. Concrete Diameter*
TB040/XX	4m	140	76	2690	1250	600	500x100	31	3.3	1.0	950
TB050/XX	5m	140	76	3675	1250	800	500x100	43	5.0	1.3	600
TB060/XX	6m	140	76	4660	1250	1000	500x100	49	4.8	1.1	300
TB081/XX	8m	168	89	6630	1250	1200	600x115	69	7.1	1.4	260

*Root concrete diameter based on poor soil or better, min. 230kN/m² per m

Flange Plate Mounted

Dimensions (mm) Product Code	Height	OD1	OD2	x	y	Door Opening	Flange Plate	Weight (kg)	OTM (kNm)	Shear (kN)	Concrete Dimension*
TB040/XX	4m	140	76	2690	1250	500x100	Type 0	32	3.3	1.0	700 x 800
TB050/XX	5m	140	76	3675	1250	500x100	Type 0	42	5.0	1.3	750 x 800
TB060/XX	6m	140	76	4660	1250	500x100	Type 0	49	4.8	1.1	750 x 800
TB081/XX	8m	168	89	6630	1250	600x115	Type 1	61	7.1	1.4	850 x 950

*Concrete dimension based on a minimum ground bearing pressure of 150kN/m², (S = square dimension, H = depth)
For complete information on foundation options please refer to www.abacuslighting.com/base-hinged-fixed-columns.asp

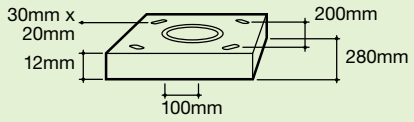
OCTAGONAL

4-12M OCTAGONAL STEEL

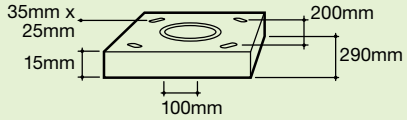
Designed to EN40. Hot dip galvanised to BS EN ISO 1461:2009

Flange Plate

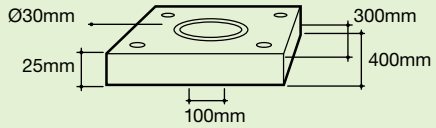
Type 0 FA000G Bolts/cross brace M16 x 500mm
FC020 Template



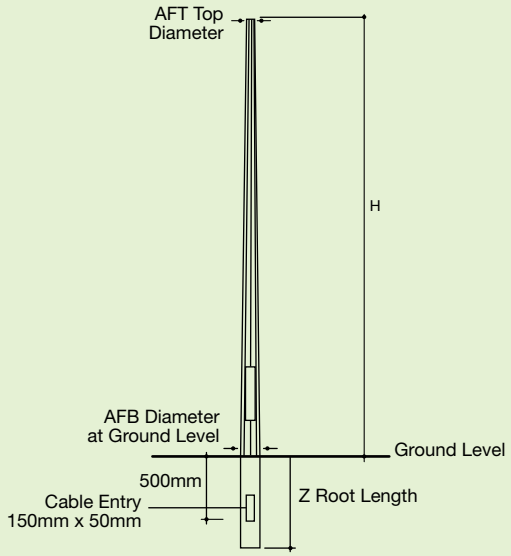
Type 1 FA001G Bolts/cross brace M20 x 500mm
FC021 Template



Type 2 FA002G Bolts/cross brace M24 x 600mm
FC022 Template



Column Dimensions



Accessories	**ELSAB1/6A** Single fuse cut-out, 6A, loop in/out (not fitted) **ELSAB12/6A** Twin fuse cut-out, 6A, loop in/out (not fitted)
Brackets	**Contact the Abacus sales office for details.**

Root Mounted

Dimensions (mm) Product Code	Height	AFT	AFB	z	Door Opening	Weight (kg)
F041	4m	76	130	600	300x85	34
F051	5m	76	144	800	300x85	47
F061	6m	76	158	1000	300x85	81
F081	8m	76	183	1200	600x115	78
F101	10m	73	210	1500	600x115	200
F121	12m	100	240	2000	600x115	260

*Root concrete diameter based on poor soil or better, min. 230kN/m² per m

Flange Plate Mounted

Dimensions (mm) Product Code	Height	TD	GD	Door Opening	Flange Plate	Weight (kg)
F041/FP	4m	76	123	300x85	Type 0	36
F051/FP	5m	76	135	300x85	Type 0	46
F061/FP	6m	76	146	300x85	Type 1	75
F081/FP	8m	76	170	600x115	Type 2	101
F101/FP	10m	76	193	600x115	Type 2	112
F121/FP	12m	100	220	600x115	Type 2	282

For complete headload data please refer to data sheets on www.abacuslighting.com/base-hinged-fixed-columns.asp

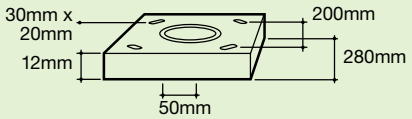
CONICAL

4-8M CONICAL STEEL

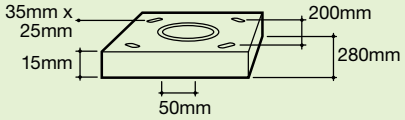
Designed to EN40. Hot dip galvanised to BS EN ISO 1461:2009

Flange Plate

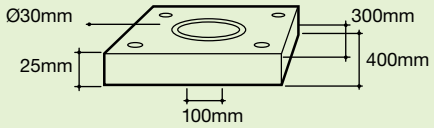
Type 0/S FA000G Bolts/cross brace M16 x 500mm
FC020 Template



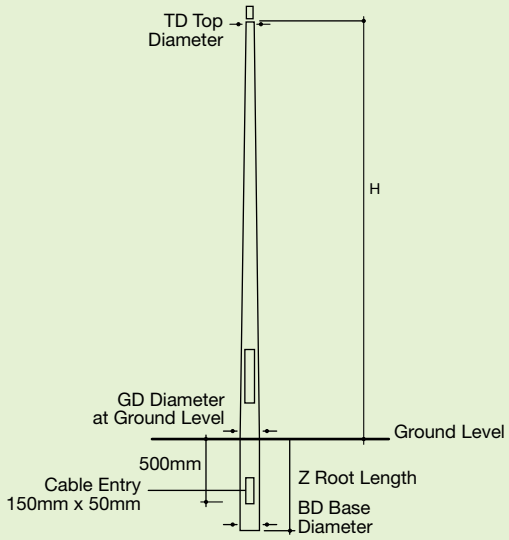
Type 1 FA001G Bolts/cross brace M20 x 500mm
FC021 Template



Type 2 FA002G Bolts/cross brace M24 x 600mm
FC022 Template



Column Dimensions



Accessories	**ELSAB1/6A** Single fuse cut-out, 6A, loop in/out (not fitted) **ELSAB12/6A** Twin fuse cut-out, 6A, loop in/out (not fitted)

Brackets	**Luminaires are typically post top mounted. If a bracket is required, contact the Abacus sales office.**

Root Mounted

Product Code	Height	TD	GD	BD	z	Max. Head Capacity Post Top (PT) or Side Entry (SE) (kg)	Door Opening	Weight (kg)	OTM (kNm)	Shear (kN)	Min. Concrete Diameter*
CS040	4m	60	107	114	600	35 (PT)	200x75	29	4.3	1.2	1217
CS050	5m	60	118	127	800	35 (PT)	300x85	41	4.9	1.2	594
CS051	5m	76	134	144	800	50 (PT) 10 (SE)	300x85	46	7.0	1.7	842
CS060	6m	60	131	142	1000	35 (PT)	300x85	51	6.5	1.4	408
CS061	6m	76	146	158	1000	50 (PT) 10 (SE)	300x85	59	8.9	1.7	543
CS081	8m	76	169	183	1200	50 (PT) 12 (SE)	600x115	115	12.5	2.0	446

*Root concrete diameter based on poor soil or better, min. 230kN/m² per m

Flange Plate Mounted

Product Code	Height	TD	GD	Max. Head Capacity Post Top (PT) or Side Entry (SE) (kg)	Door Opening	Flange Plate	Weight (kg)	OTM (kNm)	Shear (kN)	Concrete Dimension*
CS040/FP	4m	60	107	35 (PT)	200x75	Type 0/S	29	4.3	1.2	750 x 800
CS050/FP	5m	60	119	35 (PT)	300x85	Type 0/S	45	4.9	1.2	750 x 800
CS051/FP	5m	76	134	50 (PT) 10 (SE)	300x85	Type 0/S	48	7.0	1.7	850 x 950
CS060/FP	6m	60	131	35 (PT)	300x85	Type 0/S	49	6.5	1.4	850 x 950
CS061/FP	6m	76	146	50 (PT) 10 (SE)	300x85	Type 1	59	8.8	1.7	900 x 950
CS081/FP	8m	76	169	50 (PT) 12 (SE)	600x115	Type 2	93	12.5	2.0	950 x 1100

*Concrete dimension based on a minimum ground bearing pressure of 150kN/m², (S = square dimension, H = depth)
For complete headload data please refer to data sheets on www.abacuslighting.com/base-hinged-fixed-columns.asp

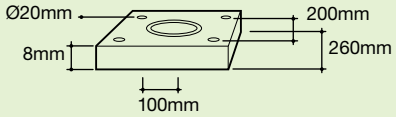
CONICAL

4-6M CONICAL ALUMINIUM

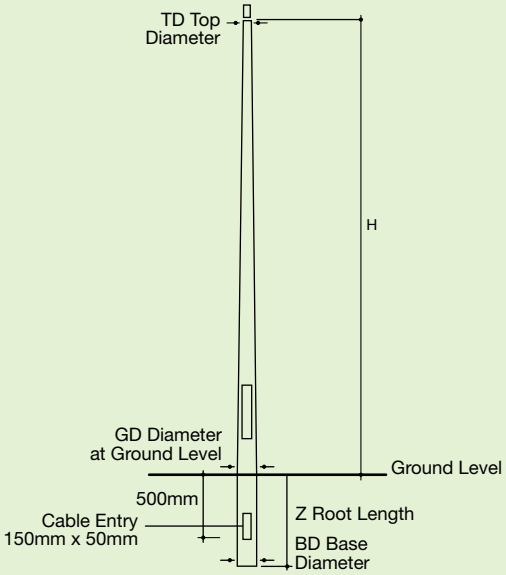
Designed to EN40. Finished as standard, or with optional anodised treatment

Flange Plate

Type C FA00C 4xM18



Column Dimensions



Accessories

ELSAB1/6A Single fuse cut-out, 6A, loop in/out (not fitted)
ELSAB12/6A Twin fuse cut-out, 6A, loop in/out (not fitted)

Brackets **Luminaires are typically post top mounted. If a bracket is required, contact the Abacus sales office.**

Root Mounted

Product Code	Height	TD	GD	BD	z	Door Opening	Weight (kg)	Min. Concrete Diameter*
CA040	4m	60	120	130	800	400x95	13.4	0.30
CA050	5m	60	120	130	800	400x95	17.4	0.35
CA060	6m	60†	146	160	800	400x95	29.6	0.30

*Root mounted columns come fitted as standard with a polyurethane protection sleeve on the root, to 250mm above ground level (colour light grey)
†Integral 60mm spigot, 180mm length

Flange Plate Mounted

Product Code	Height	TD	GD	Door Opening	Flange Plate	Weight (kg)	Concrete Dimension*
CA040/FP	4m	60	120	400x95	Type C	14.4	650 x 750
CA050/FP	5m	60	120	400x95	Type C	18.4	650 x 750
CA060/FP	6m	60	120	400x95	Type C	22.5	650 x 750

*Concrete dimension based on a minimum ground bearing pressure of 150kN/m², (S = square dimension, H = depth)
For complete headland data please refer to data sheets on www.abacuslighting.com/base-hinged-fixed-columns.asp

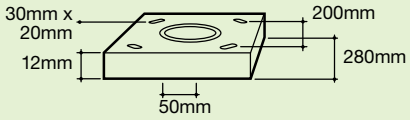
STRAIGHT TUBULAR

3-6M TUBULAR STEEL

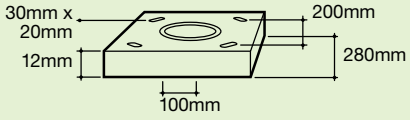
Designed to EN40. Hot dip galvanised to BS EN ISO 1461:2009. Manufactured in steel tube to EN10210

Flange Plate

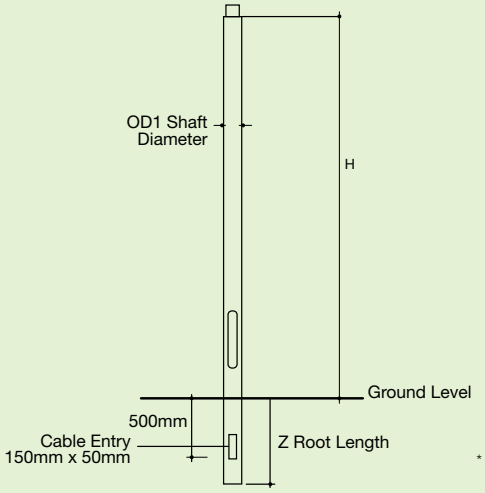
Type 0/S FA000G Bolts/cross brace M16 x 500mm
FC020 Template



Type 0 FA000G Bolts/cross brace M16 x 500mm
FC020 Template



Column Dimensions



* flush door available only on 114mm shaft.

Root Mounted

Product Code	Height	OD1	Internal Dimensions	Internal Dimensions	z	Door Opening	Weight (kg)	Min. Concrete Diameter*
Dimensions (mm)								
S030	3m	60	–	–	600	–	15	400
S040	4m	60	–	–	600	–	20	400
S040/114/FD†	4m	114	60	84	600	380x65	40	500
S050	5m	60	–	–	800	–	26	400
S050/114/FD†	5m	114	60	84	800	380x65	50	500
S060	6m	76	–	–	1000	–	38	400
S060/114/FD†	6m	114	60	84	1000	380x65	60	500

*Root concrete diameter based on poor soil or better, min. 230kN/m² per m
†Top reduction spigot available to suit lantern

Flange Plate Mounted

Product Code	Height	OD1	Internal Dimensions	Internal Dimensions	Door Opening	Flange Plate	Weight (kg)	Concrete Dimension*
Dimensions (mm)								
S030/FP	3m	60	–	–	–	Type 0/S	21	650 x 750
S040/FP	4m	60	–	–	–	Type 0/S	26	650 x 750
S040/114/FPFD†	4m	114	60	84	380x65	Type 0	39	750 x 800
S050/FP	5m	60	–	–	–	Type 0/S	31	650 x 750
S050/114/FPFD†	5m	114	60	84	380x65	Type 0	49	750 x 800
S060/FP	6m	76	–	–	–	Type 0/S	41	650 x 750
S060/114/FPFD†	6m	114	60	84	380x65	Type 0	59	750 x 800

*Concrete dimension based on a minimum ground bearing pressure of 150kN/m², (S = square dimension, H = depth)
†Top reduction spigot available to suit lantern
For complete information on foundation options please refer to www.abacuslighting.com/base-hinged-fixed-columns.asp

COMPOSITE COLUMNS

3-10M GRP COLUMNS

Manufactured in glass-fibre reinforced polyester (GRP)

A safe, non-conductive alternative to concrete and steel

Our Glass-fibre Reinforced Polyester (GRP) column range can be used in numerous ways, from use in public lighting systems, to telecommunications, to carrying low and medium voltage power lines. These columns suit a variety of sectors, providing a passively safe, non-conductive alternative to concrete and steel.

Our GG range of GRP columns cater for heights of 3-10 metres. They can be installed with a flange plate option, or root mounted depending on ground conditions or preference.

GRP Column Benefits

- Maintenance free, columns do not rust and are resistant to atmospheric agents
- Non-conductive properties remove any requirement for electrical insulation
- Four times lighter than steel, ideal for complex installations
- Strong physical properties make GRP an excellent substitute for steel
- Columns are constructed in their chosen colour, scratches or damage will not compromise the aesthetics

GRP does not conduct electricity, it is an insulator. As our columns are constructed entirely from GRP, they are a class 2 product. Being Class 2, our columns require no electrical earthing connection, therefore affording savings on installation. There is no risk of electrocution from touching the column, making it an ideal solution for low / medium voltage areas.

Colours

Smooth finish

White RAL9003	Telegray RAL7045	Black RAL9005	Fir Green RAL6009

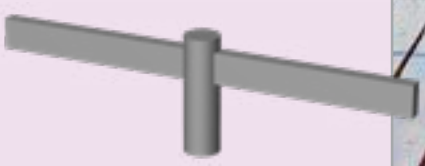
Textured finish

Metallic Grey REF9906	Dark Grey REF9923	Black REF9905	Green REF6012

Bracket options

Straight arm measuring up to 0.60m in length that can be fitted to columns with 60 & 78 mm diameter.
Supplied with 0° or 5° angle

Straight double arm measuring up to 1.20m in length that can be fitted to columns with 78 mm diameter.



Straight rectangular-section double arm measuring up to 1.20m in length for 2 or 3 floodlights. Suitable for columns with 78 mm diameter.

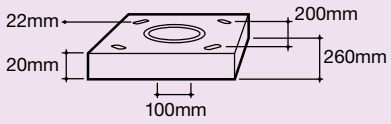
GG SERIES

3-10M GRP COLUMN

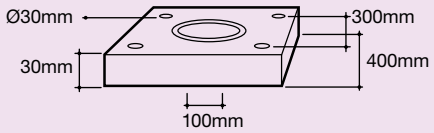
Manufactured in glass-fibre reinforced polyester (GRP)

Flange Plate

Type 1 GRP FA001G Bolts/cross brace M20 x 500mm
FC021 Template



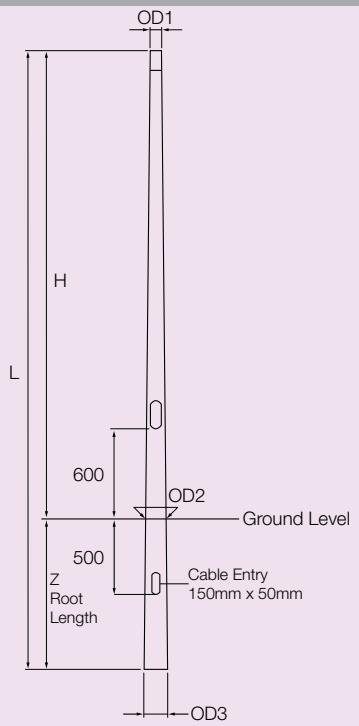
Type 2 GRP FA002G Bolts/cross brace M24 x 600mm
FC022 Template



Accessories

ELSAB1/6A Single fuse cut-out, 6A, loop in/out (not fitted)
ELSAB12/6A Twin fuse cut-out, 6A, loop in/out (not fitted)

Column Dimensions



Root Mounted

Product Code	Height	Length	OD1	OD2	OD3	Z	Max. Head Capacity Post Top (PT) or Side Entry (SE) (kg)	Door Opening	Weight (kg)	OTM (kNm)	Shear (kN)	Min. Concrete Diameter*
GG050	5m	6m	60	150	168	1000	30 (PT)	200x75	21	4.1	1.1	260
GG060	6m	7m	60	168	186	1000	30 (PT)	300x85	33	4.9	1.1	300
GG080	8m	9m	60	204	222	1000	30 (PT)	300x85	47	6.8	1.3	400

*Root concrete diameter based on poor soil or better, min. 230kN/m² per m

Flange Plate Mounted

Product Code	Height	OD1	OD2	Max. Head Capacity Post Top (PT) or Side Entry (SE) (kg)	Door Opening	Flange Plate	Weight (kg)	OTM (kNm)	Shear (kN)	Concrete Dimension*
GG050/FP	5m	60	150	30 (PT)	200x75	Type 1	25	4.1	1.1	1000 x 700
GG060/FP	6m	60	168	30 (PT)	300x85	Type 2	31	4.9	1.1	1000 x 700
GG080/FP	8m	60	204	30 (PT)	300x85	Type 2	47	6.8	1.3	1150 x 800

*Concrete dimension based on a minimum ground bearing pressure of 150kN/m², (S = square dimension, H = depth)

Column Headload Capacity (m^2)

Based on UK rationalised wind loading factors for EN40

Product Code	Lantern Mounting/Projection	Max. Headload (kg)	Light 396	Medium 429	Heavy 466	Extra Heavy 576
GG050	Post Top	30	0.744	0.678	0.614	0.473
	0.25m Single Outreach	10	0.753	0.683	0.617	0.474
	0.50m Single Outreach	10	0.699	0.606	0.547	0.416
	0.25m Double Outreach	10	0.391	0.354	0.320	0.245
	0.50m Double Outreach	10	0.391	0.354	0.318	0.240
GG060	Post Top	30	0.683	0.617	0.555	0.422
	0.25m Single Outreach	10	0.696	0.629	0.566	0.430
	0.50m Single Outreach	10	0.619	0.558	0.501	0.377
	0.25m Double Outreach	10	0.365	0.330	0.297	0.226
	0.50m Double Outreach	10	0.362	0.326	0.292	0.218
GG080	Post Top	30	0.581	0.523	0.469	0.352
	0.25m Single Outreach	10	0.669	0.603	0.541	0.407
	0.50m Single Outreach	10	0.671	0.604	0.541	0.404
	0.25m Double Outreach	10	0.298	0.268	0.239	0.176
	0.50m Double Outreach	10	0.290	0.258	0.228	0.164

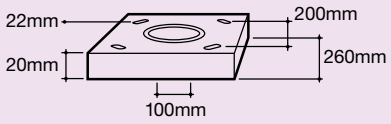
GT SERIES

3-10M GRP COLUMN

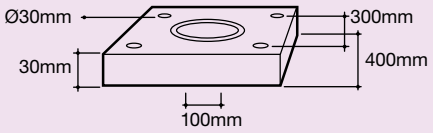
Manufactured in glass-fibre reinforced polyester (GRP)

Flange Plate

Type 1 GRP FA001G Bolts/cross brace M20 x 500mm
FC021 Template



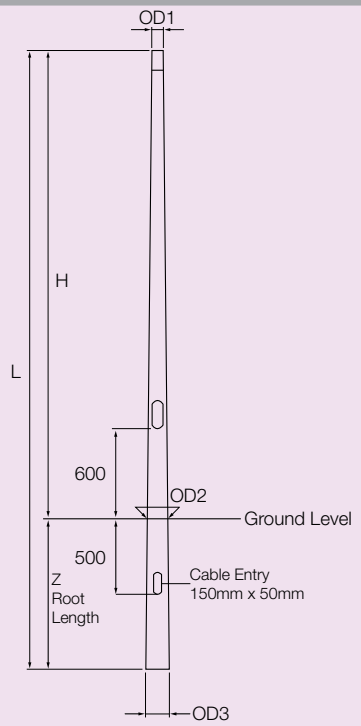
Type 2 GRP FA002G Bolts/cross brace M24 x 600mm
FC022 Template



Accessories

ELSAB1/6A Single fuse cut-out, 6A, loop in/out (not fitted)
ELSAB12/6A Twin fuse cut-out, 6A, loop in/out (not fitted)

Column Dimensions



Root Mounted

Product Code	Height	Length	OD1	OD2	OD3	Z	Max. Head Capacity Post Top (PT) or Side Entry (SE) (kg)	Door Opening	Weight (kg)	OTM (kNm)	Shear (kN)	Min. Concrete Diameter*
GT050	5m	6m	60	150	168	1000	30 (PT)	200x75	28	4.6	1.2	300
GT060	6m	7m	60	168	186	1000	30 (PT)	300x85	38	5.4	1.2	330
GT080	8m	9m	60	204	222	1000	30 (PT)	300x85	53	7.2	1.3	430

*Root concrete diameter based on poor soil or better, min. 230kN/m² per m

Flange Plate Mounted

Product Code	Height	OD1	OD2	Max. Head Capacity Post Top (PT) or Side Entry (SE) (kg)	Door Opening	Flange Plate	Weight (kg)	OTM (kNm)	Shear (kN)	Concrete Dimension*
GT050/FP	5m	60	150	30 (PT)	200x75	Type 1	23	4.6	1.2	800 x 800
GT060/FP	6m	60	168	30 (PT)	300x85	Type 2	38	5.4	1.2	850 x 800
GT080/FP	8m	60	204	30 (PT)	300x85	Type 2	55	7.2	1.3	1000 x 800

*Concrete dimension based on a minimum ground bearing pressure of 150kN/m², (S = square dimension, H = depth)

Column Headload Capacity (m^2)

Based on UK rationalised wind loading factors for EN40

Product Code	Lantern Mounting/Projection	Max. Headload (kg)	Light 396	Medium 429	Heavy 466	Extra Heavy 576
GT050	Post Top	30	0.880	0.803	0.730	0.571
	0.25m Single Outreach	10	0.932	0.849	0.771	0.599
	0.50m Single Outreach	10	0.824	0.750	0.679	0.525
	0.25m Double Outreach	10	0.463	0.422	0.382	0.296
	0.50m Double Outreach	10	0.467	0.424	0.383	0.293
GT060	Post Top	30	0.789	0.718	0.650	0.504
	0.25m Single Outreach	10	0.900	0.819	0.742	0.574
	0.50m Single Outreach	10	0.917	0.834	0.754	0.581
	0.25m Double Outreach	10	0.411	0.373	0.337	0.258
	0.50m Double Outreach	10	0.410	0.370	0.333	0.251
GT080	Post Top	30	0.649	0.586	0.528	0.401
	0.25m Single Outreach	10	0.744	0.673	0.606	0.460
	0.50m Single Outreach	10	0.748	0.675	0.607	0.458
	0.25m Double Outreach	10	0.334	0.301	0.269	0.201
	0.50m Double Outreach	10	0.326	0.292	0.260	0.190

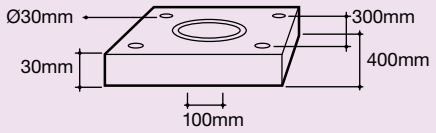
GS SERIES

3-10M GRP COLUMN

Manufactured in glass-fibre reinforced polyester (GRP)

Flange Plate

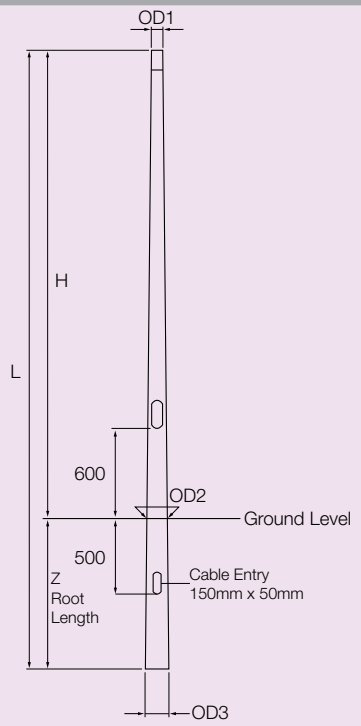
Type 2 GRP FA002G Bolts/cross brace M24 x 600mm
FC022 Template



Accessories

ELSAB1/6A Single fuse cut-out, 6A, loop in/out (not fitted)
ELSAB12/6A Twin fuse cut-out, 6A, loop in/out (not fitted)

Column Dimensions



Root Mounted

Product Code	Dimensions (mm) Height	Length	OD1	OD2	OD3	Z	Max. Head Capacity Post Top (PT) or Side Entry (SE) (kg)	Door Opening	Weight (kg)	OTM (kNm)	Shear (kN)	Min. Concrete Diameter*
GS050	5m	6m	78	168	186	1000	30 (PT)	300x85	40	4.4	1.1	275
GS060	6m	7m	78	186	204	1000	30 (PT)	300x85	48	7.5	1.5	460
GS080	8m	9m	78	222	240	1000	30 (PT)	300x85	70	10.2	1.7	600

*Root concrete diameter based on poor soil or better, min. 230kN/m² per m

Flange Plate Mounted

Product Code	Dimensions (mm) Height	OD1	OD2	Max. Head Capacity Post Top (PT) or Side Entry (SE) (kg)	Door Opening	Flange Plate	Weight (kg)	OTM (kNm)	Shear (kN)	Concrete Dimension*
GS050/FP	5m	78	168	30 (PT)	300x85	Type 2	38	4.4	1.1	800 x 800
GS060/FP	6m	78	186	30 (PT)	300x85	Type 2	50	7.5	1.5	1000 x 850
GS080/FP	8m	78	222	30 (PT)	300x85	Type 2	74	10.2	1.7	1000 x 900

*Concrete dimension based on a minimum ground bearing pressure of 150kN/m², (S = square dimension, H = depth)

Column Headload Capacity (m^2)

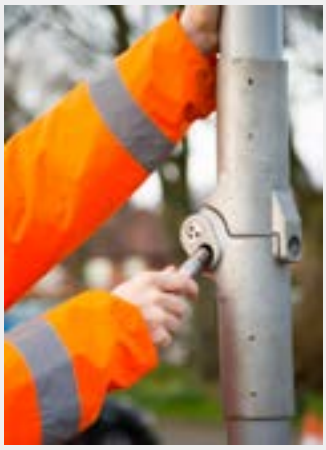
Based on UK rationalised wind loading factors for EN40

Product Code	Lantern Mounting/Projection	Max. Headload (kg)	Light 396	Medium 429	Heavy 466	Extra Heavy 576
GS050	Post Top	30	0.876	0.798	0.724	0.567
	0.25m Single Outreach	10	0.881	0.801	0.727	0.568
	0.50m Single Outreach	10	0.804	0.730	0.661	0.512
	0.25m Double Outreach	10	0.490	0.445	0.403	0.312
	0.50m Double Outreach	10	0.468	0.424	0.382	0.291
GS060	Post Top	30	1.261	1.152	1.050	0.829
	0.25m Single Outreach	10	1.263	1.154	1.051	0.828
	0.50m Single Outreach	10	1.150	1.049	0.955	0.749
	0.25m Double Outreach	10	0.721	0.658	0.598	0.469
	0.50m Double Outreach	10	0.697	0.634	0.575	0.447
GS080	Post Top	30	1.148	1.048	0.954	0.749
	0.25m Single Outreach	10	1.289	1.176	1.070	0.840
	0.50m Single Outreach	10	1.297	1.181	1.071	0.830
	0.25m Double Outreach	10	0.598	0.544	0.494	0.385
	0.50m Double Outreach	10	0.596	0.542	0.490	0.379

YORK HINGE COLUMN

The York Hinge converts a standard fixed column into a raising and lowering column. Complementing our existing base-hinged range, York Hinge columns are ideal for use in areas that are inaccessible with bulky equipment or have no room available for our standard raise and lower column to be installed.

- Vandal resistant design requiring two specific security keys for access and operation
- No requirement for additional equipment such as a counterbalance / winch due to internal spring and hinge design
- Ongoing finanacial costs are kept low due to the maintenance free design of the hinge
- Ideal for use in inaccessible areas such as bridges or petrochemical platforms where the standard raise and lower column cannot be used
- Can be retrofitted to existing columns with a 76mm diameter shaft



YORK HINGE COLUMN

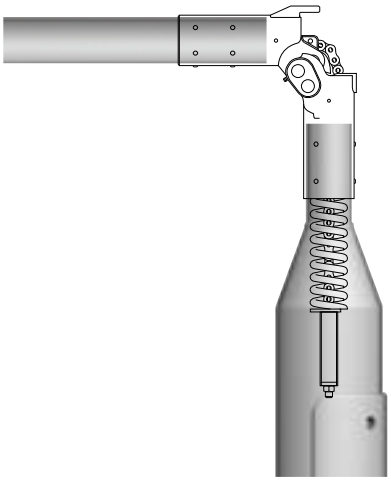
FOR COLUMNS UP TO 6M

Converts a fixed column with 76mm diameter shaft into a mid-hinged column

The York Hinge is a self-contained raise and lower column that can be safely operated by a single person without additional equipment such as a winch or counterbalance.

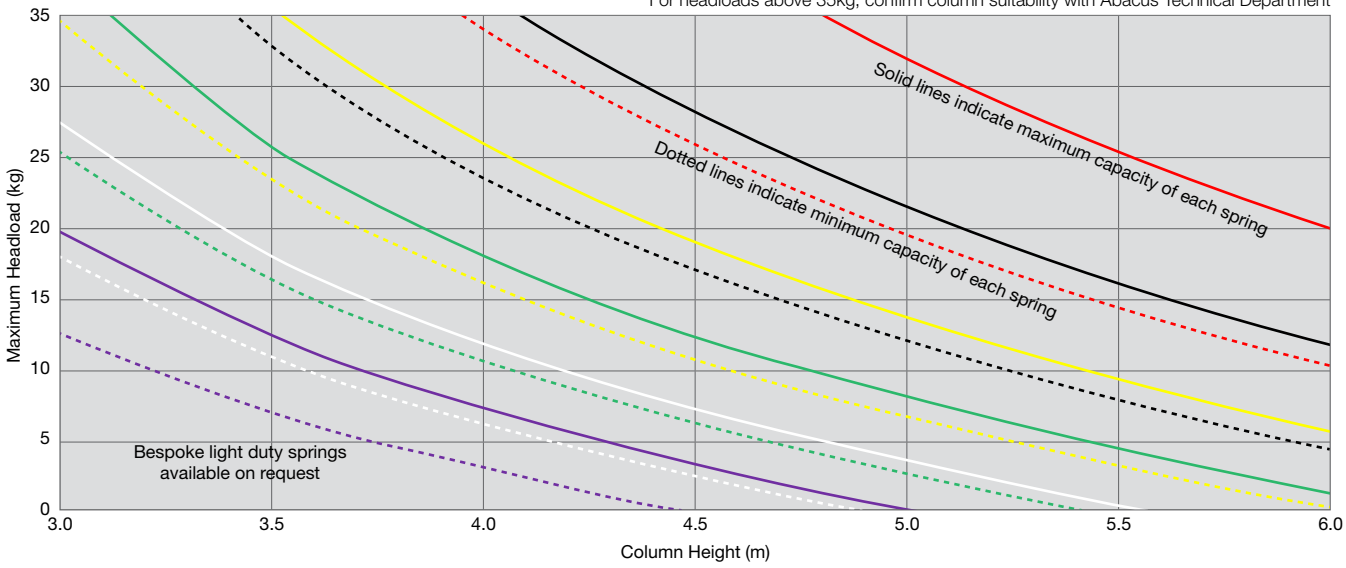
An internal spring controls the lowering of the column in any set direction, and unlike traditional mid-hinged columns, there is no outward swing from the hinged position. Six types of adjustable internal spring are available to cater for a range of headloads and column heights, with a maximum headload of 35kg (see below chart). Onsite adjustments can be made to the internal spring via the lockable column door.

Specially designed security keys ensure that only authorised personnel are able to unlock and operate the York Hinge. A vandal resistant security bolt locks the hinge securely in place in its upright position.



Headload Capacity by spring type

For headloads above 35kg, confirm column suitability with Abacus Technical Department



Headload Capacity (m^2)

Product Code	Lantern Mounting / Projection	Light 396	Medium 429	Heavy 466	Extra Heavy 576
TB031YH	Post Top	2.246	2.051	1.875	1.509
	0.25m Single Outreach	1.846	1.670	1.529	1.226
	0.50m Single Outreach	1.548	1.387	1.270	1.016
TB041YH	Post Top	1.250	1.123	1.025	0.811
	0.25m Single Outreach	1.084	0.962	0.879	0.693
	0.50m Single Outreach	0.947	0.830	0.757	0.596
TB050YH	Post Top	0.672	0.609	0.548	0.417
	0.25m Single Outreach	0.697	0.631	0.369	0.434
	0.50m Single Outreach	0.625	0.564	0.507	0.383
TB060YH	Post Top	0.407	0.361	0.317	0.222
	0.25m Single Outreach	0.376	0.335	0.296	0.212
	0.75m Single Outreach	0.315	0.279	0.245	0.171

PAINT SHOP FACILITY

COLUMN FINISHING & PROTECTION OPTIONS

Abacus offers a wide range of paint finishes designed to suit the requirements of our customers. The following finishes are applied to the column once the column has been hot dip galvanised in accordance with the British and European standard, EN1461. Many of the paint finishes are applied at Abacus' paint shop facility.

Finish	Code	Specification
Spray Paint Finish	/2Pxxxx	Standard Abacus finish comprises a compliant 2-pack acrylic spray paint finish applied over the column. 190 micron wet film thickness, minimum 120 micron dry film thickness. xxxx denotes customer RAL choice. Required durability of system: No maintenance in first 8 years, minor maintenance between years 8 to 15, major maintenance after 15 years.
Marine Environment Finish	/MCxxxx	A highly durable finish applied to galvanised columns to be located in or near marine (saline and corrosive) atmospheric conditions. System type: spray paint 2-pack glass reinforced epoxy finish is applied to the column, then followed by a poly siloxane coating. xxxx denotes customer RAL choice. Required durability of system: No maintenance in first 10 years, minor maintenance between years 10 to 25, major maintenance after 25 years.
Polyester Powder Coat	/xxxx	To form a polyester powder coating, only the paint solids are sprayed onto the product, in an atomised powder form. The powder is drawn to the product and adheres due to an electrostatic charge applied to the powder during spraying. The column is then heated to 200 degrees Celsius in an oven, forcing the powder to fuse to the product, forming a smooth, tough and resilient coating. This provides an even and durable finish over the galvanised steel surface. xxxx denotes customer RAL choice. Required durability of system: Long life system with excellent weather-proof characteristics. Damaged areas cannot, however, be repaired due to the nature of the coating.
Anti-graffiti/ Anti-fly Poster Coating	/AGxxxx	This anti-graffiti non stick surface coating, when combined with a suitable cleaning technology, allows the removal of graffiti without altering the original surface finish. The coating provides a 70 micron dry film finish, and has a textured surface. The system is highly resistant to many different kinds of marker pens and aerosols, as well as providing a non-stick surface to deter fly posters, and offers a hard wearing surface finish. AGxxxx denotes customer RAL choice. Required durability of system: Long term life of 25-30 years. Available in RAL, BS or any special colour available.
G1 System	/G1	A Highways Agency specification which provides for a 3-coat (including mordant T-wash on galvanised surface) painted root.
G2a G2b	/G2A /G2B	Highways Agency specified 4 and 5-coat systems applied manually over the full length of the column.
Bitumen Root	/GB	Black bitumen coating is applied to the column root, to a height of xxmm above ground level (unless otherwise specified). Benefits: Additional protection of the root against corrosion.

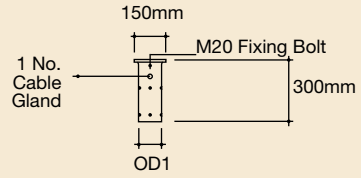
FLOODLIGHTING BRACKETS

SINGLE, DOUBLE, TRIPLE

Hot dip galvanised to BS EN ISO 1461:2009

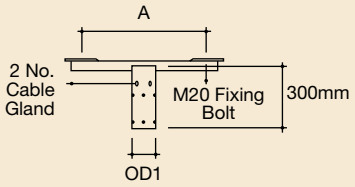
Single

Grub screws, fixing bolts & cable glands included



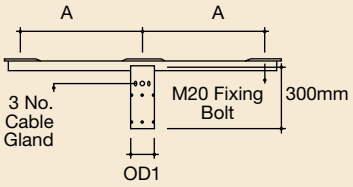
Double

Grub screws, fixing bolts & cable glands included



Triple

Grub screws, fixing bolts & cable glands included



Technical Data

Dimensions (mm) Ref	Type	To Fit Shaft or Spigot Ø	OD1	A	Approx Weight (kg)
FL1/1	Single	76	89	-	3.0
FL1/2	Double	76	89	600	6.0
FL1/3	Double	76	89	800	7.0
FL1/4	Triple	76	89	600	10.0
FL1/5	Triple	76	89	800	11.5
FL2/1	Single	89	101	-	4.0
FL2/2	Double	89	101	600	7.5
FL2/3	Double	89	101	800	8.0
FL2/4	Triple	89	101	600	10.5
FL2/5	Triple	89	101	800	12.0
FL5/1	Single	102	114	-	3.0
FL5/2	Double	102	114	600	6.75
FL5/3	Double	102	114	800	7.5
FL5/4	Triple	102	114	600	10.0
FL5/5	Triple	102	114	800	12.0
FL4/1	Single	114	127	-	5.5
FL4/2	Double	114	127	600	9.0
FL4/3	Double	114	127	800	10.5
FL4/4	Triple	114	127	600	12.0
FL4/5	Triple	114	127	800	13.5
FL3/1	Single	127	140	-	5.5
FL3/2	Double	127	140	600	9.0
FL3/3	Double	127	140	800	10.0
FL3/4	Triple	127	140	600	12.0
FL3/5	Triple	127	140	800	14.0
FL7/1	Single	152	168	-	6.0
FL7/2	Double	152	168	600	9.5
FL7/3	Double	152	168	800	11.0
FL7/4	Triple	152	168	800	12.5
FL7/5	Triple	152	168	800	14.0

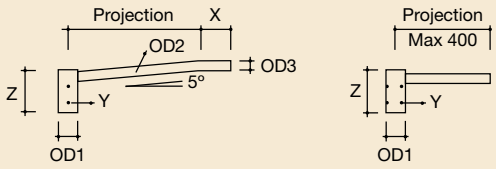
OUTREACH BRACKETS

SINGLE & DOUBLE PROJECTION

Hot dip galvanised to BS EN ISO 1461:2009

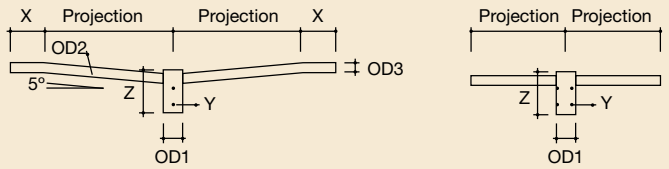
Single Projection

Grub screws included



Double Projection

Grub screws included



OD2: standard Ø 42mm. For 48mm insert /48. For 60mm insert /60, following product codes below.

Y = 2 rows of 3 No. M10 grub screws (89 & below), 2 rows of 4 No. M10 grub screws (114 & below).

NOTE: Perpendicular arm on brackets up to 400mm

Technical Data

Dimensions (mm)

Ref	To Fit Projection	To Fit Shaft or Spigot Ø	OD1	OD2	Z	Single Projection Approx Weight (kg)	Double Projection Approx Weight (kg)
PR1-03/S & D	300	60	-	42	195	2.0	3.0
PR1-05/S & D	500	60	76	42	350	2.5	4.5
PR1-10/S & D	1000	60	76	42	350	4.5	7.0
PR1-15/S & D	1500	60	76	42	350	6.0	10.0
PR2-03/S & D	300	76	-	42	195	2.2	3.1
PR2-05/S & D	500	76	89	42	350	3.0	4.5
PR2-10/S & D	1000	76	89	42	350	4.5	7.0
PR2-15/S & D	1500	76	89	42	350	6.0	10.0
PR4-03/S & D	300	89	-	42	-	4.0	4.9
PR4-05/S & D	500	89	101	42	350	4.0	5.5
PR4-10/S & D	1000	86	101	42	350	5.5	8.0
PR4-15/S & D	1500	89	101	42	350	7.0	11.0
PR4-20/S & D	2000	89	101	48	350	10.0	17.0
PR5-05/S & D	500	127	140	42	350	5.6	6.9
PR5-10/S & D	1000	127	140	42	350	6.9	9.5
PR5-15/S & D	1500	127	140	42	350	8.5	12.4
PR6-03/S & D	300	114	-	42	-	5.1	5.9
PR6-05/S & D	500	114	127	42	350	5.5	7.0
PR6-10/S & D	1000	114	127	42	350	7.0	9.5
PR6-15/S & D	1500	114	127	42	350	8.5	12.5
PR6-20/S & D	2000	114	127	48	350	11.5	18.5
PR6-25/S & D	2500	114	127	60	350	16.0	27.5
PR6-30/S & D	3000	114	127	60	350	18.0	31.5
PR7-03/S & D	300	102	114	42	350	4.8	5.8
PR7-05/S & D	500	102	114	42	350	5.2	6.1
PR7-10/S & D	1000	102	114	42	350	7.3	8.4
PR7-15/S & D	1500	102	114	42	350	10.4	11.6
PR8-05/S & D	500	152	168	42	350	5.0	6.5
PR8-10/S & D	1000	152	168	42	350	9.1	6.4
PR8-15/S & D	1500	152	168	42	350	7.8	11.9

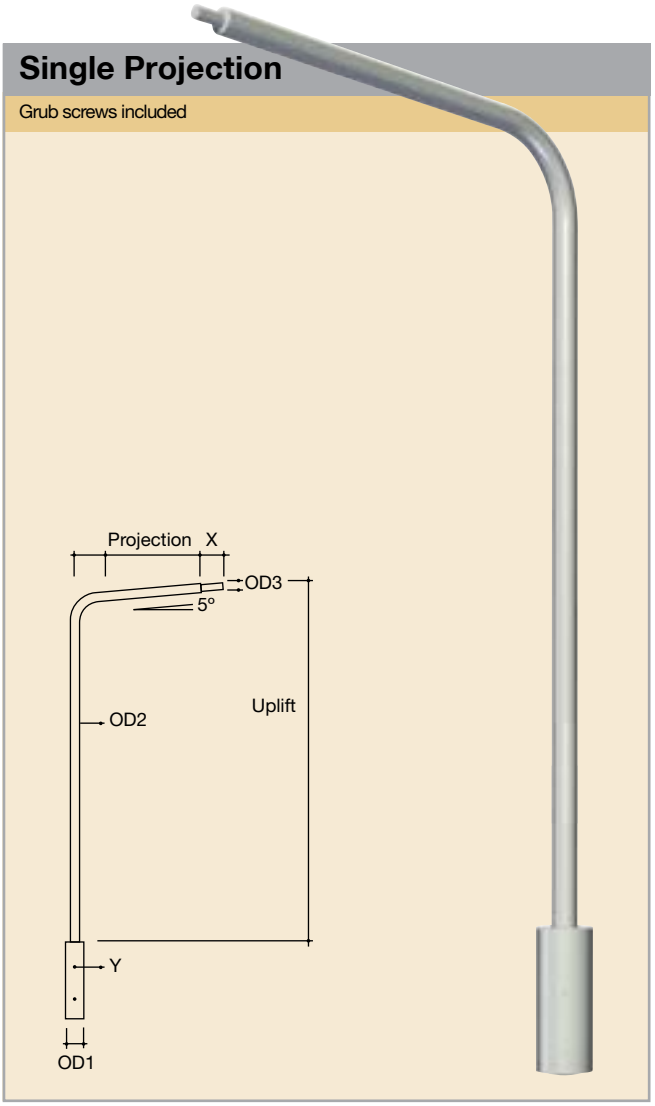
UPLIFT BRACKETS

SINGLE & DOUBLE PROJECTION

Hot dip galvanised to BS EN ISO 1461:2009

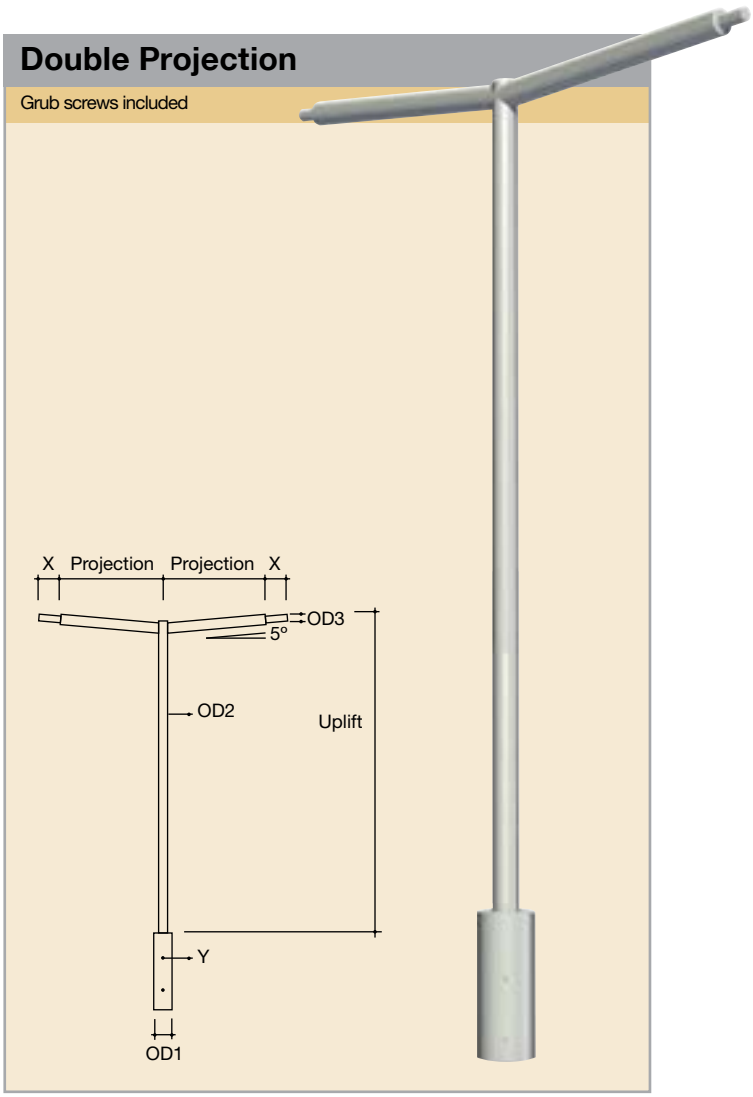
Single Projection

Grub screws included



Double Projection

Grub screws included



X = 100mm standard.
Y = 2 rows of 4 No. M10 grub screws. Fits to standard 76mm spigot (product code/SP), length = 230mm.

Technical Data

Dimensions (mm) Ref	To Fit Projection	To Fit Uplift	To Fit Shaft or Spigot Ø	OD1	OD2	OD3	Single Projection Approx Weight (kg)	Double Projection Approx Weight (kg)
PU1-0510/S & D	500	1000	76	89	48	42	8.5	10.5
PU1-1010/S & D	1000	1000	76	89	48	42	11.0	15.5
PU1-1020/S & D	1000	2000	76	89	48	42	15.0	19.5
PU1-1520/S & D	1500	2000	76	89	48	42	17.5	23.5
PU1-2020/S & D	2000	2000	76	89	48	42	20.0	29.0

SPORTS COLUMN RANGE

8-12M BASE-HINGED & FIXED COLUMNS

Factory fitted with control gear and protection equipment

The path to easy, safe long-life maintenance

Abacus Lighting is one of the world's leading specialist sports floodlighting companies, from design, through to manufacture, supply, installation and maintenance.

With knowledge and expertise from our team of qualified engineers, Abacus offers its range of base-hinged and fixed columns as part of a range of fully fitted installation-ready products.

Fully Fitted & Wired Columns

In conjunction with flat glass low light pollution Challenger floodlights, the base-hinged column offers an easy maintenance solution, overcoming 2 key difficulties:

1. Health & safety issues, as they allow ground level maintenance access with the use of the counterbalance operating unit, rather than cherry picker or ladder access
2. Avoiding damage to delicate surfaces by not requiring heavy plant to be transported over the grass or artificial surface to carry out maintenance operations (lamp change and glass cleaning)

The columns are delivered to site ready fitted with either 1kW or 2kW control gear, complete with a connection box incorporating 16A single or twin MCBs (miniature circuit breakers).

The 2.5mm² floodlight flex (or flexes) is wired into the connection box and fed up through the column, looped securely at the column top in preparation for installation.

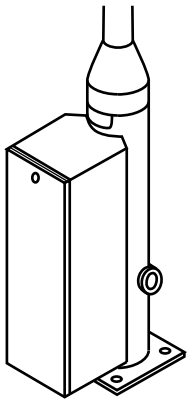
Base-Hinged Medium Duty
168mm base

400W Floodlight

For 400W floodlighting installations, where the control gear is integral within the floodlight, the standard column can be supplied with a separate fuse cut-out fitted with a 10A fuse (code ELSAB1/10A for single floodlight, ELSAB12/10A for twin floodlights).

1 Set of Control Gear

Where the column is carrying one (A) or two (B) 1kW floodlights (see column pages for head and wind load capacities), the control gear is mounted in a purpose designed steel galvanised box fitted to the column base. The door is fitted with a lock. The connection box with single or twin MCBs is mounted in the column base, accessed by lowering the column.



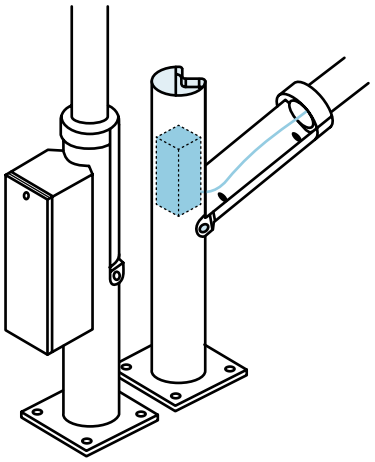
Base-Hinged Heavy Duty
219mm base

1 Set of Control Gear

Where the column is carrying one 1kW (A) or 2kW (C) floodlight (see column pages for full wind loading capacities), the control gear is mounted in the base of the column, accessed by lowering the column. The connection box with a single MCB is mounted in the lower column door. Max. 16mm² incoming cable, loop in/out.

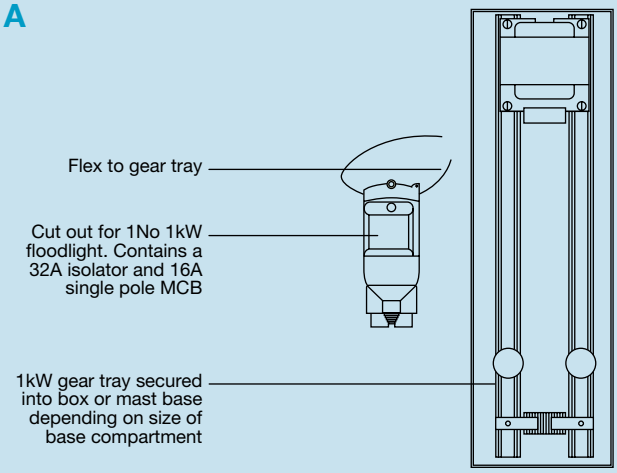
2 Sets of Control Gear

Where the column is carrying 2 sets of 1kW (B) or 2kW (D) floodlights (see column pages for full wind loading capacities), the control gear is mounted in a purpose designed steel galvanised box fitted to the column base. The door is fitted with a lock. The connection box with twin MCBs is mounted in the column base, accessed by lowering the column. 2.5mm² flex is fitted between the control gear and the top of column, looped securely ready for installation.

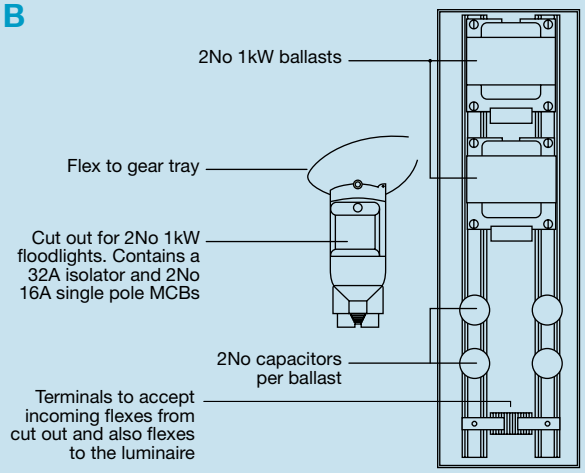


Floodlight Schematic Wiring Diagram (1kW)

A

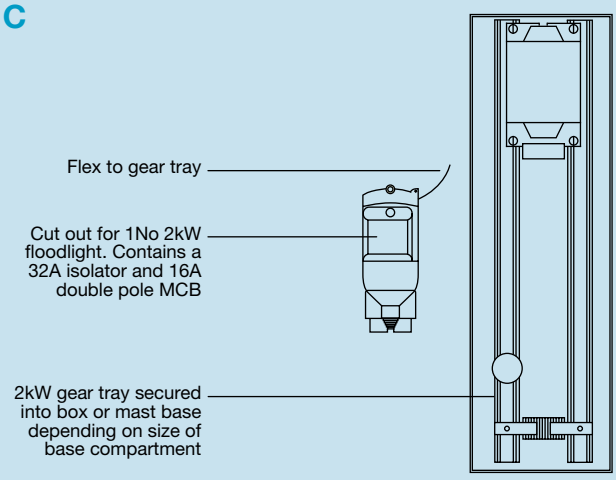


B

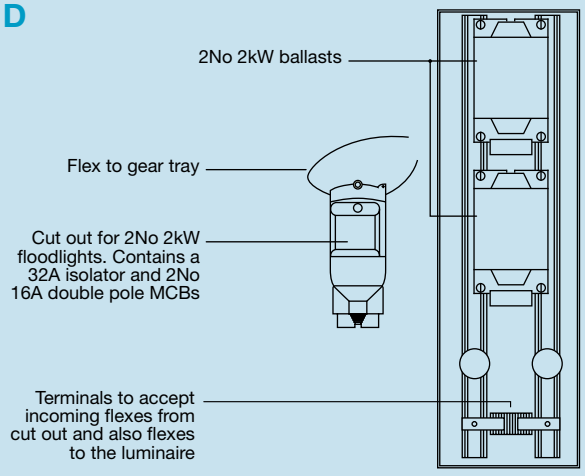


Floodlight Schematic Wiring Diagram (2kW)

C



D



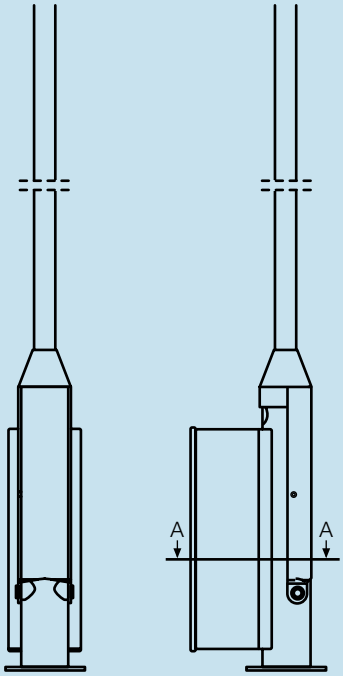
SPORTS COLUMN

8-12M BASE-HINGED

Fully fitted and ready for installation

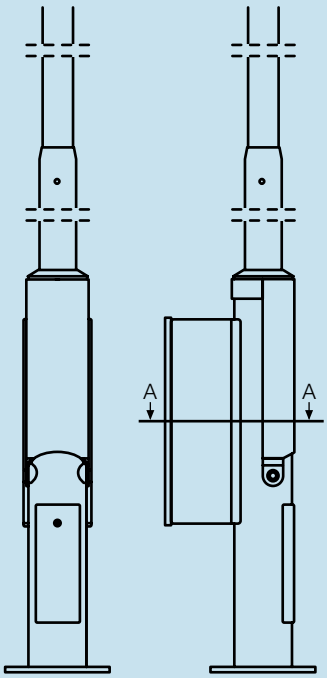
Medium Duty Base-Hinged: 8M

Box required for one or two sets of 1kW control gear. Maximum external dimensions of the gear cabinet are 775(h)x250(w)x283(d)mm



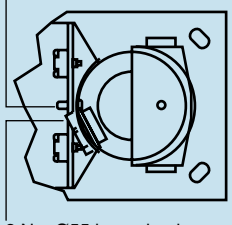
Heavy Duty Base-Hinged: 8-12M

Box only required for two sets of control gear in 219mm base. For one set only, control gear is mounted in column base



Section A-A

Box is attached to column using M10 fixings



2 No. Ø55 brass bushes for cable entry

Product Code	Height	No. Sets of Gear	1kW or 2kW	No. of MCBs	Medium/ Heavy Duty	Max. Head Weight inc. Bracket	Weight with Gear (approx)	Figure	Single Flood Bracket	Twin Flood Bracket
T088RLHE111	8m	1	1kW	1	Medium	40kg	140kg	1	FL4/1	FL4/3
T088RLHE212	8m	2	1kW	2	Medium	40kg	158kg	1	FL4/1	FL4/3
T087RLHE111	8m	1	1kW	1	Heavy	105kg	167kg	2	FL4/1	FL4/3
T087RLHE212	8m	2	1kW	2	Heavy	105kg	185kg	2	FL4/1	FL4/3
T107RLHE111	10m	1	1kW	1	Heavy	64kg	197kg	2	FL4/1	FL4/3
T107RLHE212	10m	2	1kW	2	Heavy	64kg	215kg	2	FL4/1	FL4/3
T107RLHE121	10m	1	2kW	1	Heavy	64kg	197kg	2	FL4/1	FL4/3
T107RLHE222	10m	2	2kW	2	Heavy	64kg	215kg	2	FL4/1	FL4/3
T117RLHE121	11m	1	2kW	1	Heavy	50kg	220kg	2	FL4/1	FL4/3
T117RLHE222	11m	2	2kW	2	Heavy	52kg	238kg	2	FL4/1	FL4/3
T127RLHE111	12m	1	1kW	1	Heavy	36kg	234kg	2	FL4/1	FL4/3
T127RLHE212	12m	2	1kW	2	Heavy	36kg	252kg	2	FL4/1	FL4/3
T127RLHE121	12m	1	2kW	1	Heavy	36kg	234kg	2	FL4/1	FL4/3
T127RLHE222	12m	2	2kW	2	Heavy	36kg	252kg	2	FL4/1	FL4/3

For maximum loadings, please contact Abacus on +44 (0)1623 518 333.
Where a column is to be ordered with the gear box but without control gear or MCBs, the code will be TxxxRLHE000
NOTE: With a flange plate the column weights will vary a little.

SPORTS COLUMN

8-12M FIXED COLUMN

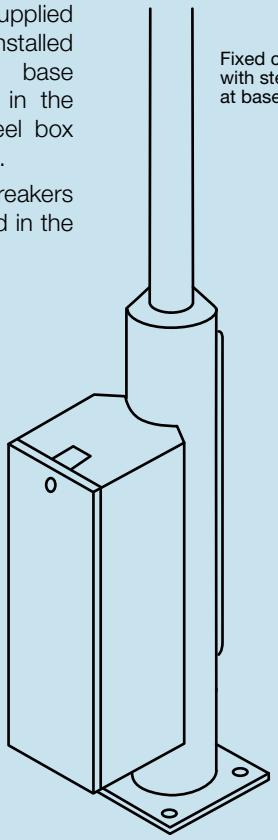
Fully fitted and ready for installation

Fixed Sports Columns: 8-12M

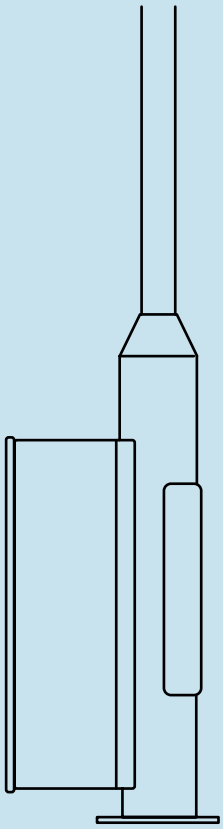
Maximum external dimensions of the gear cabinet are 775(h) x 250(w) x 283(d) mm

The fully fitted fixed columns are supplied with 1kW or 2kW control gear installed either in the column base (1 set in 12m column only) or in the custom designed galvanised steel box which is fitted to the column base.

Full details of the Mini Circuit Breakers and electrical layout can be found in the wiring diagrams on this page.



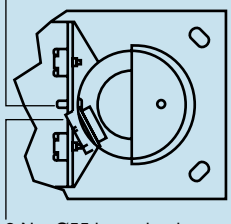
Fixed column with steel box at base



12M only, 1 set of gear integral

Section A-A

Box is attached to column using M10 fixings



2 No. Ø55 brass bushes for cable entry

Product Code	Height	No. Sets of Gear	1kW or 2kW	No. of MCBs	Medium/ Heavy Duty	Max. Head Weight inc. Bracket	Weight with Gear (approx)	Figure	Single Flood Bracket	Twin Flood Bracket
TB088/H/E111	8m	1	1kW	1	Heavy	60kg	140kg	4	FL4/1	FL4/3
TB088/H/E212	8m	2	1kW	2	Heavy	60kg	160kg	4	FL4/1	FL4/3
TB108/H/SP/E111	10m	1	1kW	1	Heavy	60kg	190kg	4	FL3/1	FL3/3
TB108/H/SP/E212	10m	2	1kW	2	Heavy	60kg	210kg	4	FL3/1	FL3/3
TB108/H/SP/E121	10m	1	2kW	1	Heavy	64kg	190kg	4	FL3/1	FL3/3
TB108/H/SP/E222	10m	2	2kW	2	Heavy	64kg	210kg	4	FL3/1	FL3/3
TB128/H/SP/E111	12m	1	1kW	1	Heavy	60kg	215kg	3	FL4/1	FL7/3
TB128/H/SP/E212	12m	2	1kW	2	Heavy	60kg	252kg	4	FL4/1	FL7/3
TB128/H/SP/E121	12m	1	2kW	1	Heavy	60kg	215kg	3	FL4/1	FL7/3
TB128/H/SP/E222	12m	2	2kW	2	Heavy	60kg	252kg	4	FL4/1	FL7/3

For maximum loadings, please contact Abacus on +44 (0)1623 518 333.
Where a column is to be ordered with the gear box but without control gear or MCBs, the code will be TBxxxE000
NOTE: With a flange plate the column weights will vary a little.

EN40 WIND ZONE MAP

Wind loading categories

	N/m2
Extra Heavy	576
Heavy	466
Medium	429
Light	396
Specialist	Contact Abacus

The rationalised wind loading factor, Rwf, are all stated at 10m above ground level, and for a mean return period of 25 years.

Abacus standard columns are based on:

Terrain Category II - 8m and above.

Terrain Category III - less than 8m.

Note: coastal sites, sites above 250m or sites subject to funnelling will require special consideration.

Tyne and Wear includes:
Gateshead, Newcastle, North and South Tyneside and Sunderland.

West Yorkshire includes:
Calerdale, Bradford, Kirklees and Wakefield.

South Yorkshire includes:
Barnsley, Doncaster, Rotherham and Sheffield.

Greater Manchester includes:
Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Stockport, Tameside, Trafford and Wigan.

West Midlands includes:
Birmingham, Coventry, Dudley, Sandwell, Solihull, Walsall and Wolverhampton.

Greater London includes:
All London boroughs.

Terrain Category I:
Seasides. At the edge of a lake with a length exposed to the wind of at least 5km. Flat even land without obstacles.

Terrain Category II:
Fenced off cultivated land, some small agricultural buildings, houses or trees.

Terrain Category III:
Industrial or sub-urban zones and forest.

Terrain Category IV:
Urban perimeters with at least 15% of the surface built on, and/or on which the average heights of buildings exceed 15m.

Table A.1 - Rationalised wind loading factor, Rwf and maximum altitude.

Administrative Area	Maximum Altitude m	10 Min Mean Wind Velocity m/sec	Rationalised Wind Loading Region
Aberdeen	141	25.2	Heavy
Aberdeenshire	117	25.73	Heavy
Angus	250	25.2	Extra Heavy
Antrim	217	26.25	Extra Heavy
Argyll and Bute	170	27.3	Extra Heavy
Armagh	250	24.68	Extra Heavy
Bath and North East Somerset	250	22.05	Medium
Bedfordshire	147	23.1	Light
Blackburn and Darwen	142	24.15	Medium
Blackpool	98	24.15	Light
Blaenau Gwent	250	22.05	Medium
Bournemouth	98	24.15	Light
Bracknell Forest	250	21	Light
Bridgend	221	22.58	Medium
Brighton and Hove	147	23.1	Light
Bristol	231	21.53	Light
Buckinghamshire	202	22.05	Light
Caerphilly	250	22.05	Medium
Carmarthenshire	250	25.2	Extra Heavy
Cambridgeshire	117	24.68	Medium
Cardiff	250	22.05	Medium
Ceredigion	142	24.15	Medium
Channel Islands	141	25.2	Heavy
Cheshire	193	23.1	Medium
Clackmannanshire	190	24.15	Heavy
Conwy	250	24.15	Extra Heavy
Cornwall	141	25.2	Heavy
Cumbria	242	25.73	Extra Heavy
Darlington	72	25.73	Medium
Denbighshire	244	23.1	Heavy
Derby	174	22.58	Light
Derbyshire	193	23.1	Medium
Devon	142	24.15	Medium
Dorset	193	23.1	Medium
Down	250	25.2	Extra Heavy
Dumfries and Galloway	117	25.73	Heavy
Dundee	242	25.73	Extra Heavy
Durham	217	26.25	Extra Heavy
East Ayrshire	117	25.73	Heavy
East Dunbartonshire	165	24.68	Heavy
East Lothian	141	25.2	Heavy
East Renfrewshire	250	25.2	Extra Heavy
East Riding of Yorkshire	217	26.25	Extra Heavy
East Sussex	147	23.1	Light
Edinburgh	165	24.68	Heavy
Essex	167	23.63	Medium
Falkirk	190	24.15	Heavy
Fermanagh	250	25.2	Extra Heavy
Fife	141	25.2	Heavy
Flintshire	193	23.1	Medium
Glasgow	165	24.68	Heavy
Gloucestershire	231	21.53	Light
Greater London	174	22.58	Light
Greater Manchester	167	23.63	Medium
Gwynedd	250	25.2	Extra Heavy
Halton	147	23.1	Light
Hampshire	147	23.1	Light
Hartlepool	95	26.25	Heavy
Herefordshire	202	22.05	Light
Hertfordshire	147	23.1	Light
Highland	127	28.35	Extra Heavy
Inverclyde	242	25.73	Extra Heavy
Isle of Anglesey	94	25.2	Medium
Isle of Man	94	25.2	Medium
Isle of Wight	147	23.1	Light
Isles of Scilly	52	25.2	Light
Kent	167	23.63	Medium
Kingston upon Hull	52	25.2	Light
Lancashire	141	25.2	Heavy
Leeds City	250	24.68	Extra Heavy
Leicester	174	22.58	Light
Leicestershire	193	23.1	Medium
Lincolnshire	94	25.2	Medium
Londonderry	217	26.25	Extra Heavy
Luton	202	22.05	Light

Administrative Area	Maximum Altitude m	10 Min Mean Wind Velocity m/sec	Rationalised Wind Loading Region
Medway	174	22.58	Light
Merseyside	142	24.15	Medium
Merthyr Tydfil	250	22.58	Heavy
Mid Lothian	141	25.2	Heavy
Middlesbrough	95	26.25	Heavy
Milton Keynes	202	22.05	Light
Monmouthshire and Newport	202	22.05	Light
Moray	250	25.2	Extra Heavy
Neath Port Talbot	193	23.1	Medium
Norfolk	95	26.25	Heavy
North Ayrshire	217	26.25	Extra Heavy
North East Lincs	52	25.2	Light
North Lanarkshire	190	24.15	Heavy
North Lincs	94	25.2	Medium
North West Somerset	202	22.05	Light
North Yorkshire	95	26.25	Heavy
Northamptonshire	147	23.1	Light
Northumberland	50	26.25	Medium
Nottingham	147	23.1	Light
Nottinghamshire	142	24.15	Medium
Orkney	87	29.4	Extra Heavy
Oxfordshire	250	21	Light
Pembrokeshire	142	24.15	Medium
Perth and Kinross	165	24.68	Heavy
Peterborough	98	24.15	Light
Plymouth	142	24.15	Medium
Poole	147	23.1	Light
Portsmouth	147	23.1	Light
Powys	193	23.1	Medium
Reading	250	21	Light
Redcar and Cleveland	95	26.25	Heavy
Renfrewshire	250	25.2	Extra Heavy
Rhondda Cynon Taff	250	22.58	Heavy
Rutland	122	23.63	Light
Scottish Borders	117	25.73	Heavy
Shropshire	250	22.58	Heavy
Slough	250	21	Light
Somerset	193	23.1	Medium
South Ayrshire	117	25.73	Heavy
South Gloucester	231	21.53	Light
South Lanarkshire	165	24.68	Heavy
South Yorkshire	142	24.15	Medium
Southampton	174	22.58	Light
Southend	147	23.1	Light
Staffordshire	221	22.58	Medium
Stirling	250	25.2	Extra Heavy
Stockton on Tees	72	25.73	Medium
Stoke on Trent	221	22.58	Medium
Suffolk	94	25.2	Medium
Surrey	250	22.58	Heavy
Swansea	167	23.63	Medium
Swindon	250	21	Light
Telford and Wrekin	202	22.05	Light
Thurrock	174	22.58	Light
Torbay	122	23.63	Light
Torfaen	250	22.05	Medium
Tyne and Wear	217	26.25	Extra Heavy
Tyrone	250	25.2	Extra Heavy
Vale of Glamorgan	221	22.58	Medium
Warrington	147	23.1	Light
Warwickshire and Coventry	250	22.05	Medium
West Berkshire and Newbury	250	21	Light
West Dunbartonshire	141	25.2	Heavy
West Lothian	190	24.15	Heavy
West Midlands	231	21.53	Light
West Sussex	147	23.1	Light
West Yorkshire	250	24.68	Extra Heavy
Western Isles	87	29.4	Extra Heavy
Wiltshire	202	22.05	Light
Windsor and Maidenhead	250	21	Light
Wokingham	250	21	Light
Worcestershire	231	21.53	Light
Wrexham	221	22.58	Medium
York	52	25.2	Light
Shetland	Special case - seek special assistance	31.50	Special case - seek special assistance

FOUNDATIONS

GUIDE TO COLUMN INSTALLATION

Root Mounting

Abacus columns are supplied for root mounting with a root length (Z, figure 1) applicable to the height of the particular column.

For most applications, particularly on medium size columns having large overturning moments, it is recommended that the root is inserted into a prepared foundation (Fig 1).

For smaller columns where the ground conditions are suitable, a prepared foundation is not always necessary (Fig 2). All that is required is a suitably sized excavated hole in undisturbed ground, which is filled with concrete after erection of the column.

Back-filling

The standard stipulates the following guidelines to be followed:

a) All back-filling material is to be placed in 150mm thick layers and be well compacted

b) During compaction, care is to be taken to ensure that the corrosion protection system of the lighting column is not damaged

c) Where the hole is back-filled with concrete, the concrete is to extend from the base of the lighting column to ground level

d) Where paving or bituminous surfacing is to be applied around the lighting column, the top level of the concrete may be lowered by the thickness of this surfacing; and

e) A duct with the same dimensions as the lighting column's cable entry slot is to be formed in the concrete using a suitable pre-formed lining tube.

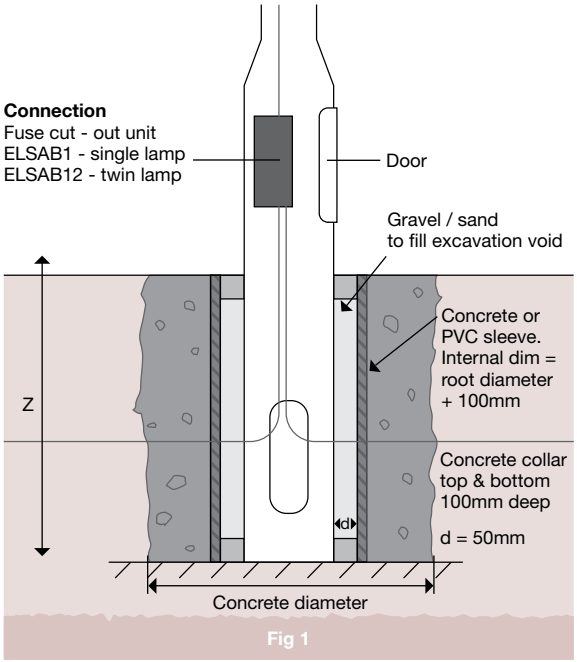


Fig 1

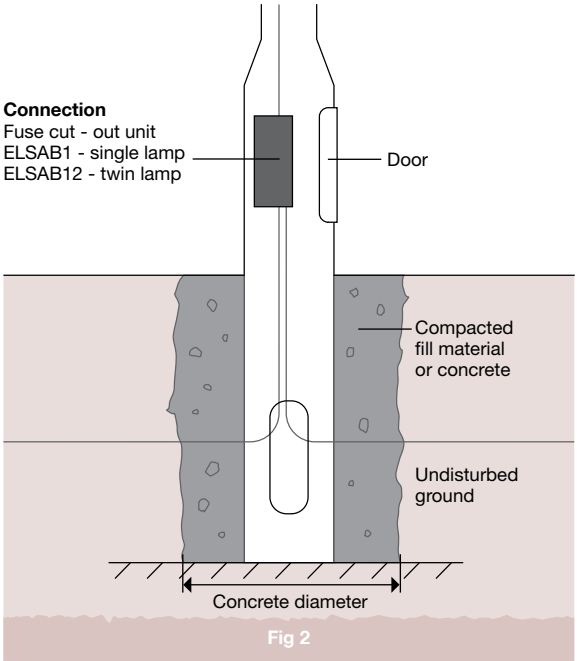


Fig 2

Root diameter - For complete column data information see the columns section of www.abacuslighting.com

Ground Factor G

Extract from PD 6547:2004 on ground conditions, in conjunction with BS EN 40-3-1 and -3

G (kN/m$^{2)}$ per m	Quality of Soil
630	Good: Compact, well-graded sand and gravel, hard clay, well-graded fine and coarse sand, decomposed granite rock and soil
390	Average: Compact fine sand, medium clay, compact well-drained sandy loam, loose coarse sand and gravel. Average soils drain sufficiently well that water does not stand on the surface.
230	Poor: Soft clay, clay loam, poorly compacted sand, clays containing a large amount of silt and vegetable matter, and made-up ground. Poor soil are normally wet and have poor drainage

The minimum root diameters given in this brochure are based on the poorest ground conditions, as provided for in the British Standard publication PD6547:2004
The diameter will be smaller if the ground is better

Flange Plate Mounting

Abacus offers a choice of passive and non passive concrete foundations for flange plate mounting of lighting columns.

By taking the OTM (overturning moment) from the column data matrix in the brochure, and identifying the correct ground pressure, the fully factored concrete foundation dimension can be determined from the tables below.

Holding down bolt projection & final torque values

Bolt Size & Grade	Projection (mm)	Torque (Nm)
M16*500 Long Grade 4.6	125	25
M20*500 Long Grade 4.6	125	50
M24*600 Long Grade 4.6	125	160
M30*800 Long Grade 4.6	150	310

Passive mass concrete foundation dimensions

A passive foundation, where the ground pressure must be at least 150kN/m (or 1.5bar), takes into account the side forces applied from the firmer ground. As a result, the concrete is typically narrower and deeper than non-passive.

Foundation	O.T.M (kNm)	Bearing Pressure (kNm)	A Width (mm)	B Depth (mm)
3P150	3	150	650	750
4P150	4	150	700	800
5P150	5	150	750	800
6P150	6	150	750	900
8P150	8	150	850	950
10P150	10	150	900	950
15P150	15	150	950	1100
20P150	20	150	1050	1200
30P150	30	150	1200	1250
40P150	40	150	1250	1300
50P150	50	150	1350	1400

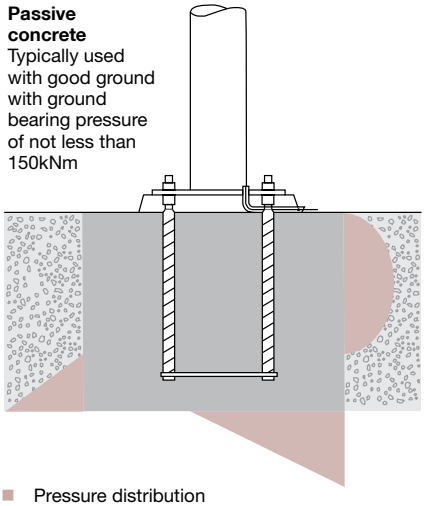
Non-passive mass concrete foundation dimensions

A non-passive foundation, where the ground pressure may be lower, takes no account of the side forces and is therefore shallower but wider.

Foundation	O.T.M (kNm)	Bearing Pressure (kNm^2)	A Width (mm)	B Depth (mm)
3M75	3	75	880	590
3M100	3	100	880	590
3M150	3	150	880	590
4M75	4	75	950	625
4M100	4	100	950	625
4M150	4	150	950	625
5M75	5	75	1050	675
5M100	5	100	1050	675
5M150	5	150	1050	675
6M75	6	75	1100	700
6M100	6	100	1100	700
6M150	6	150	1100	700
8M75	8	75	1150	725
8M100	8	100	1150	725
8M150	8	150	1150	725
10M75	10	75	1250	775
10M100	10	100	1250	775
10M150	10	150	1250	775
15M75	15	75	1400	850
15M100	15	100	1350	825
15M150	15	150	1350	825
20M75	20	75	1500	900
20M100	20	100	1500	900
20M150	20	150	1500	900
30M75	30	75	1700	1000
30M100	30	100	1700	1000
30M150	30	150	1700	1000
40M75	40	75	1900	1100
40M100	40	100	1800	1050
40M150	40	150	1800	1050
50M75	50	75	2100	1200
50M100	50	100	1900	1100
50M150	50	150	1900	1100

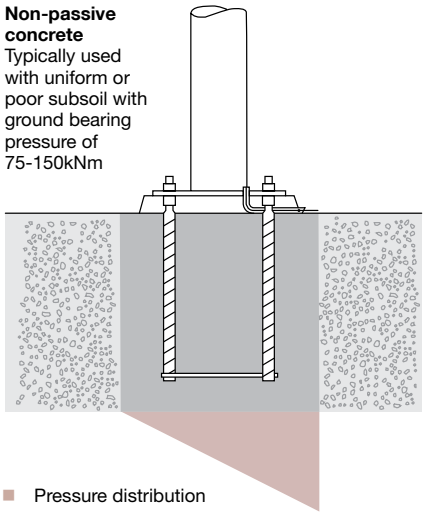
Soil pressure distribution

Passive concrete
Typically used with good ground with ground bearing pressure of not less than 150kNm



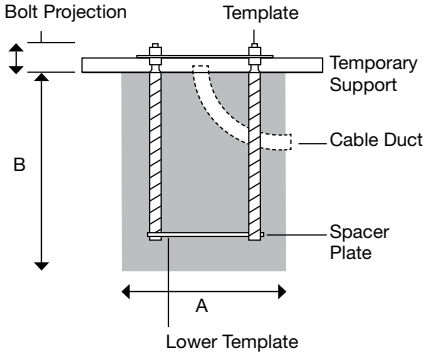
Pressure distribution

Non-passive concrete
Typically used with uniform or poor subsoil with ground bearing pressure of 75-150kNm



Pressure distribution

Typical section through foundation



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