



## Tube & Link Security Grille

### TB/LNK Security Grille

#### Applications

Medium security commercial sites where see-through vision is a priority.

#### Grille lattice

Brick-bond effect or standard arrangement.  
Aluminium 13mm diameter tubes cut to 111mm as standard, with anodised finish enclosing an 8mm steel rod.  
Vertical lattice links are 86mm high, leaving 56mm high openings; smaller or larger apertures on request.

**N.B.** Colour finishes available on request.

Tube length: 111mm  
Link Height: 86mm  
Weight per m<sup>2</sup>: 10kg  
Maximum Width: 6,000mm  
Maximum Surface: 20m<sup>2</sup> with single phase power or 3-phase power.

#### Housing

Grilles less than 12m<sup>2</sup>: roll-formed housing from 1.0mm aluminium; pressure moulded aluminium end caps; In white or brown as standard.

Grilles over 12m<sup>2</sup>: housing manufactured from 1.2mm galvanised steel sheet; end caps are fabricated from 5mm steel; standard galvanised finish; other colours available on request.

Guide Length (up to mm)	Box Size (up to mm)
2200	300
3600	360
5500	400

3-phase motor application enclosure sizes will vary dependent on the overall shutter size.

**N.B.** The above enclosure sizes are based on standard tube motor operation and 3-phase external direct drive motor.

#### Guide Channels / Bottom Slat

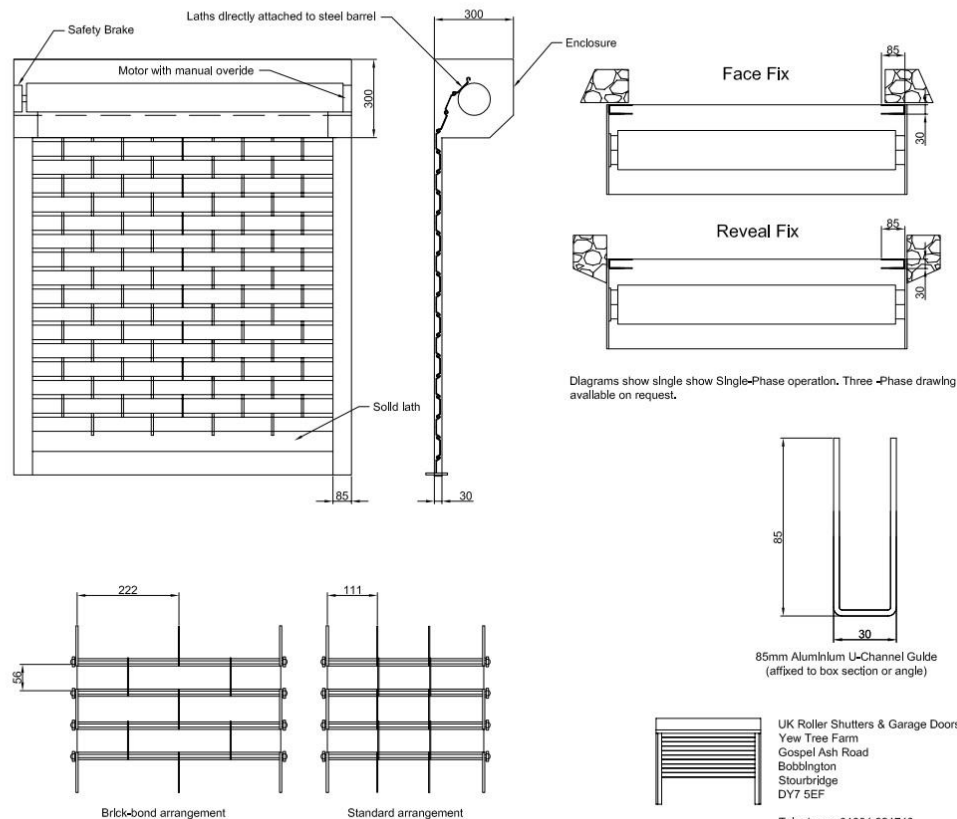
Standard white or brown aluminium U-channel guide section 85x30mm. T-shape bottom bar from galvanised steel.

#### Operation

**Electric:** Single phase tubular motor or 3-phase direct drive motor dependent on curtain weight, with push button control.  
Remote control operation is available, and includes Optical safety Edge; a PEC beam may also be appropriate when using remote control operation.

Manual override facility as required.

**Safety brake included as standard, to meet requirements of BS EN 13241-2003-1**



## Installation Instructions Operation & Maintenance Instructions

Please follow these installation instructions carefully when installing the product  
This booklet should be left with the grille for future reference.

**The installer must complete page 5**

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## Declaration of Performance

### 8. Declared Performance

<b>Essential Characteristics</b>	<b>Performance</b>	<b>Harmonised Technical Specification</b>
Geometry of glass	NA	BS EN 13241-1:2003+A1:2010
Mechanical Resistance	Pass	
Water tightness	NPD	
Release of dangerous substances	None	
Resistance to wind load – Test Pressure	Class 2	
Thermal resistance	NPD	
Air permeability	NPD	
Durability of water tightness, thermal resistance and air permeability	NPD	
Safe opening (i.e., Safety Brake)	Pass	
Operating forces (i.e., Safety Edge)	Pass	

The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 8. This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.

# Declaration of Conformity

by the Installer  
UK Roller Shutters Tube & Link Grille

We, \_\_\_\_\_

Of (address) \_\_\_\_\_

**Declare that the product**

**Installed at (address):**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**has been installed according to the attached installation instructions**

Unique identification code of the product type:

**UK Roller Shutters and Garage Doors Ltd Tube & Link Grille (TB/LNK)**

Type, batch or serial number

**O/N** \_\_\_\_\_ **Year** \_\_\_\_\_

And is in conformity with the essential Health and Safety requirements of the Machinery Directive 2006/42/EC. And conforms with the Low Voltage Directive 2006/95/EC, and the Electromagnetic Compatibility Directive 2004/108/EC.

This product has been designed and assembled according to the harmonised standard:

**BS EN 13421-1: 2003**

**Signed on behalf of the Installation Organisation:**

\_\_\_\_\_  
Name and Position

\_\_\_\_\_  
Place and Date of Issue

\_\_\_\_\_  
Signature

## **General Description**

The grille is formed with 17mm diameter (0.75mm wall) aluminium tubes, and 86mm aluminium links; mill finished or powder coated. Steel rods bind the aluminium parts together.

### **Technical Specification – Standard**

#### **Shutter Curtain**

Solid parts of the grille are formed from cold rolled galvanised steel laths, either 76mm x 22s swg (0.7mm) or 20s swg (0.9mm) concave lath. Other gauges can be supplied, depending on size.

#### **Bottom Rail**

The bottom rail has two profiles, either the 'L' section or the 'T' section, again from a cold rolled galvanised section.

#### **Side Guides**

The side guides are supplied in various sizes, from 50mm to 100mm deep. Wind-lock guides are offered for shutters exposed to windy conditions. All guides are supplied in galvanised finish.

#### **Fixing Angles**

Fixing angles are designed and supplied as standard in 50x50x5mm, or 75x50x5mm sizes, galvanised finish. However, other formed / standard sizes are available depending on the application.

#### **Bracket Plates**

All bracket plates are manufactured from 3mm gauge galvanised sheet, the size of which is dependent on the structural height.

#### **Roller Barrel**

Each motor barrel is constructed from mild steel with a suitable diameter and wall thickness to suit the shutter weight. The barrel encases the tubular motor and all necessary motor brackets are pre-fixed to the bracket plates. All tubular motors are 230V, supplied with an emergency override crank and handle. Some shutters require 3-phase operators – particularly when used more than four times per day, or when weight of the curtain requires this.

#### **Operation**

All controls are on request. UKRS offers a full range of rocker switches, key operated switches, and remote controls. Group command units are available, allowing multiple shutter control at the push of one button. Safety devices to monitor door closing is usually required for remote control shutters.

#### **Coil Casings/ Fascias**

Enclosures can be fitted on request, manufactured from 1.0mm galvanised steel.

#### **Power Requirements**

A fused spur within 1m of the opening is required to wire the motor cable; 13amp 3 pin plug socket will suffice in default of this. 3-phase power is required or advised in some shutter configurations.

#### **Finishes**

As standard, the galvanised finish is offered; however, powder coating is available across the entire BS and RAL colour ranges. A range of Plastisol finishes are also available.

Tube 8 Link shutter -

## Assembly Parts

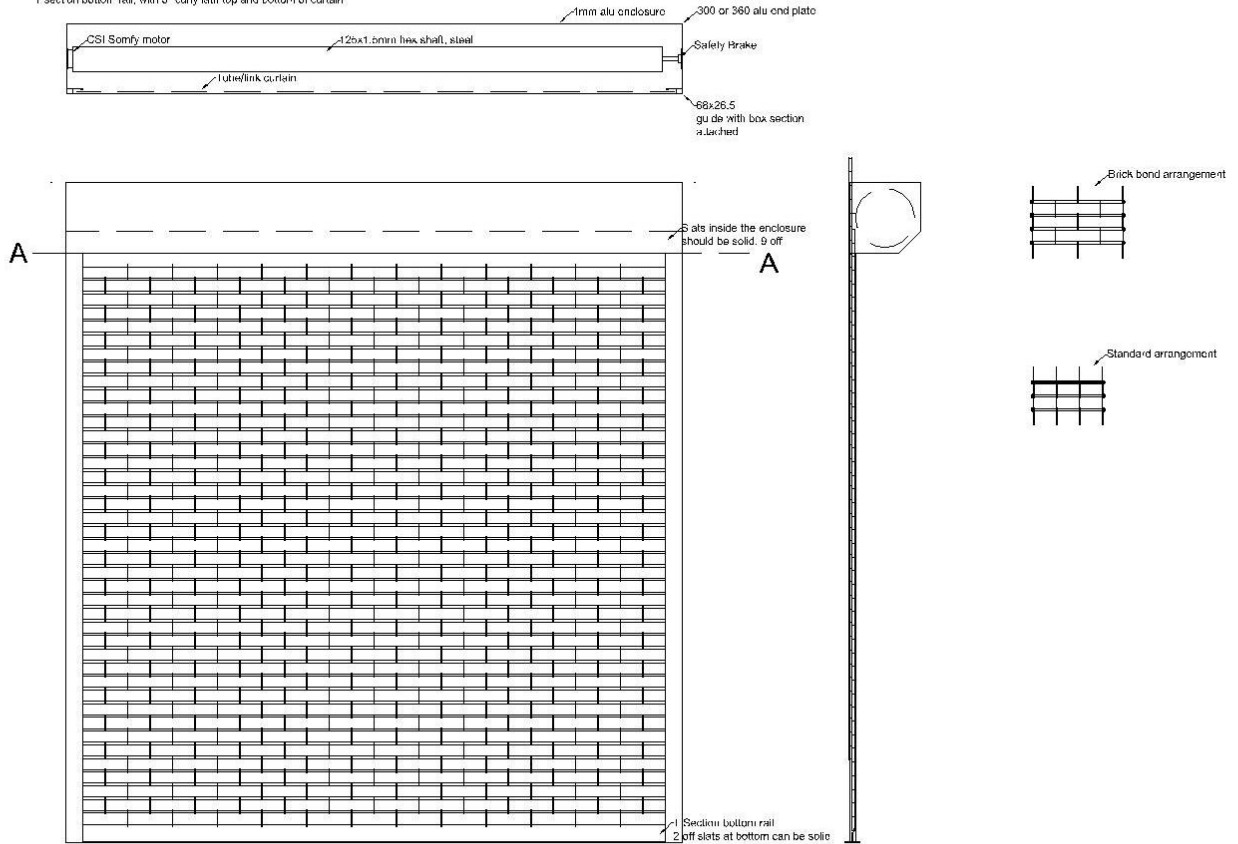
10kg m2.

Enclosure sizes: ~2400 - 3000mm box

2400+ = 360mm box

Max width: 6000mm

T sect on bottom rail, with 3" curly lath top and bottom of curtain



Tubo & Link shutter

Relative Dimensions

10kg m2.

Endclosure sizes: <2400 = 300mm box

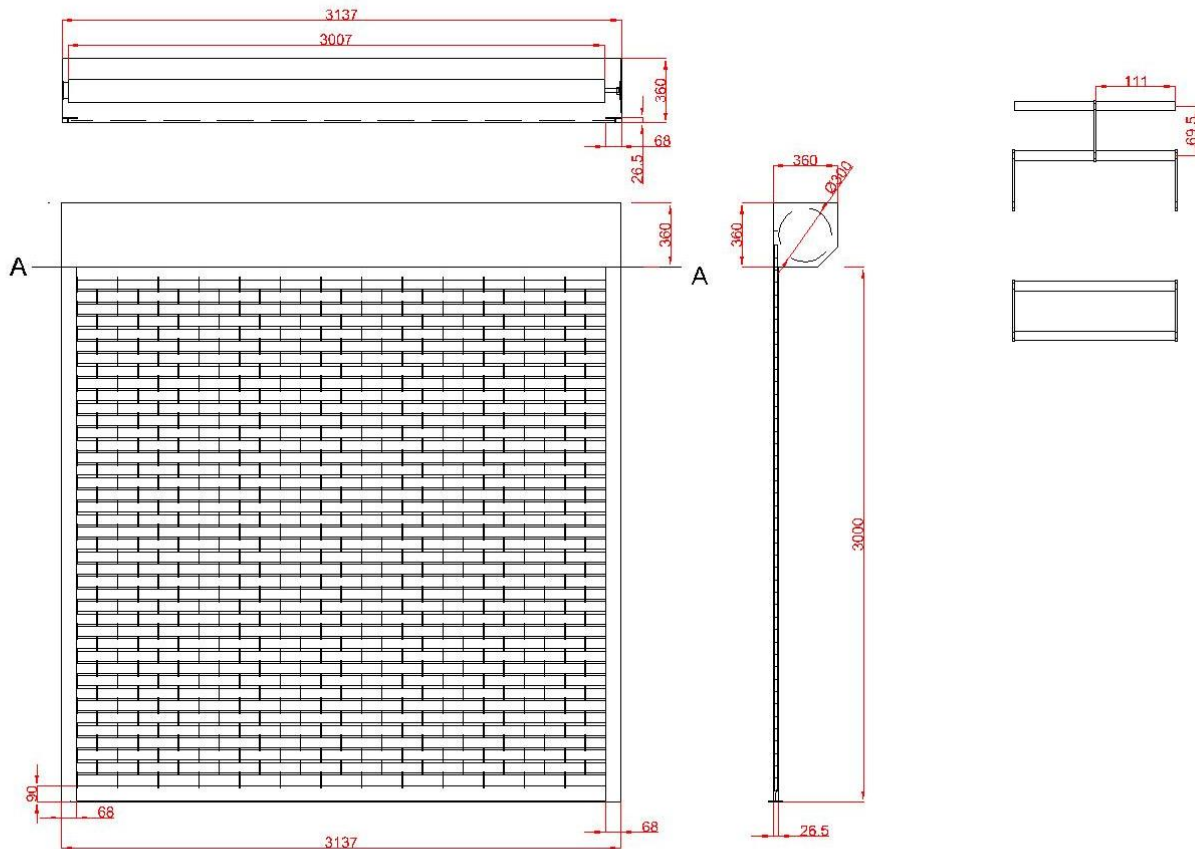
2400+ = 360mm box

Max width: 6000mm

Tie section bottom rail with 3" curly latch top and bottom of curtain

Use Alu. minimum box and guides for 12m2 or less

Use Steel box and guides for 12m2 +



## **SAFETY ADVICE**

### **Safety**

The curtain roll is heavy and awkward to handle, it is recommended that fitting this shutter is carried out by two or more people. Steel shutters often require lifting equipment, and a safe system of work. It is highly advised that a plan or method statement is devised before beginning work on shutters. Work at height, and excessive manual handling risk should be controlled or avoided.

### **Non-tubular motors**

When installing large shutters with 3-phase type operators it is strongly advised that a competent installation organisation is employed for the installation. Only trained and properly equipped persons should attempt to install and commission a shutter over 10m<sup>2</sup>.

## **STEP 1 – TAKING DELIVERY AND CHECKING ALL PARTS**

Please check that the shutter is the correct size and all component parts are present.

The curtain will arrive split into sections. Lifting equipment should be used to raise and attach the various parts of the curtain.

You should have:

- A) Grille curtain (This could be more than one bundle)
- B) Guides x 2
- C) Fixing Angles/ box sections x 2 fixed to top 'flag' brackets
- D) Tube (This will have top hangers bolted on)
- E) Motor (pre-fitted into the tube in the case of tubular motors)
- F) Galvanised steel canopy
- G) Controls. i.e. key switch, rocker switch etc
- H) Any extra controls including interface panels, battery back-ups etc



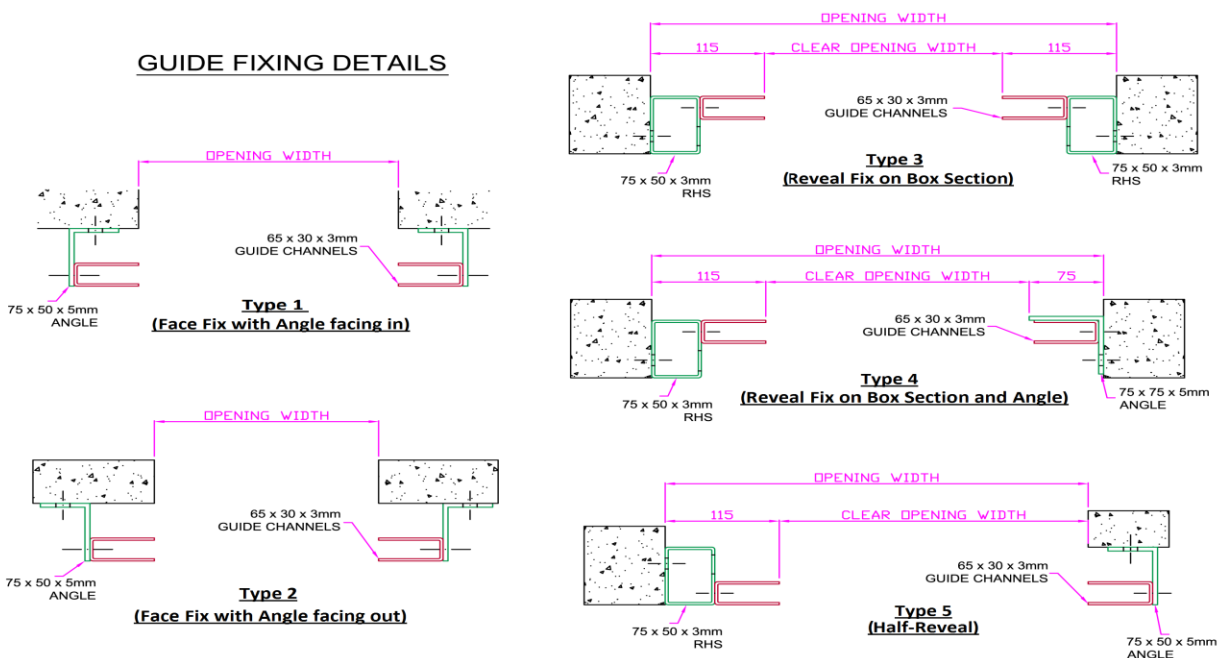
Typical shutter bill of materials. (Non-fire rated shutters do not include part 5c).

1.	Shaft	4" x 9SWG MILD STEEL TUBE ROLLER DRUM (101 x 3.8mm)
2.	Curtain	CURTAIN 22S GAUGE LATH WITH CAST STEEL END LOCK 0.76mm lath
3.	Motor	TUBULAR MOTOR - FOR FIRE SHUTTER
4.	Shaft Bolt	DUMMY END AXLE - Ø ¾" BRIGHT STEEL (Ø 20mm)
5A.	End plate 1	5mm GEAR END BRACKET <b>320x300</b> COMPLETED WITH SPECIAL MOTOR SUPPORT BRACKET SUPPLIED BY LINK CONTROLS LIMITED.
5B.	End plate 2	5mm DUMMY END BRACKET <b>320x300</b> COMPLETED WITH 3mm CHANNEL 75Lx30Wx47D IN CONJUNCTION WITH TRANSVERSE FOR SHAFT BOLT DEPTH WELDED TO BRACKET PLATE
5C.	Motor defence	3mm MOTOR SUPPORT PLATE <b>315w x 295h</b> WITH Ø120mm HOLE
6.	Guide channels	65x30x3mm GALV STEEL GUIDE TRACK ( <b>65x30x3</b> )
7.	Support Angle	75x50x5mm ANGLE GALV STEEL
8.	Offset Channel	75x40x3.8mm OFFSET CHANNEL GALV STEEL
9.	Enclosure	CANOPY 20 SWG
10.	Bottom Rail	T SECTION BOTTOM RAIL

## **STEP 2 – FIXING THE ANGLES**

Ensure that the site is clear and that the fixing surfaces are free from loose plaster and masonry. Ensure that the opening has no irregularities that could snag the curtain. Finally, ensure that the substrate is level. Brickwork should be treated with cement if this is not so. You are advised to double check the measurements of the opening before beginning work.

- 1) Refer to paperwork for sizes and location
- 2) Always check structural sizes against the ordered / manufactured sizes
- 3) Take the guides off the fixing angles / box section by removing screws and keep safe. Do not refit the guides until Step 5.
- 4) When you have measured your opening and matched sizes on the paperwork then proceed to install angles / box
- 5) Recommended fixing bolts are 8mm x 75mm Anchor or Thunder bolts...Rawl bolt will suffice
- 6) Note: When you fit the angles / box, you will also be fitting the flag plates at the top.



### **STEP 3 – FIT THE MOTOR BARREL**

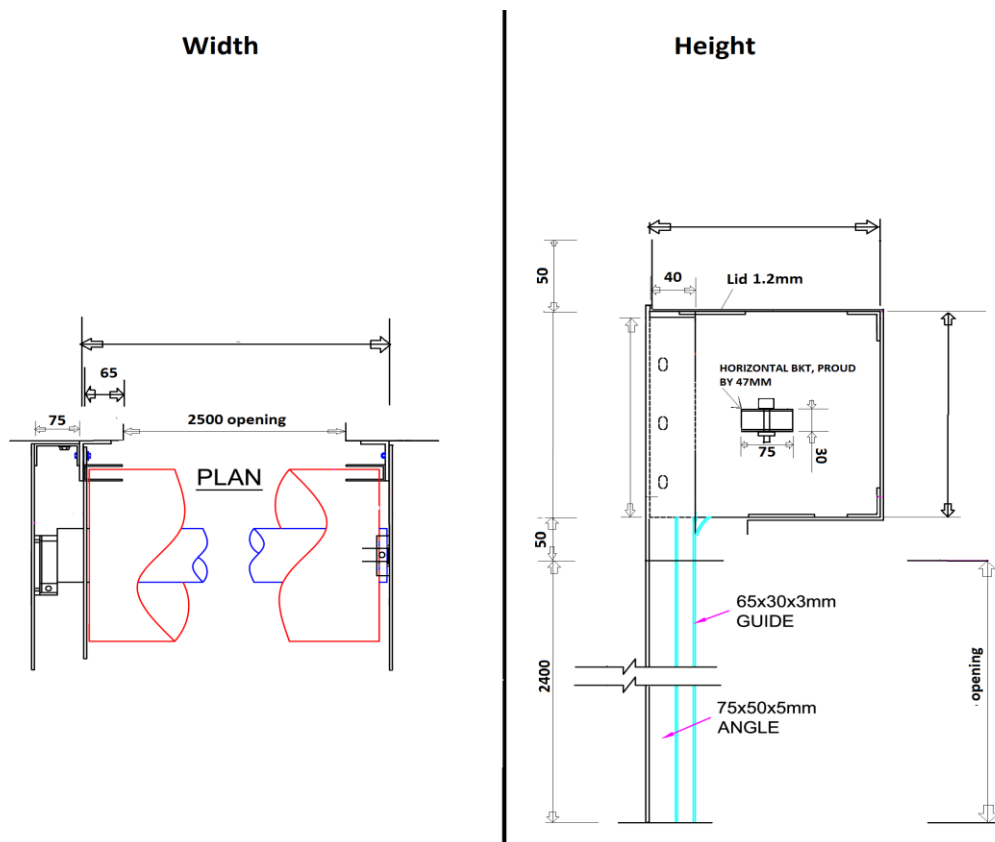
- 1) When the angles and top flag-plates are secure, fix the steel round tube and motor end into the motor plate, and ensure that the whole motor side is firmly screwed together.

[For 3-phase motors, the circular shaft bolt on the motor end will pass through the plate into the motor unit itself.]

Pass the floating lost-bobbin into the safety brake at the non-drive end.

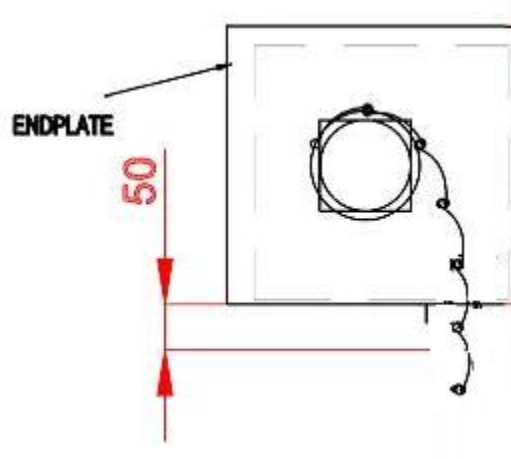
[For 3-phase motors, the safety brake is incorporated into the block motor itself.] The drawings below show a fire shutter lost bobbin end, but a safety brake will be fitted for non-fire shutters.

- 2) Ensure that the hexagonal-shaped aperture for the override bar is vertically facing, so that the hexagonal bar of the override eyelet will hang down.
- 3) If a test power-lead is available, you can now test the motor and the movement of the tube.



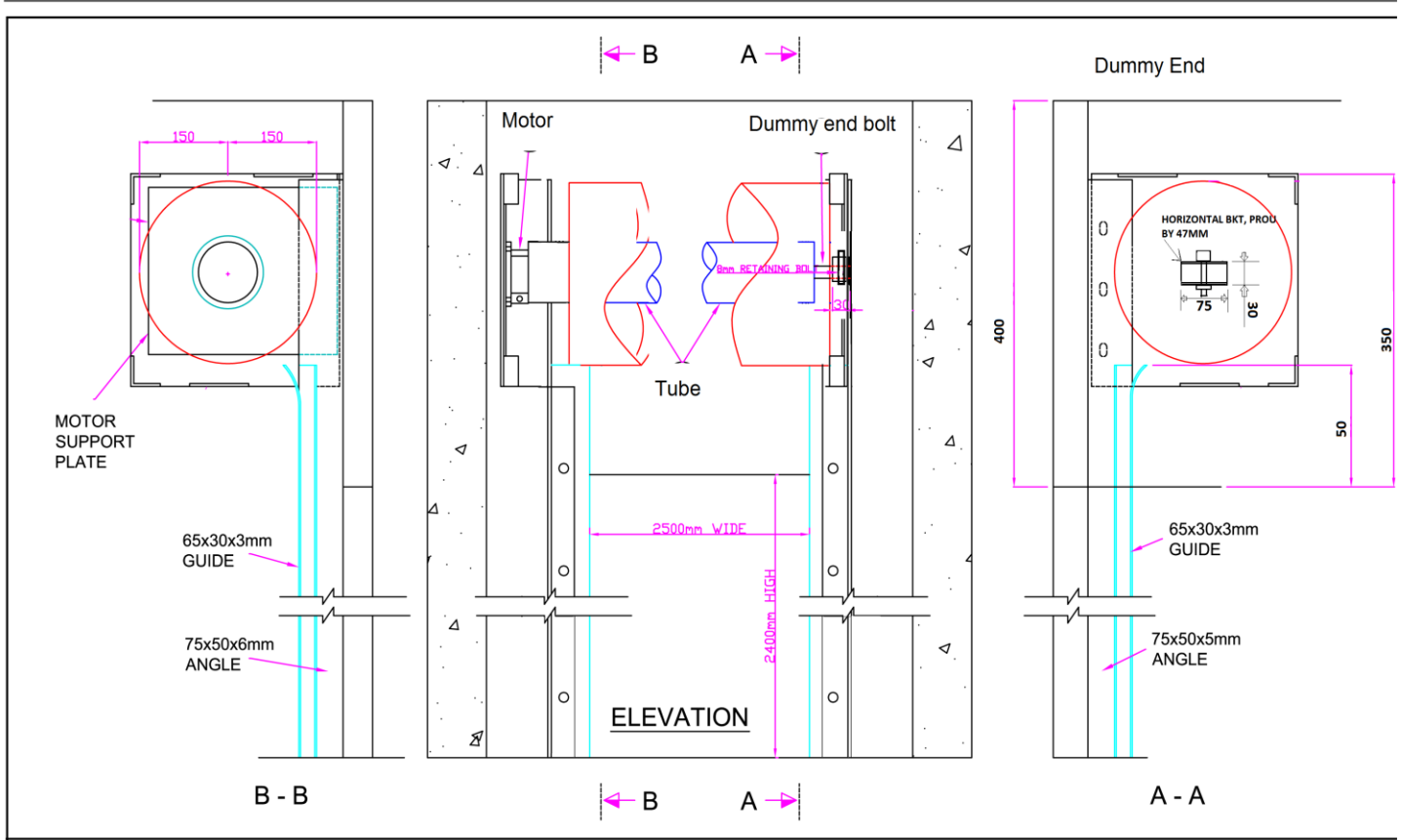
## **STEP 4 – CURTAIN INSTALLATION**

- 1) Hang the curtain using the lath hangers attached to the barrel. First hang the top section of the curtain, then continue to connect the other bundles.



## **STEP 5 – ATTACH THE GUIDE CHANNELS**

- 1) Once the curtain is attached, you can now re-attach the guide channels. Send the shutter in the upward position allowing you to fix the guides back to the angles or box using the screws you removed (Step 2).



## **STEP 6 – SET THE MOTOR LIMITS**

Motor limits can be set with either a test lead, or with the control switch installed.

### **A. Tubular motor limit setting**

1. Site the push button station at a suitable height and location. (Final wiring should be co-ordinated with the site / customer requirements. Electrical work should be carried out by a qualified electrician, while the equipment is shut down). Consult the relevant supplied instructions for key switch, remote control, or other types of switch.
2. Fix the mains outlet at a suitable height and location
3. Secure the cabling, to prevent impeding the door operation.
4. The motor will have screw type limit switches. A straight line arrow pointing to the back of the shutter, or to the top of the shutter, will be found next to one of the screw limits. This is the Door Close limit switch. Turn the screw in the + (plus) direction to make the door close lower down. The – (minus) direction will make the door stop short.

The straight arrow pointing next to the other screw is the sign for the Door Opening limit; turn in the plus direction for more travel of the curtain upward, and vice versa.

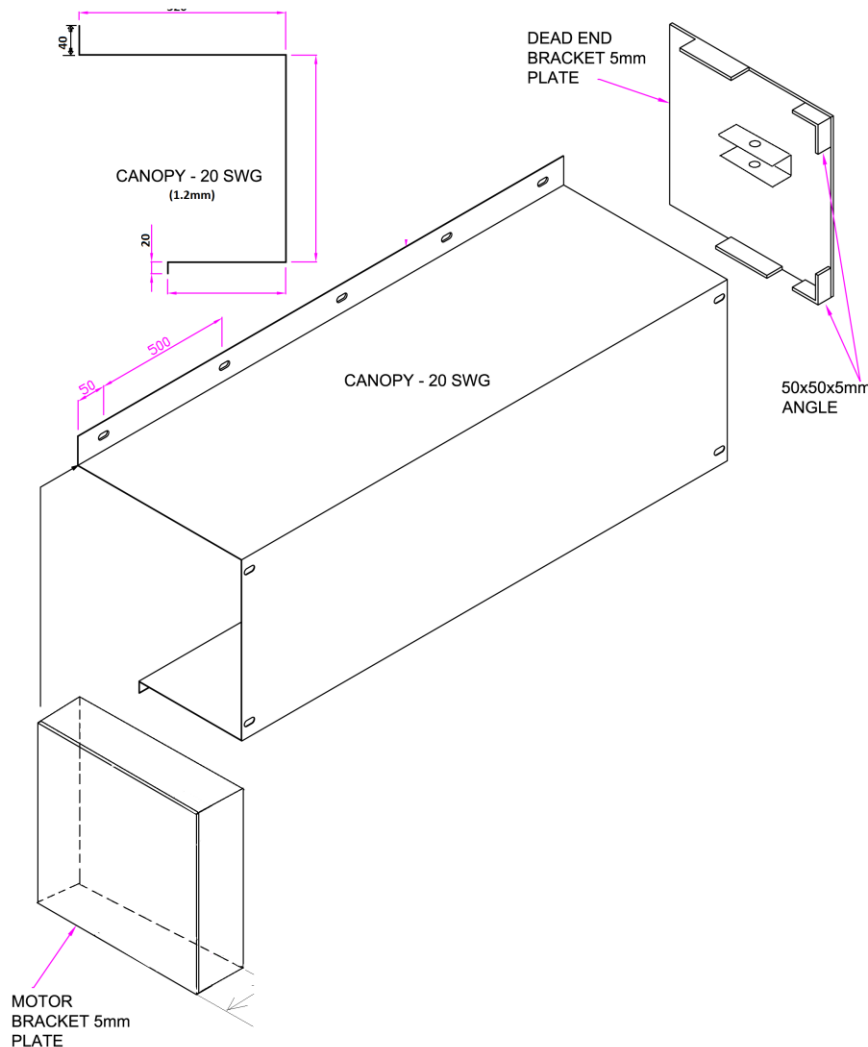
It is usually necessary to turn both screws in the '-' direction until the Stop point is within the opening, meaning that the shutter stops short of the bottom and top. Once you have found the Stop position for both up and down directions, it is necessary only to add '+' to the door travel, until it stops at the exact position required.

### **B. 3-Phase / In line motor limit setting**

A range of 3-phase motors are used for various applications. Limit setting processes will depend on the kind of motor employed. See the installation instructions supplied with the motor.

## **STEP 7 – FIXING THE CANOPY**

1. Situate the Canopy so that it sits with no uneven overhang.
2. The Canopy has slots pre-drilled where it should be fixed to the substrate and the End Plates.
3. An aperture for the override eyelet should be drilled / cut out.
4. Using the apertures in the canopy, fix the top back of the Canopy into the substrate, and to the endplates. When fixing to brick use fixings of the type specified in Step 2.



## **STEP 8 – FINAL INSPECTION**

After connecting the motor and control, proper operation of the roller shutter must be tested. When closing and opening the door ensure that no hitches or interferences occur. If unexpected or loud noises occur, or the door seems to jam, the control has to be stopped immediately. Check whether the guides are seated correctly and if the tube is level. Check that the slats enter and house the guide properly. If none of these checks explains the failure, the manufacturer of the product should be contacted.

## **DISMANTLING**

- The grille has to be rolled up completely while on the tube.
- Turn-off the control and motor, and turn-off the current supply.

Dismantle the wiring so the electronic components, like the motor and safety brake, are no longer connected to other components. In case of a tubular motor, the safety brake has to be removed first. Subsequently, using a folk-lift truck or hoist, lift the (rolled up) door off the end plates. Finally, the consoles, side plates, and the guides can be removed from the wall.

## **NOTES:**



## Operating & Maintenance Instructions

### Electrically Operated Roller Grilles

#### 1. General Instructions

#### 2. Operating Instructions

##### 2.1 Electrically Operated Products

- a). Hold To Run Switches
- b). Remote Control
- c). Manual Overrides

#### 3. Maintenance

#### 4. Service & Repair Record

Date of Installation:
Installation By:
Contact Details:



To ensure compliance with the Machinery Directive this document must be retained by the owner of the Door and held for future reference.

## **1. Introduction**

Your newly installed product should give you many years of trouble free service as it is designed to require minimal maintenance and servicing. In order to prolong the life of your shutter and to reduce the likelihood of problems, please adhere to the following instructions. (Please note all products should only be operated by trained personnel).

### **2.1 Electrically Operated Products**

Only operate your shutter when it is in view making sure it is not obstructed. Ensure the curtain is running in the guides and that you and any other persons stand clear of the curtain and keep hands etc. away from moving parts.

## a). Hold To Run Switches

### Hold To Run Rocker Switch

### Hold To Run Key Switch

- Make sure all windows and doors are closed
- If your shutter contains any manually operated locks – these must be disengaged before you operated the shutter (failure to do so will damage the motor within the shutter).
- Turn / Press switch in desired direction. These are momentary switches, therefore the operator must be present when opening and closing, with all openings in view.
- It is very important that the motor completes its pre-set rotation and the motor stops. The motor locks the shutter only when fully closed, so be sure the curtain is fully down. The motor must stop on its pre-set limits.

TROUBLE SHOOTING		
Fault	Cause	Solution
<b>The shutter/door fails to operate when the button is pressed / key is turned</b>	1. There has been a power failure  2. The wrong direction has been selected on the control equipment.  3. The thermal trip in the motor may have activated if the door has been operated several times recently	1. Wait for power to come back on or operate the shutter/door with the manual override if installed.  2. Select the correct direction.  3. Allow the motor to cool for approximately 30 minutes before attempting to operate the shutter/door again.
<b>The shutter / door stops before fully opening or closing, or fails to stop when reaching its final open or closed position.</b>	The limits in the motor have failed to operate or may not have been set correctly.	Contact your installer.

## **MAINTENANCE**

### **CAREFUL USE OF YOUR SHUTTER/DOOR IS THE BEST WAY TO AVOID MAINTENANCE OR REMEDIAL WORK**

Your shutter/grille is low maintenance. The shutter should be wiped with a damp cloth and a mild detergent to remove any excessive dirt/grime in order to maintain its prime appearance and to reduce the risk of the surface being damaged. This must be done more frequently in a salt air environment.

Marks on the paint finish can be cleaned with many types of car polish. Chips in the paintwork should be touched up to prevent corrosion of the metal.

**The power to the shutter should be isolated before washing or repairing the paintwork.**

The motor and curtain have been designed to be lubrication free so you must not oil or grease the guide rails. Make sure no foreign items get collected in the guides i.e. stones, sticks, paper etc.

### **Additional information for electrically operated products**

Your door should run smoothly and easily since the motor is not designed to overcome problems of a badly running or damaged door. If necessary contact your approved installer for repair.

The motor should stop on the limits and not over-run (indicated by buzzing) when the door hits the floor or the open-stops at the top of the guide channels.

N.B. Always isolate the power before attempting to make any adjustments or repairs. Untrained operators are advised to contact an approved installer.

## SERVICE AND REPAIR RECORD

<b>Date work carried out:</b>
<b>Work carried out:</b>
<b>Work performed by – Sign</b>
<b>Print</b>
<b>Company Name:</b>

<b>Date work carried out:</b>
<b>Work carried out:</b>
<b>Work performed by – Sign</b>
<b>Print</b>
<b>Company Name:</b>