

raising&lowering
columns



Abacus[®]
LEADERS IN LIGHTING

raising & lowering columns - spring operated

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raising and lowering columns.

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Introduction

Abacus base hinged raising and lowering columns can be supplied in heights from 3m up to 12m. These columns will accept any lighting system and are equally suitable for a variety of other equipment such as:

- aerials
- flags
- CCTV cameras
- wind turbines
- signs

Where lighting is to be used then the columns are suitable for amenity, roadway and floodlighting in such areas as:

- air and sea ports
- railways
- car parks
- footpaths
- highways

The Abacus Spring Operated Raising and Lowering Columns feature an in-built hinge mechanism which in conjunction with a counterbalance unit allows the column to be lowered to ground level for lamp replacement, luminaire cleaning, maintenance and painting.

The system is extremely flexible with a diverse range of potential applications and is safe, efficient and simple to operate.

Spring Operated Raising and Lowering Columns are available in tubular steel with column heights ranging from 3 to 8 metres. Most are supplied with root although flange plates can be supplied if required.



1

Make sure you have the correct counterbalance unit for the column you are going to lower.



2

Attach the counterbalance unit to the column by inserting the operating lever.



3

Remove the locking screw.

The Abacus patented raising and lowering system operates by means of a spring counterbalance for columns up to 8m in height, and a hydraulic counterbalance for 8m and above.

raising & lowering columns - patent no. 968113

At the base of each column is a unique hinge arrangement which utilises an eccentric cam. The system relies on an external spring counterbalance unit with a keyed operating lever. This raises the shaft section vertically clear of the base and controls the lowering. The counterbalance unit then assists in returning the shaft section back to the vertical.

The wheel mounted counterbalance unit is supplied in a variety of spring strengths according to the column height, and/or headload.



Rotate the operating lever through 180°. This raises the column to give clearance for lowering.



Electrical cables are protected over the hinge mechanism by flexible conduit.

Benefits

- Safety
 - Complete column and fitting can be maintained at ground level.
 - Fail safe lowering.
- Only one counterbalance unit required for any quantity of similar columns.
- One man operation
 - by competent operator.
- Fast lowering and raising.
- Control gear can either be installed at the top or bottom of the column.
- Vandal resistant columns for high risk areas. There is no door to vandalise.



Pull the column onto the counterbalance unit and assist the lowering operation.



Maintenance can now be carried out at ground level.



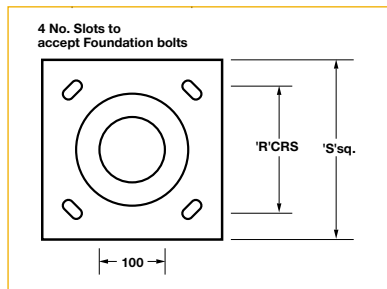
Assist the raising operation and return the column back to its locked position.

raising & lowering columns - spring operated

Nominal Height H	Ref	Z	Dimensions in mm				R	S	Foundation Bolt type	Flangeplate type	Approx. weight kg	Counter Balance type*	Max. Head Weight	Compatible Bracket types	O.T.M. (KNm)	Shear (KN)
			OD2	OD1	X	Y										
5m	T051RLS	800	76	168	3875	1050	-	-	-	-	59	RLS0 RLSOX RLS1	10kg 18kg 27kg	AB2, FL1, PR2, PR3	4.8	1.3
6m	T061RLS	1000	76	168	4860	1050	-	-	-	-	68	RLSOX RLS1 RLS2	10kg 18kg 28kg	AB2, FL1, PR2, PR3	4.7	1.2
8m	T081RLS	1200	89	168	6830	1050	-	-	-	-	89	RLS2 RLS3	11kg 17kg	FL2, PR4	5.7	1.3
5m	T051RLS/FP	-	76	168	3875	1050	200	280	(M16)FC003F	Type 0	54	RLS0 RLSOX RLS1	10kg 18kg 27kg	AB2, FL1, PR2, PR3	4.8	1.3
6m	T061RLS/FP	-	76	168	4860	1050	200	280	(M16)FC003F	Type 0	59	RLSOX RLS1 RLS2	10kg 18kg 28kg	AB2, FL1, PR2, PR3	4.7	1.2
8m	T081RLS/FP	-	89	168	6830	1050	200	280	(M20)FC009F	Type 1	77	RLS2 RLS3	11kg 17kg	FL2, PR4	5.7	1.3

*As an alternative to the spring counterbalances listed here a hydraulic version is available. Please specify type RLH168

¹As an alternative, the spring Raise and Lower Column is available with flush door (see detail below).



Base compartment size 450mmx100mmx100mm

Flangeplate thickness 12mm Type 0

Flangeplate thickness 15mm Type 1

For maximum recommended bracket projection and head area contact the Abacus sales office or refer to the column data sheet.

For root mounting foundations see the column data sheet. For flange mounting foundations use the OTM from the column data sheet and refer to ['Foundations'](#).

Maximum head weights relate to post top or floodlight brackets. For side entry brackets the carrying capacity is reduced. Please refer to the column data sheet.

RLS Flushdoor Option

Abacus has introduced an aesthetic flush door option alongside its range of Raising and Lowering Spring Columns.

- Provides easier access to the control gear without the need of lowering the column to gain access.
- Ideal when siting columns in areas where there is a lower risk of vandalism.

Availability

Available across the 168 base range of 5m, 6m & 8m spring operated Raise and Lower Columns, both root mounted and flange plated.

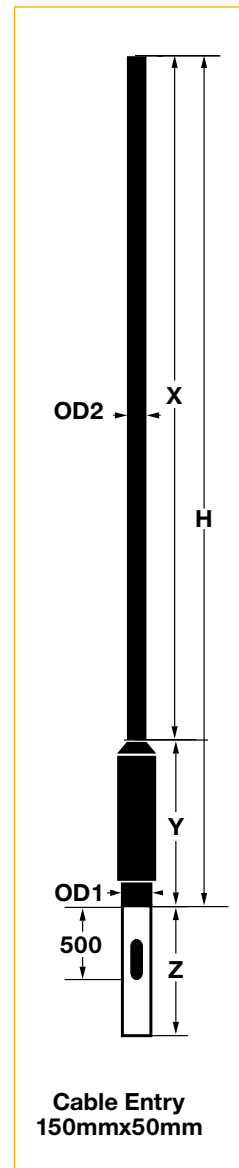
Ordering details

For Flushdoor option add suffix /FD after the usual reference code.

For example

For a 5m, Root mounted Spring Operated Raise and Lower Column with flush door, use order code T051RLS/FD

For a 5m Flange plate mounted Spring Operated Raise and Lower Column with flush door, use order code T051RLS/FP/FD



raising & lowering columns - counterbalances



RLH168 counterbalance unit.

Further advice and full operating instructions are available on request.

Counterbalances

RLSO - Yellow	(16kg*)
RLSOX - White	(16.5kg*)
RLS1 - Red	(17.5kg*)
RLS2 - Blue	(18kg*)
RLS3 - Green	(20kg*)
RLH168 - Black	(37.5kg*)

OPERATOR TRAINING IS AVAILABLE

* Weight of counterbalance unit only.
Does not include operating lever
(2kg for RLS & 2.5kg for RLH168)

Alternative Hydraulic Counterbalance

The hydraulic counterbalance RLH168 is ideal where different heights and head weights are encountered. This unit will operate all RLS columns. Only one type of unit is required.

Spring	Counterbalance (Safe working load given in kg)					
Column Height	RLS0	RLSOX	RLS1	RLS2	RLS3	RLH168
8m				11kg	17kg	17kg
6m		10kg	18kg	28kg		28kg
5m	10kg	18kg	27kg			27kg

At the time of ordering, please provide full details of the headload to be carried as to ensure Abacus Sales select the correct counterbalance to accommodate your requirements.

Ordering Details:

When ordering raising and lowering columns the following information will enable us to identify the product you require both quickly and accurately. By using our reference numbering system, errors can be avoided thus ensuring that the right products are delivered to the correct address.

- Your company name, contact name and telephone number.
- Your order number
- Invoice address
- Delivery address (if different to above) and if notification of delivery is required in advance - contact name and telephone number.
- Quantity of raising and lowering columns and brackets required.
- Raising and lowering columns reference number
- Bracket reference numbers (if required).
- Reference number of luminaire to be fitted.
- Foundation bolt type and quantity (if applicable).
- Counterbalance type and quantity

raising & lowering columns - hydraulically operated

Introduction

The Abacus Hydraulically Operated Raising and Lowering Columns feature an in-built hinge mechanism which in conjunction with a counterbalance unit allows the column to be lowered to ground level for lamp replacement, luminaire cleaning, maintenance and painting. The system is extremely flexible with a diverse range of potential applications and is safe, efficient and simple to operate.

Hydraulically Operated Raising and Lowering Columns are available in tubular steel with column heights ranging from 8 to 12 metres. Columns below 8m can be provided where the head load is too great for a Spring Operated Raising and Lowering Column. Most are supplied with root although flange plates can be supplied if required.

At the base of each column is a unique hinge arrangement which utilises an eccentric cam. The system relies on an external hydraulic counterbalance unit with a keyed operating lever. This raises the shaft section vertically clear of the base and controls lowering. The operating of the counterbalance unit then returns the shaft section back to the vertical.

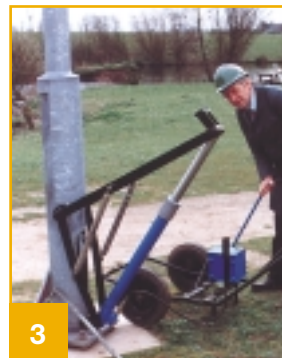
There are two types of wheel mounted counter balance units with which to operate the Hydraulic Raising and Lowering Columns. The type to use is dependant on the column height and headload.



Make sure you have the correct counterbalance unit for the column you are going to lower.



Unlock the integral locking wedge and attach the counterbalance unit to the column.



Extend the ram until the location is close to the column shaft.



Insert the operating lever.

raising & lowering columns - patent no. 1084779

Benefits

- Safety
 - Complete column and fitting can be maintained at ground level.
 - Fail safe lowering.
- Only one counterbalance unit required for any quantity of similar columns.
- One man operation
 - by competent operator.
- Fast lowering and raising.
- Control gear can either be integral within the luminaire or installed in the base of the column.
- Vandal resistant columns for high risk areas.



5
Rotate the operating lever through 180°. This raises the column to give clearance for lowering.



6
Open the hydraulic control valve and apply hand pressure to the shaft to start lowering.



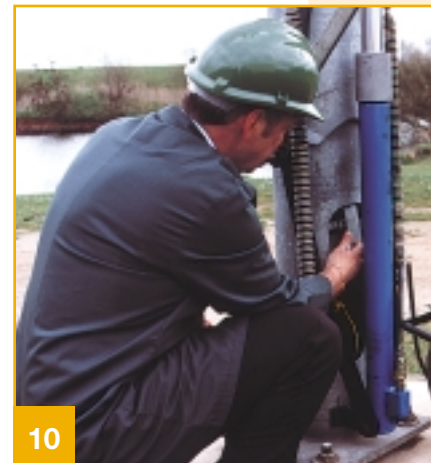
7
Keep the hydraulic control valve open a little to ensure smooth lowering.



8
Maintenance can now be carried out at ground level.

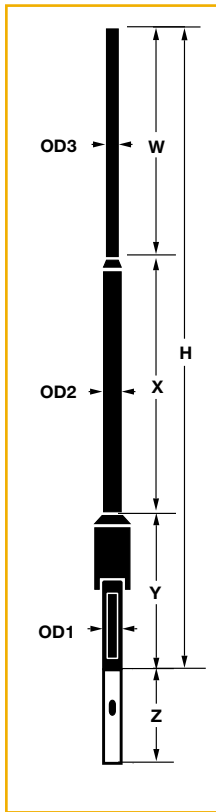


9
Electrical cables are protected over the hinge mechanism by flexible conduit.

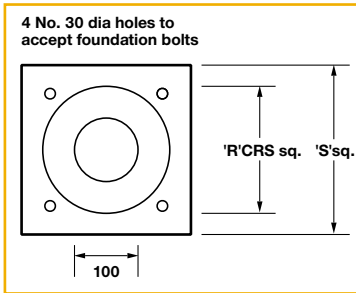


10
When the column is back to the vertical make sure you lock the integral locking wedge.

raising & lowering columns - hydraulically operated



Nominal Height H	Ref	Z	Dimensions in mm							Approx weight kg	Counter Balance type	Max. Head weight	Compatible Bracket types	O.T.M. (KNm)	Shear (KN)	
			OD3	OD2	OD1	W	X	Y	R							S
8m	T087/RLH	1200	114	140	219	3157	3200	1505	-	-	133	RLH 1M RLH 2M	62kg 105kg	PR6, FL4 PR6, FL4	15.9	2.6
10m	T107/RLH	1500	114	140	219	4115	4230	1505	-	-	163	RLH 1M RLH 2M	32kg 64kg	PR6, FL4 PR6, FL4	15.6	2.3
12m	T127/RLH	1700	114	140	219	5065	5250	1505	-	-	196	RLH 1M RLH 2M	11kg 36kg	PR6, FL4 PR6, FL4	15.4	2.2
8m	T087/RLH/FP	-	114	140	219	3157	3200	1505	300	400	122	RLH 1M RLH 2M	62kg 105kg	PR6, FL4 PR6, FL4	15.9	2.6
10m	T107/RLH/FP	-	114	140	219	4115	4230	1505	300	400	145	RLH 1M RLH 2M	32kg 64kg	PR6, FL4 PR6, FL4	15.6	2.3
12m	T127/RLH/FP	-	114	140	219	5065	5250	1505	300	400	173	RLH 1M RLH 2M	11kg 36kg	PR6, FL4 PR6, FL4	15.4	2.2



Door opening sizes	558mmx165mm 406mmx127mm
Base compartment size	one off 600mmx145mmx150mm one off 410mmx145mmx150mm
Foundation bolt type	(M24)FC010F
Flangeplate type	(2/RL)
Flangeplate thickness	20mm

For maximum recommended bracket projection and head area contact the Abacus sales office or refer to the column data sheet.

For root mounting foundations see the column data sheet. For flange mounting foundations use the OTM from the column data sheet and refer to:

'Foundations'

Maximum head weights relate to post top or floodlight brackets. For side entry brackets the carrying capacity is reduced. Please refer to the column data sheet.

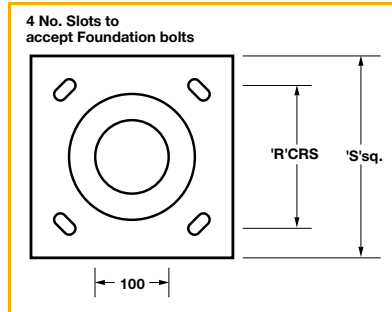
Base compartment size	450mmx100mmx100mm
Foundation bolt type	(M20)FC009F
Flangeplate type	Type 1
Flangeplate thickness	15mm

For maximum recommended bracket projection and head area contact the Abacus sales office or refer to the column data sheet.

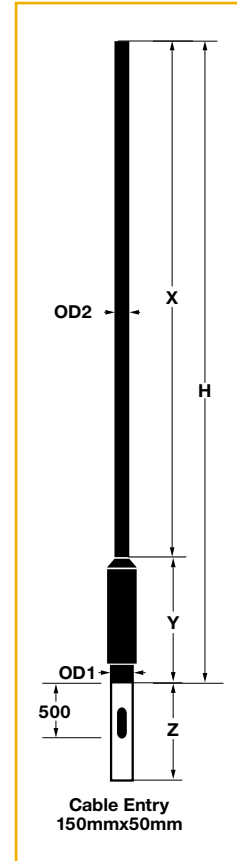
For root mounting foundations see the column data sheet.

For flange mounting foundations use the OTM from the column data sheet and refer to **'Foundations'**

Maximum head weights relate to post top or floodlight brackets. For side entry brackets the carrying capacity is reduced. Please refer to the column data sheet.



Nominal Height H	Ref	Z	OD2	OD1	X	Y	R	S	Approx. weight kg	Counter Balance type	Max. Head Load kg	Compatible Bracket types	O.T.M. (KNm)	Shear (KN)
5m	T058RLH	800	114	168	3875	1050	-	-	80	RLH168	90	FL4, PR6	10.7	2.4
6m	T068RLH	1000	114	168	4860	1050	-	-	88	RLH168	70	FL4, PR6	10.3	2.1
8m	T088RLH	1200	114	168	6830	1050	-	-	106	RLH168	40	FL4, PR6	10.1	1.8
5m	T058RLH/FP	-	114	168	3875	1050	200	280	72	RLH168	90	FL4, PR6	10.7	2.4
6m	T068RLH/FP	-	114	168	4860	1050	200	280	80	RLH168	70	FL4, PR6	10.3	2.1
8m	T088RLH/FP	-	114	168	6830	1050	200	280	98	RLH168	40	FL4, PR6	10.1	1.8



raising & lowering columns - counterbalances

Operations - RLH1M / RLH2M

Lowering the Column

- a)** Unlock the integral locking wedge (access is through the column door).
- b)** Lift the counterbalance unit and offer to the face of the column, working from the door opening side. Engage the semi-circular hooks at the linkage pivots onto the protruding ends of the cam (Y). Extend the ram until the location pad (Z) is within 5mm of the column shaft by closing the control valve (1) and pumping the handle (2). Insert the operating lever (3) far enough for the baulk ring key to rotate in the circumferential groove in the lever.
- c)** Rotate the operating lever through 180° in the direction shown. This will raise the column to give a clearance of 3 - 5mm between the lid and base section. If this is not achieved rotate the operating lever each way until such clearance is obtained.

- d)** Open the control valve (1) and apply hand pressure to the shaft. Immediately the column begins to move close the valve. To ensure a smooth descent, slightly open the valve until the column is in the desired position, then close the valve.

Raising the Column

- a)** Ensure that the control valve (1) is fully closed then pump the handle (2) until the column is vertical. Rotate the operating lever (3) through 180° in the opposite direction.
- b)** Ensure the lowering portion is firmly seated over the base section and the correct overlap position is achieved as indicated by the warning label.
- c)** Remove the operating lever whilst the ram is extended. Open the control valve and apply moderate hand pressure until the ram is closed. Remove the counterbalance unit.
- d)** Insert a hand into the door opening and locate the locking wedge. Allow this to drop vertically checking that the door lock screw hole is visible in the centre of the locking wedge tail. Fit the door using the key provided.

Further advice and full operating instructions are available on request.

Counterbalances

RLH1M (49kg*)

RLH2M (90kg*)

* Weight of counterbalance unit only. Does not include operating lever (3kg for RLH1M & RLH2M)

Hydraulic	Counterbalance (Safe working load given in kg)	
Column Height	RLH1M	RLH2M
12m	11kg	36kg
10m	32kg	64kg
8m	62kg	105kg

At the time of ordering, please provide full details of the headload to be carried as to ensure Abacus Sales select the correct counterbalance to accommodate your requirements.



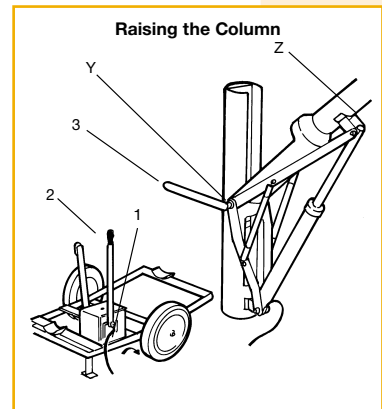
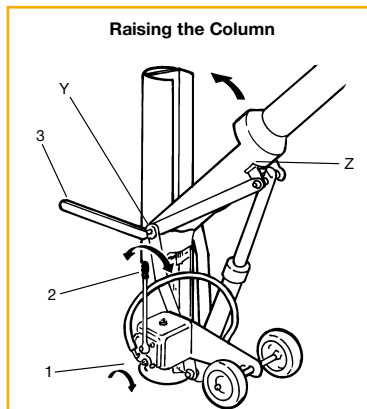
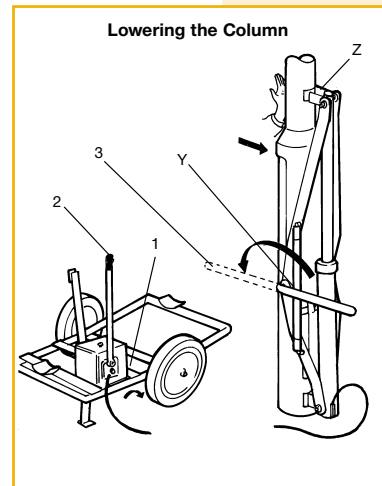
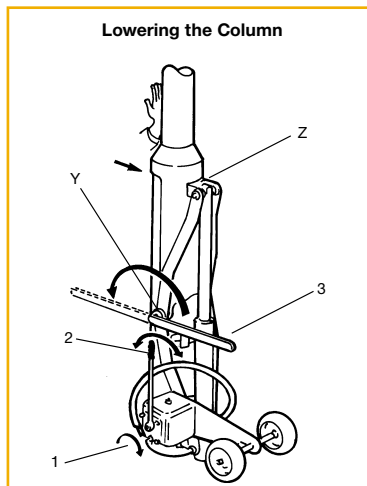
RLH1M

RLH1M



RLH2M

RLH2M



OPERATOR TRAINING IS AVAILABLE

Abacus RL Column Carrier System

The Abacus Column Carrier System has been designed to safely and conveniently move columns and guide them in to position to facilitate installation with the minimum of effort.

- Designed specifically for the root mounted spring Raise and Lowering Column up to 168Ø and a 6m mounting height
- Enables a column to be safely transported to its installation location and provide 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
- Purposefully designed as a two man operation, with regards to moving the column into position for installation to ensure safe and controlled lifting.



Lowering the root section into the foundation hole

**FURTHER DETAILS? PLEASE CONTACT
ABACUS SALES OFFICE ON: 01623 511111**

Construction Details

- Comprises of a galvanised steel square hollow section frame with support gussets
- Set of rubber tyres suitable for various terrains.
- Both column anchorage points are designed to be quick release to allow for safe and easy operation with minimal hand tool requirements.



Column installed on the carrier and ready to install



Raising the column to a vertical position

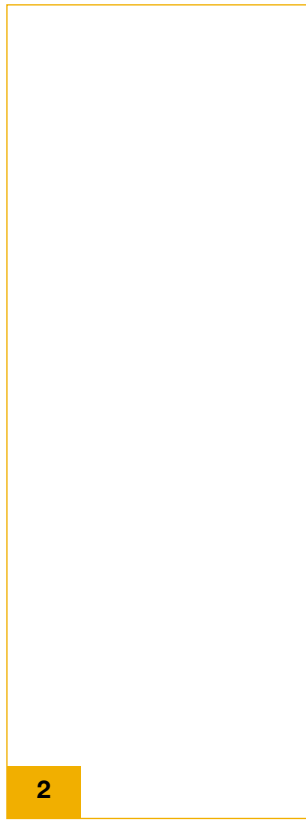
raising & lowering columns - previous projects



1



6



2

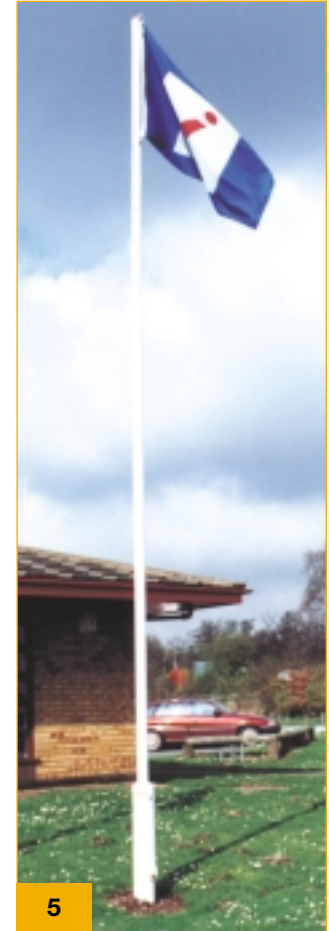


3

Project	Products used	Details
1 Skipton Station	Base Hinged Raising & Lowering Columns	Raising & Lowering Columns Section 7.1
2 Stockton Riverside Housing Development	AL2300 Series Base Hinged Raising & Lowering Column	Amenity Lighting Section 2.7 Raising & Lowering Columns Section 7.1
3 Sutton-in-Ashfield The Ashfields	AM600 Series Base Hinged Raising & Lowering Column	Road Lighting Section 3.3 Raising & Lowering Columns Section 7.1
4 CCTV Application Columns	Base Hinged Raising & Lowering Columns	Raising & Lowering Columns Section 7.1
5 Tourist Information Office	Base Hinged Raising & Lowering Columns	Raising & Lowering Columns Section 7.1
6 Newcastle-upon-Tyne Quayside	Base Hinged Raising & Lowering Columns	Raising & Lowering Columns Section 7.1



4



5

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BS EN ISO 14001:1996



BS EN ISO 9001:2000



APPROVED CONTRACTOR



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