UK ROLLER SHUTTERS
SUPPLIER & FITTER OF ROLLER SHUTTERS

LPSSHUT-3 (SR3)
Steel Security Shutter

Installation Instructions
Operation & Maintenance Instructions

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

LPCB LOSS PREVENTION CERTIFICATION BOARD
UKAS MANAGEMENT SYSTEMS 007

Certificate No. 93

CE

Contents

Installing Security Rated Products

The UKRS 'LPSSHUT-3' (SR3) has been tested by the Loss Prevention Certification Board and has been certified as reaching SR3 level (LPS 1175 Standard (Issue 7)). The shutter has SR3 certification for steel, concrete and brickwork substrates. To ensure that individual and custom-made shutters are the same as those which have been tested and certified, installers must carefully read and follow this manual of Installation Instructions.

Please pay particular attention to the following before beginning the installation:

1. For SR3 shutters the following substrates are alone permissible: **Mild Steel** of a wall thickness of at least 5mm (the fixings can be screwed or bolted in with the approved fixings); **Concrete** block / beams; **Brick**. Other substrates are not permitted.
2. The substrate (i.e., masonry, steel, etc.) to which the shutter is to be fixed must be level, and variation from the level vertical face of the substrate must not constitute more than 10% of the total level face of the substrate. Use cement to correct any irregularities on the opening face of brick or concrete where possible.
3. TheLPSSHUT-3Elite must only be fitted to the internal face of an opening. The product is not tested or approved to be fitted either in the reveal or externally.
4. The supplied fixings alone must be used to attach the door to the substrate. The fixings are essential to the overall security level of the finished installation. For information on fixings, see page 10.
5. Locking methods for the shutter must be installed. The Bullet Locks and Ground Locks (where appropriate) must be in place if the Security Rating is to apply. Therefore, to ensure that the locks are used when necessary, and disengaged when the door is operating, end users require training in the use of the locks and failsafe isolators. It is the responsibility of the installer to, as a minimum, hand over this document, explaining the location and function of locking mechanisms on shutters.

If any problems arise during the installation of this product regarding the above, or regarding any other matter, please conact UKRS for advice or assistance on:

Tel: 01384 221 743

sales@ukrollershutters.co.uk

Declared Performance

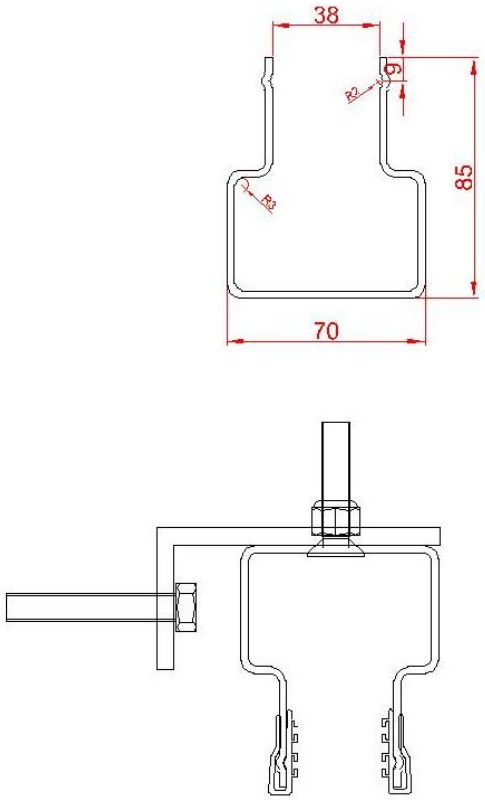
Essential Characteristics	**Performance**	**Harmonised Technical Specification**
Geometry of glass	NA	BS EN 13241-1:2003+A1:2010
Mechanical Resistance	Pass	
Water tightness	NPD	
Release of dangerous substances	None	
Resistance to wind load – Test Pressure	Class 5	
Thermal resistance	NPD	
Air permeability	NPD	
Durability of water tightness, thermal resistance and air permeability	NPD	
Safe opening (i.e., Safety Brake)	Pass	
Operating forces (i.e., Safety Edge)	NA	

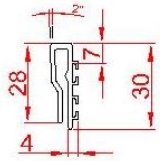
9. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 8. This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.

General Description

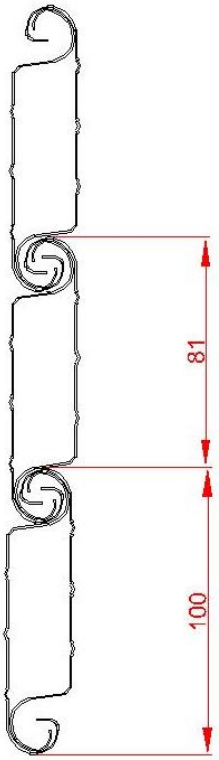
Installation type:	Face Fix only
Substrates:	brick work, concrete, mild steel (5mm wall min)
Min Width:	1000mm
Max Width:	7000mm
Min Height:	1300mm
Max Height:	5000mm
Locking method:	1. Bullet locks (H75) 2. Ground Anchor (opening width =>3m)
Curtain weight:	37kg per m^2 (approx.)

Guide Channel





Slat / curtain



SAFETY NOTICE

The curtain roll is heavy and awkward to handle. It is recommended that this shutter is installed after a period of careful planning; installation should be carried out by persons with sufficient experience of installing industrial shutters. It is not advised to carry shutter slats manually into location; rather, mechanical carrying aids should be used where possible. Working at height should not be carried out without appropriate fixed or mechanical equipment.

Large shutters will require a safe system of work detailing how installers approach individual tasks. It is highly advised that a detailed plan or method statement is devised before beginning work on shutters. Work at height, and excessive manual handling risks should be controlled or avoided.

UKRS will be glad to assist in the planning of the installation of the shutter; delivery arrangements of the shutter can be agreed with UKRS at time of order, including an agreement about how the parts with most size and weight are to be delivered.

The LPSSHUT-3 shutter uses a heavy gauge curtain slat weighing 37kg per meter square.

Only trained and properly equipped persons should attempt to install and commission the LPSSHUT-3 SR3 shutter.

Single or three-phase power required for the motor should be provided by a qualified electrical engineer.

STEP 1 – TAKING DELIVERY AND CHECKING ALL PARTS

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

You should have:

A) Shutter curtain
B) Installation kit, including approved fixings
C) Shutter Guide Channels
D) Shutter Support Angles and Protection Angles
E) Tube (with top rail bolted on)
F) Motor
G) Galvanised steel canopy (where ordered)
H) Any controls and switches, including safety devices and isolators

STEP 2 – FIXING THE ANGLES (Support Angles and Protection Angles)

UKRS will supply the approved fixings for installation of the Protection and Support angles. Contact the office on the telephone number on page 3 with any problems

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 which might 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.

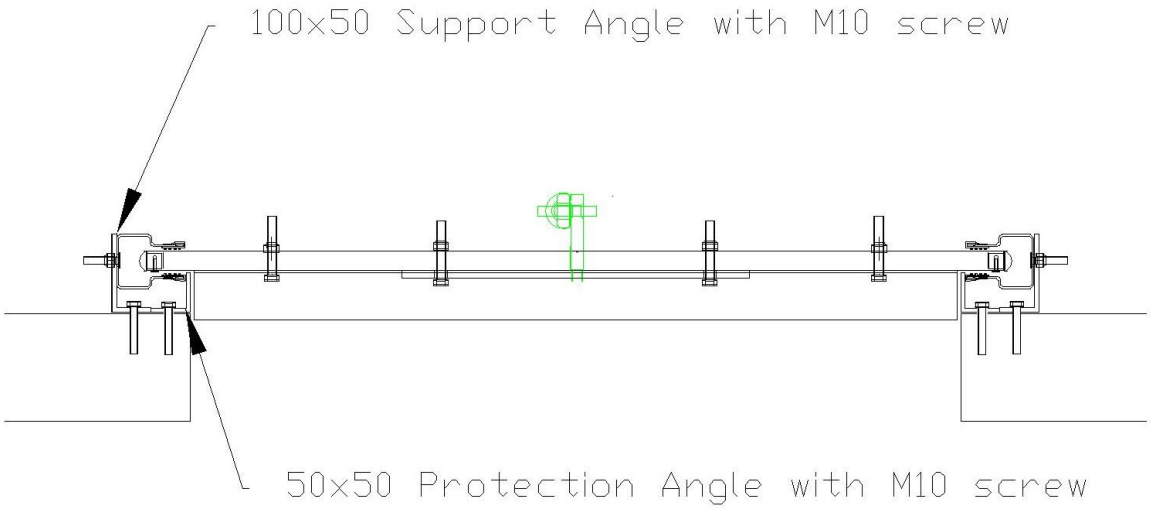
1) Refer to paperwork for sizes and location of the shutter before beginning work

2) The back of the **Support Angles** must be fitted 100mm set back from opening; See Table (4) below for fixing type. Angles are pre-drilled for locations of fixings. Note that, because they are fixed to the Angle, the End Plates are usually fixed at the same moment as the Support Angle.

3) **Protection Angles** are fitted flush with the opening; for the Protection Angles – M10 8.8 grade screws must be used into steel; High Tensile anchor bolts will be used into brick or concrete. See Table (4) below.

4)

Substrate	Fixing (Support Angle)	Fixing (Protection Angle)	Distances
Steel work (5mm min)	M10 (8.8 grade). use Nyloc nut, or tap into the steel	M10 (8.8 grade); use Nyloc nut, or tap into the steel	100mm top and bottom of angle, then max. 400mm between
Brick (reinforced)	M10 anchor bolt	M10 anchor bolt	As for steel
Concrete (reinforced)	As for brick	As for brick	As for steel



STEP 3 – FIT THE END PLATES AND MOTOR BARREL

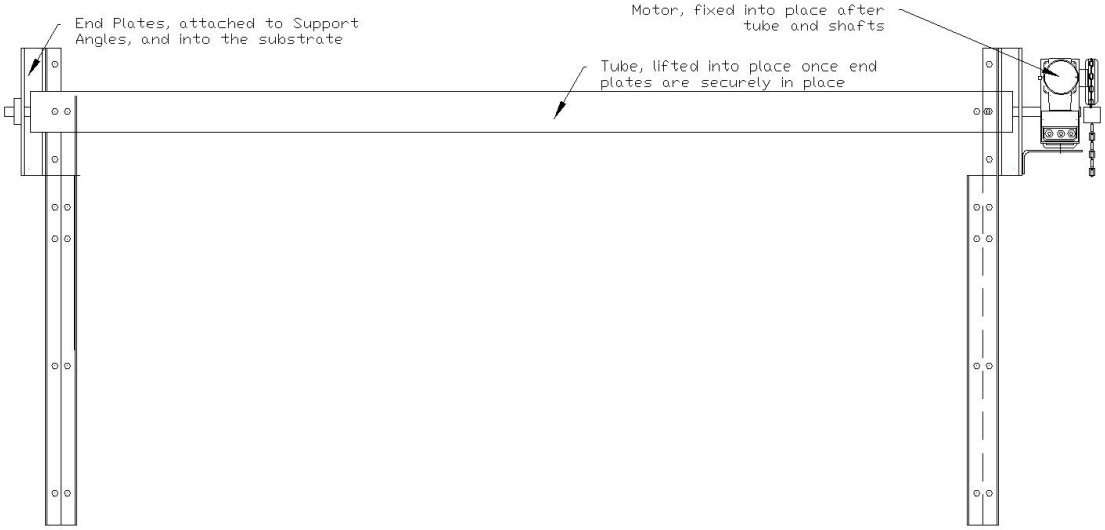
1) End Plates should be fixed into the substrate bearing in mind the weight of the entire End Plate assembly – which includes Curtain and Tube. **Shearing** and **Tension pull-out forces** on fixings must be calculated (UKRS can advise on this), and fixing no.s and sizes for the End Plates worked out. The stability of the substrate should be borne in mind when planning the installation; large shutters must be fixed to an appropriately stable support. In circumstances where the shutter will be sited on particularly weak or un-reinforced brick / concrete, a steel frame may be required and should be fabricated to spread the load (again, calculations for steel load bearing may be required).

   The SR3 shutter End Plates are attached to the Support Angles; securely fixing the Support Angles will also fix the End Plates; further fixings can be put through into the substrate if required.

2) When the Support Angles and top End Plates are secure, install the Tube and Motor into the End Plates. This step can be achieved both for a Tube without the Curtain attached, or with the Tube and Curtain in one unit. The Tube / Curtain & Tube should be lifted into place with a fork lift truck or other mechanical lifting aid.

3) When the Tube is located centrally into the End Plates, fix the bearings with the supplied nuts and bolts. Bolts should be snug tight with ordinary spanner.

4) For Direct Drive motors, now slide the Motor onto the shaft and fix in place with supplied bolts.

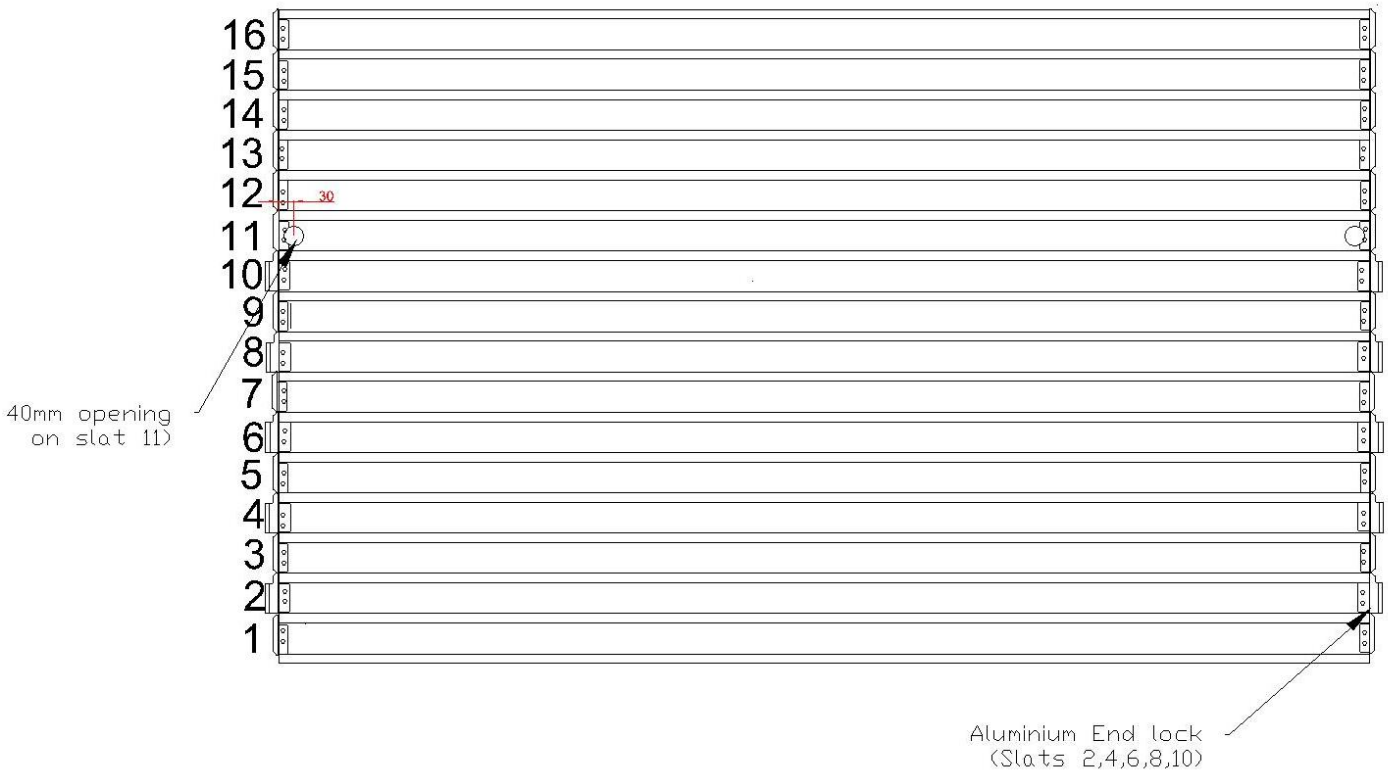


STEP 4 – CURTAIN INSTALLATION

1) For the LPSSHUT-3 the curtain should be installed as a single unit.
   To install as a single unit, a fork lift truck must be employed, often with the Tube enclosed inside the curtain. Before planning a lift with a Fork Lift Truck, ensure the weight of the Curtain and Tube is within the limits assigned to the FLT. Otherwise, the curtain roll should be offered up to the barrel in rolled form; attach the top slat to the barrel when it is positioned hanging over the barrel (to achieve this, the top slat should be on the outside of the roll of curtain during preparation or manufacture/packing). Alternatively, if there is room, slats or bundles of slats can be slid on piece by piece, from the side; slat endlocks must be removed then reattached for this.
2) Secure the Curtain roll to the FLT forks. Repeat Step 3 (above) but with Curtain wrapped around the Tube.

The following describes the composition of the curtain:

1) The top eight slats are purely for wrapping around the barrel.
2) All slats are end locked with 2no. 4.5x16mm aluminium rivets; slats 2,4,6,8,10 have aluminum locks, the remainder grey nylon end locks.

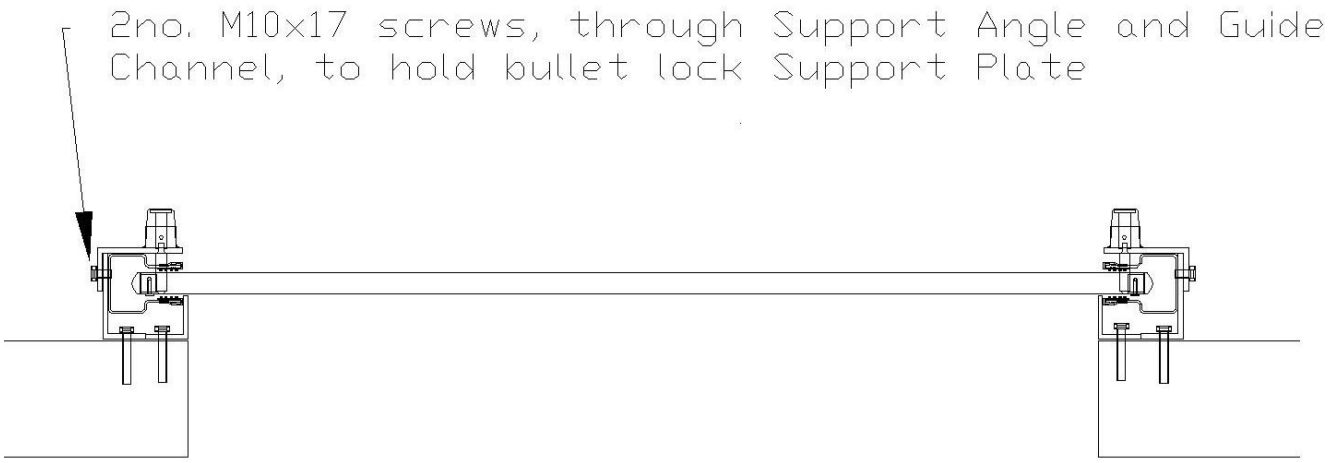


STEP 5 – ATTACH THE GUIDE CHANNELS

1) Once the Curtain is attached, fix the Guide Channels in place through the pre-drilled holes which lead through the Support Angle and the Guide channels. Send the shutter in the upward position allowing access to fix the Guides to the Angles using the supplied 40mm M10 c/sunk screws and nyloc nut: 100mm from top and bottom of the guide channel, maximum of 300mm in between distance. The motor will need to be powered up for this; or else, use manual override.

STEP 6 – BULLET LOCKS

1) All Elite LPSSHUT-3 shutters have bullet locks fitted. Attach the Bullet Lock Support Plate to the Support Angles. The Support Angles are supplied with tapped apertures to admit the Bullet Lock Support Plate; the Bullet pins should pass through the 11th slat.



STEP 7 – GROUND ANCHOR (=>3M WIDE ONLY)

1) SR3 LPSSHUT-3 Shutters of 3m wide and over require a Ground Lock affixed to the bottom slat. The lock system faces into the Secure area of the opening. The lock system consists of a Fixed Eyelet (pre-installed on the bottom slat), a Removable Eyelet, and the Sprung Barrel (which must be fixed into the ground, flush).

2) Send the shutter down into the Closed position and place the Removable Eyelet next to the Fixed Eyelet on the bottom slat. Where the base of the Removable Eyelet sits is the point at which the Sprung Barrel will sit. Mark the centre with a pencil as a centre for the pilot hole.

3) Confirm that the chosen location for the Removable Eyelet and Sprung Barrel is correct by sending the shutter up, then to the Closed position once more, then aligning the Removable Eyelet.

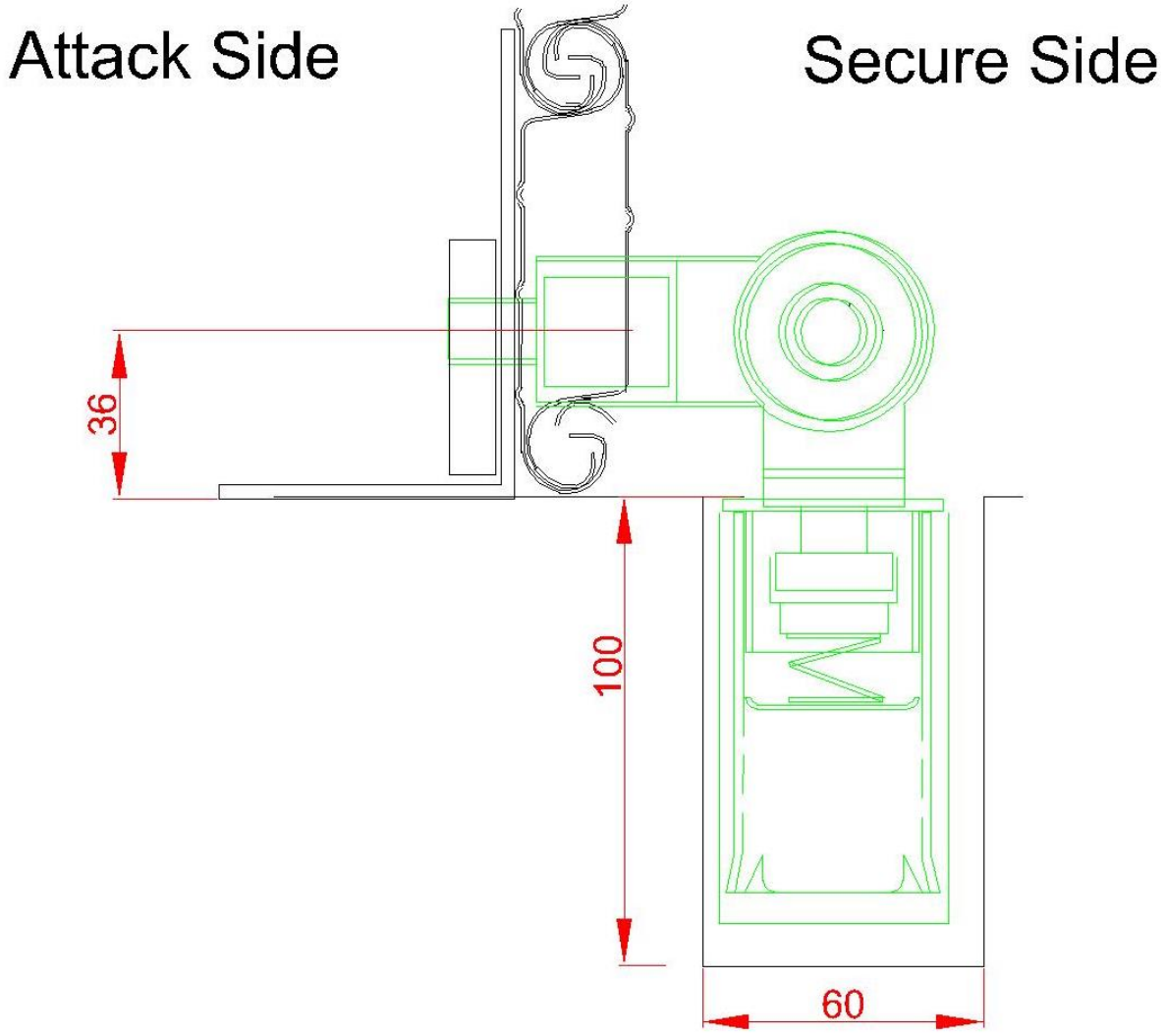
4) Send the shutter into the Open position again, then using the centre mark for the pilot, drill a 10mm hole into the floor concrete to the depth of 50mm; proceed to cut out a 60mm hole, 100mm depth, into the floor level with a diamond edged hole saw using a guide rod to ensure precise location of the hole saw into the concrete.

5) Completely remove all dust and debris with a brush and vacuum. Using a good quality resin, fill the hole half-way to the top. Press the Sprung Barrel into the hole amidst the resin. Ensure the resin fills all gaps to the sides of the Barrel. This should be done as soon as possible after pumping the resin. NOTE: with a 2-pack resin, the 2 elements must mix properly before inserting the Barrel; the colour will usually change when this is done. See specific resin instructions.

6) Line the Sprung Barrel and Removable Eyelet to the Fixed Eyelet by closing the shutter, then insert the Padlock to ensure the resin sets with the Eyelets aligned. Allow the resin to set around the Sprung Barrel. Follow specific instructions of the resin manufacturer for setting times. Where possible, leave the Removable Eyelet in the Sprung Barrel, and the shutter in the Closed position; put the approved and supplied Padlock through the Eyelets.

See Diagram on next page.

Ground Lock system diagram



STEP 8 – MOTOR OPERATION

Locks

Do not use the motor while the Bullet Locks or the Ground Anchor are in the locked position. Use a Bullet Lock Isolator for the bullet lock pins, and a Ground Lock Isolator for the padlock, thereby ensuring that the motor will not operate unless the pins and padlock are fully disengaged and set aside securely.

Tube Motors

For certain small shutters, a Tubular Motor will be appropriate; Tubular Motors run off a 230V supply and should be run through a control panel allowing the Isolator and switch to be low voltage.

Direct Drive Motors

400V x 3 phase power is appropriate for Direct Driver motors; it should be supplied via a 5-pin socket 1m away from the Motor control panel.

Operation

The SR3 Shutter is 'dead man' only. Remote control operation is not permitted due to the nature of the bottom edge of the shutter – which does not allow for a 'safety edge' type restraint on operating forces.

A. Motor limit setting: Tube motor

1. Site the push button station at a suitable height and location. (Final wiring should be co-ordinated with the site / customer requirements).
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. Limit Setting: Direct drive motors

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. Direct Drive motors by GfA or MFZ make use of control panels into which the No. of Turns / Limit Positions can be programmed into the control panel.

STEP 9 – FIXING THE CANOPY

1. Situate the Canopy so that it sits with no uneven overhang.
2. The Canopy has slots pre-drilled through which it should be fixed to the substrate and the End Plates.
3. An aperture for the override eyelet should be drilled / cut out in the case of Tubular motors.
4. Using the apertures in the canopy, fix the top back of the Canopy into the substrate, and to the endplates.
5. The Canopy is not integral to the overall Security Rating of the shutter and is an optional item to suit the needs of the end user.

STEP 10 –RULES FOR OVERRIDES, CONTROL PANELS, AND SWITCHES

Override systems and security shutters

There is no risk of override systems being used by an attacker; therefore, considerations of user-safety alone determine whether the override chain (for 3 phase motors), or the override handle (for single phase tube motors), should be left near to or on the motor system.

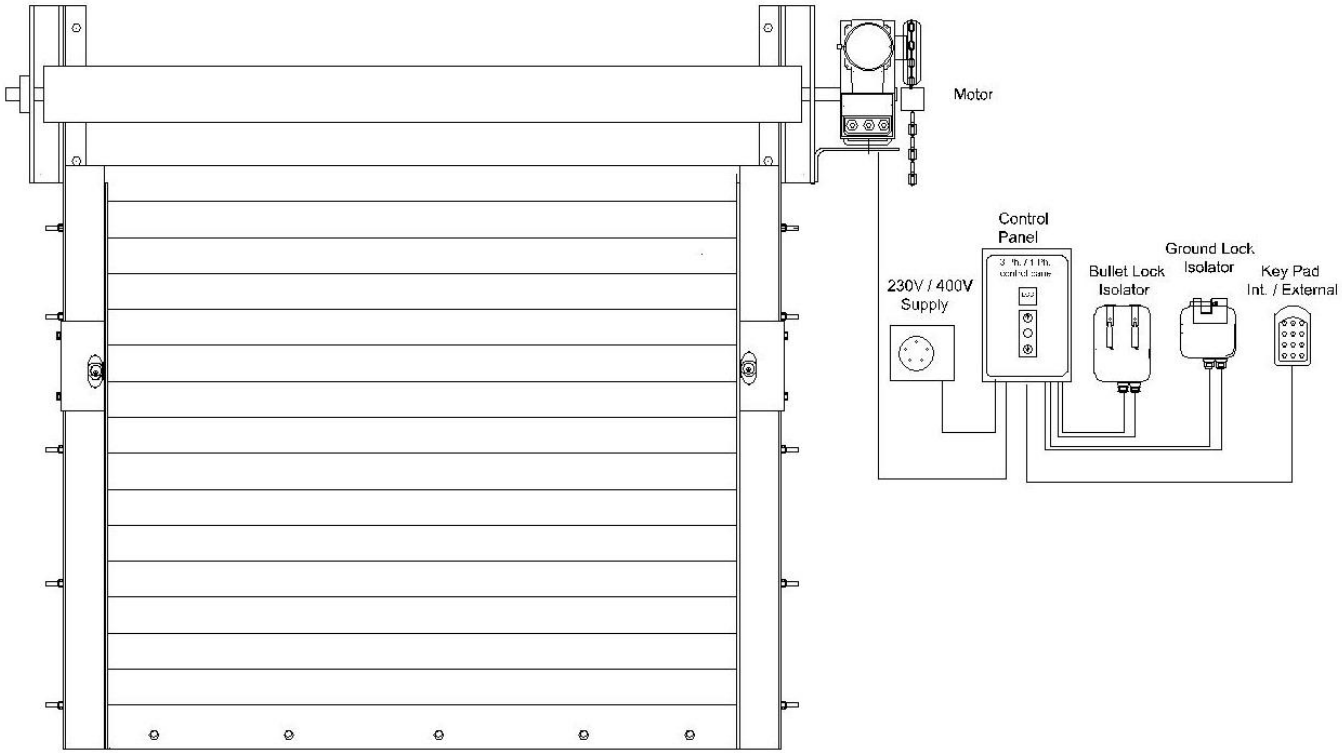
Control Panels

Controls panels do not represent a risk in terms of being used by an attacker when they are sited inside the secure side of an opening. A range of switches are available. (Remote control systems should not be fitted with the UKRS SR3 Elite shutter. Wireless and fixed-in-place key pads are acceptable since these ensure operator is in view of the shutter leaf). Key switches and control panels are supplied with dedicated installation instructions.

Externally mounted switches

The approved SR3 externally mounted switch is limited to the Key Pad – a remote control or wired switch requiring a memorised key pad code. (Instructions supplied with the key pad). The Key Pad will only operate the shutter when the correct code has been input. ***Other types of switch must not be used on the attack side of an opening.***

STEP 11 – LOCKING FAILSAFES WIRING DIAGRAM



Notes

1. The Ground Lock Isolator is not required on shutters under 3000mm wide (opening width).
2. See instructions with the particular item for integration with the Control Panel.

STEP 12 – FINAL INSPECTION

After connecting the motor and control, a test of the proper operation of the roller shutter must be carried out. 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 motor must be stopped immediately. Check whether the Guide Channels are seated correctly and if the Tube is level. Check that the slats enter the Guide properly. If none of these checks explains the failure, the manufacturer of the product should be contacted.

Check that the Ground Anchor operates smoothly and that the Fixed and Movable Eyelets meet properly to admit the Padlock. Check that the motor limits have been set so as to allow smooth operation of the Bullet Locks.

It is highly advised that the Bullet Lock Isolator (and Ground Lock Isolator, where appropriate) is installed to ensure that the shutter is not operated while in the locked condition. **Operation of the shutter with any of the locks engaged may permanently damage the shutter and/or motor.**

DISMANTLING

1. Roll the shutter Curtain up around the Tube.

2. Turn-off the control and motor, and turn-off the current supply.

3. Dismantle the wiring so that the electronic components, motor and safety brake, are no longer connected to other components.

4. Use a Fork Lift Truck or similar to adequately support the Curtain and Tube from beneath: establish the weight of the load and the load restrictions on the lifting gear.

5. The Curtain should be attached to the lifting gear with ratchet straps or similar restraints.

6. While the Curtain and Tube are sustained and unable to move, release the nuts attaching the motor and bearings to the End Plates. The Curtain and Tube/Shafts can now be removed from the End Plates. Lower these to the ground under control.

7. Remove the Guide Channels; then the Support Angles from the edges of the opening. Working at Height equipment should be used for long duration work. Lifting equipment should be employed to allow the Support Angles and End Plates to be lowered under control.

NOTES:

LPSSHUT-3 SR3

Operating & Maintenance Instructions

Electrically Operated Roller Shutters

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.

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1. Introduction – Service Schedule

Your newly installed product should give you many years of trouble-free service. The shutter has a high Security Rating (level 3) and several complicated moving parts; it should be serviced by a professional shutter-maintenance organization every 12 months. UKRS Ltd can be contacted for information on an approved service organisation.

In order to ensure proper operation as a Security Rated product, and to prolong the life of your shutter, as well as to reduce the likelihood of problems, please pay close attention to the following information.

2. Locking Systems (SR3)

The SR3 Elite LPSSHUT-3 has a single locking system across all models – the Bullet Lock system; and an additional locking system for shutters 3 meters wide and over – the Ground Anchor system.

2.1.1 The Bullet Lock system

All SR3 shutters use the Bullet Lock system. When the shutter is in the Closed position, the Bullet Pins should be inserted into the Bullet Lock Housings on the Guide Channels. The shutter is not completely secure unless the Pins are in place inside the Housings.

The Pin should be inserted into the Housing only when the shutter is completely closed and has reached its lower limit position. The Pin will thereby engage with the 11th slat of the curtain from the ground.

It is important to remove both Bullet Pins before operating the shutter to raise and move it to the Open position; if the Bullet Lock Isolator is properly installed, then the Pins should be removed from the Housings and inserted into the Isolator before any possible operation.

2.1.2 The Ground Anchor system

Shutters over 3 meters in width (opening size) use a Ground Anchor which holds the shutter down firmly at the centre of the width.

When the shutter descends to the Closed position, the Ground Anchor removable eyelet must be inserted and turned prior to closing the shutter. The two parts will line up when the shutter closes.

It is important to remove the Padlock before operating the shutter to raise and move it to the Open position. If the Ground Lock Isolator box is properly

installed, the shutter will not operate until the Padlock has been inserted into the Isolator.

3. 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 Guide Channels and that you and any other persons stand clear of the Curtain and keep hands etc. away from moving parts. **Security Rated products have locks which must be put in place at the time of closing; they must be taken away from their place before opening.** The shutter is not secure to the SR3 level unless all installed locks are engaged.

3.1.1 Hold To Run Switches

Hold To Run Rocker Switch **Hold To Run Key Switch**

- Make sure all windows and doors which the shutter conceals 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 the switch in desired direction. The installed switches are momentary, 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 when closing and opening. 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 in the open position; this is so that there is an acceptable amount of unbalanced force on the shutter Motor.

TROUBLE SHOOTING		
Fault	**Cause**	**Solution**
The shutter/door fails to operate when the button is pressed / key is turned	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 4. Pins or Ground Anchor are still in place	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. 4. Remove locks and insert into wall mounted isolators.
The shutter / door stops before fully opening or closing, or fails to stop when reaching its final open or closed position.	The limits in the motor have failed to operate or may not have been set correctly.	Contact your installer.

4. MAINTENANCE

SERVICE OF THE SHUTTER BY AN APPROVED INSTALLATION / SERVICE ORGANISATION SHOULD BE CARRIED OUT EVERY 12 MONTHS.

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

Your shutter/door 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 or 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; do not oil or grease the guide rails. Ensure no foreign items are collected in the Guide Channels, i.e. stones, sticks, paper etc.

Additional information for electrically operated products

The shutter should run smoothly and easily since the motor is not designed to overcome problems of a badly running or damaged shutter leaf. 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.

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

5. SERVICE AND REPAIR RECORD

Date work carried out:
Work carried out:
Work performed by – Sign
Print
Company Name:

Date work carried out:
Work carried out:
Work performed by – Sign
Print
Company Name: