



MAX SIZE - 4m w x 2m h APPROX

NEAT APPEARANCE

RANGE OF ACTIVATION OPTIONS INCLUDING

- LOCAL HEAT / SMOKE DETECTOR

- FIRE ALARM RELAY

STAGED CLOSING

BATTERY BACKUP

GUARDIAN'S TM 60-240 Fire resisting roller shutter doors are purposely designed for kiosks, kitchen and office environments. The FIRE-TM is designed to give up to 120 minutes of fire protection, with a multitude of fixing options certified and available to satisfy the current fire regulations. The shutters are constructed to Warrington Fire Research Centre WARRES No 145904, the test is in accordance with clause 8 of BS476 part 22:1987.

IMAGE INFORMATION - SHOWN HERE IS THE FRTM-120 MODEL FIRE RESISTANT ROLLER SHUTTER MODEL. NUMBERED ITEMS 1, CONNECTION TO FIRE ALARM. 2, CONTROL UNIT. 3, UPS BATTERY BACKUP UNIT. 4, 13AMP FUSED SPUR. 5, KEYSWITCH. OPERATOR.

FOR ILLUSTRATION PURPOSES ONLY A SECTION OF THE COIL CASING IS SHOWN.



Fire resisting roller shutter doors are purposely designed for kiosks, kitchen and office environments. Where the need for an aesthetically pleasing solution are paramount. The FIRE-TM120 is designed to give up to 120 minutes of fire protection, with a multitude of fixing options certified and available to satisfy the current fire regulations. The shutters are constructed to Warrington Fire Research Centre WARRES No 145904, the test is in accordance with clause 8 of BS476 part 22:1987.

Max Size - 4m w x 2m h APPROX

MODES OF ACTIVATION

FIRE RELAY - Principally the commonly used means of release, the characteristics mimic the use of the solenoid on the conventional fire shutter, again linked to the fire alarm, the shutter rather than closing manually through the gearbox will of course be powered down. The unit will require a maintained supply; if this is not possible a separate battery back up unit can be provided.

FUSEIBLE LINK RELEASE - On activation the link, which is a soldered link, separates and releases at 68 degrees centigrade, in effect the temperature release of the link creates a signal to the relay which in turn powers the door down. Again if there is no facility for a maintained supply the battery back up unit must be used.

AUDIO VISUAL WARNING (FDI) Principally this unit is designed to delay the closing of the fire shutter; generally the fire alarm is linked to the audio visual unit and from the audio visual unit straight into the key switch. There is no need for a separate relay; there is already a relay in the FDI. On activation from the fire alarm the unit starts to "flash & sound", this unit contains a programmable timer which effectively delays the signal to the relay in the panel to close the door.

SPECIFICATION

CURTAIN - Constructed from a 50mm flat / 75mm curved steel scroll laths interlocked with steel end locks and galvanised double formed bottom rail. (50mm flat steel lath max size of 2.5m w)

BARREL - Manufactured from mild steel tube, tube size varies based on the overall width and height of the curtain and the gauge of laths. The tube wall thickness varies dependant on the width of the shutter, at the drive end of the barrel is the specially adapted 240 volt tubular motor and at the non drive end the barrel is supported by an 18mm bright steel shaft which in turn is attached to a high speed roller bearing assembly the complete assembly is then attached to steel end plates.

SIDE GUIDES - Constructed from 50mm or 63mm galvanised guide mounted on 75mm x 50mm galvanised steel angles.

HOOD - Formed from 20sg steel sheet, this in turn is fastened to the structure through slotted holes to allow for expansion. Dependant on the fire rating of the shutter (i.e. 1HR, 2HR) and the size of the opening, the shutter could require a hood support bracket.

FINISH OPTIONS - The curtain and guides are galvanised, angles, barrel and end plates are painted. A paint finish using a polyester powder coating system is available, the colour to a BS 4800 or RAL number.

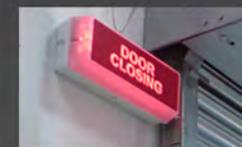
OPERATION - Electrically operated 1PH tubular motor and push button.

OPTIONAL EXTRAS

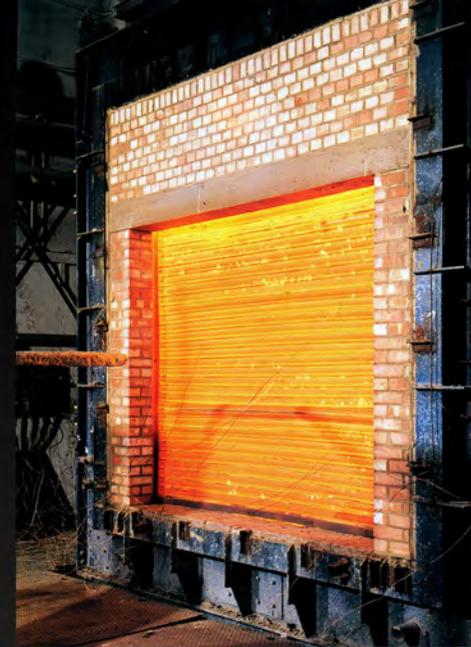
- Powder coated finish to any BS or RAL number
- Battery Backup
- Key switch operation
- (FDI) Audio Visual Warning panel
- Staged closing
- Heat Detector Unit
- Smoke Detector Unit
- Key Switch



(FDI) Audio visual panel FPC03



(FDI) Audio visual panel EMC3B





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ROLLER SHUTTERS - SECTIONAL OVERHEAD DOORS - INSULATED DOORS - FOLDING DOORS
STEEL DOORS - FIRE RATED DOORS - SECURITY DOORS - SLIDING GATES - HIGH SPEED DOORS

E60-240 Specification

L20 DOORS/ SHUTTERS/ HATCHES

610 ROLLER SHUTTER DOORS REFERENCE:

GUARDIAN E60 -240 COMMERCIAL FIRE SHUTTER

Dimensions

Maximum size approx 28 sqM See size charts for more info.

Shutter weight: 35 kg/m² of door opening.

Performance

Fire performance: up to E240 mins fire integrity BS 476: Part 22 (1987).

CE-marked 01 May 2005: Product Standard BS EN 1634-1 (2000) - Manufacture and installation.

BS EN 12604 (2000) Mechanical aspects - Requirements.

BS EN 12453 (2001) Safety in use of power operated doors - Requirements.

Release Mechanisms:

Fire relay and key switch (requires maintained supply, battery back up needed if no maintained supply. Fire relay, key switch and fusible link if no fire alarm.

Alternatively advanced FDI panel with combined heat and smoke detector.

Fire Relay: FDI basic Principally the commonly used means of release, A volt free signal is required from the fire alarm. This connects to our FDI or fire door interface basic unit. Upon activation shutter powers into the closed position.

Fusible Link Release: On activation, the link which is a soldered link, separates and releases at 64 degrees centigrade, in effect the temperature release of the link creates a signal to the relay which in turn powers the door down.

Advanced Fire Door interface panel Audio Visual Warning (FDI advanced): Principally this unit is designed to delay the closing of the fire shutter and give two stages to the close cycle; generally the fire alarm is linked to the audio visual unit and from the audio visual unit straight into the key switch. There is no need for a separate relay: there is already a relay in the FDI advanced. On activation from the fire alarm the unit starts to "flash & sound", this unit contains a programmable timer which effectively delays the signal to the relay in the panel to close the door. Two types are available see full data sheet for more information.

Arrangement

Vertical roller shutter for face/reveal fixing.

Barrel Mild steel tube finished with one coat rust inhibitive primer.

End Plates 3mm-6mm (depending on curtain size/weight) mild steel plates finished with one coat rust inhibitive primer.

Curtain Interlocking galvanised steel laths, 75mm in depth, with solid curved profile restrained laterally by endlocks riveted to both ends on alternate laths. Alternatively a 50mm flat lath is available, to smaller sizes.





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ROLLER SHUTTERS - SECTIONAL OVERHEAD DOORS - INSULATED DOORS - FOLDING DOORS
STEEL DOORS - FIRE RATED DOORS - SECURITY DOORS - SLIDING GATES - HIGH SPEED DOORS

Guides Constructed from 50mm or 63mm galvanised guide mounted on 75mm x 50mm galvanised steel angles. Slotted guides and punched bottom hole to allow for expansion requirements. Nylon washers will be required for fixing detail.

Bottom Rail Steel angle reinforcing rail of adequate size forming an inverted 'T'. Coil Casing BS EN 12453 1.2mm galvanised sheet steel coil casing as standard.

Finish Standard finish is galvanised steel curtain and guides with non-galvanised components lacquered.

Door curtain, guides and coil casing can be supplied BS EN 12206-1 polyester powder coated (PPC) to our standard BS and RAL colour range Normal powder coverage of 40 microns. Non-standard colours are available on request - this may increase **lead time and cost**

Operation 240 Volt single-phase operator with low voltage GUARDIAN Fireman Keyswitch (24Volt), supplied with manual override for use in the event of emergency opening. Controlled through the Guardian (FDI) Control Panel linked to the fire alarm system, allowing the shutter to open/close through an auxiliary signal, with the option of an essential supply or battery backup package.

NB. Must be fitted to a 13amp rated / non-switched, fused, maintained spur unit.

Accessories

Battery Back Up Unit: Principally the tube motor fire shutter requires a maintained supply. If this cannot be achieved then effectively the shutter will require a battery back up unit. If under fire conditions there is a power failure, the shutter must have a means of ensuring closure, the unit provided will give the facility for at least one operation under fire conditions.

Colour Range Any BS or RAL reference

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Registered in England No 1447746



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Fire Shutters & Curtains Fire Products Structural Recommendation

The structure supporting the rolling door-set must be a fire resistant separating element (to B.S. 476: part 20,21,22: 1987), having a fire resistance greater or equal to that required of the door-set itself. It must be capable of supporting the door-set for the required fire resistance period without compromising the fire performance of the door-set.

In addition, consideration must be given to the loads imposed by the various door-set components, i.e. endplates and barrel support brackets.

It is recommended, that a critical temperature of 400 0C and steel sections with an Hp/A value below 230m -1 are used for designing fire resistant steel supporting sections.

Where rolling shutters are fixed to masonry supporting elements, the masonry elements must be capable of providing a fire resistance in terms of the insulation, integrity and load bearing capacity criteria of B.S. 476: Part 21: 1987 equal to or greater than the fire resistance rating (integrity) of the rolling shutter assembly.

Shutters fitted to a timber stud partition / steel framed partitions are acceptable for up to 60 minutes fire resistance, to a tested opening size of 2750mm wide X 3250 high. The opening must be capable of carrying the weight of the shutter and be equal or greater than the fire resistance of the roller shutter assembly.

Safety Bearings (Fire Shutters) – Risk Assessment Effectively if the sole intended use of the shutter is as a “fire shutter” i.e. the shutter will be in the closed position, or, it will remain in the open position and close only under fire conditions then a safety bearing would not be required. If however the shutter is also to be used in a conventional manner, then there must be a consideration that under safe working practises and Health & Safety in the work place “all upward moving doors must be provided with an effective means of protecting them from falling back and causing injury”.



Fire Alarm Requirements



E60-240 Tube motor fire shutters

The relay provided by Guardian requires a normally open volt free signal going closed on fire.

E240 Fire shutters

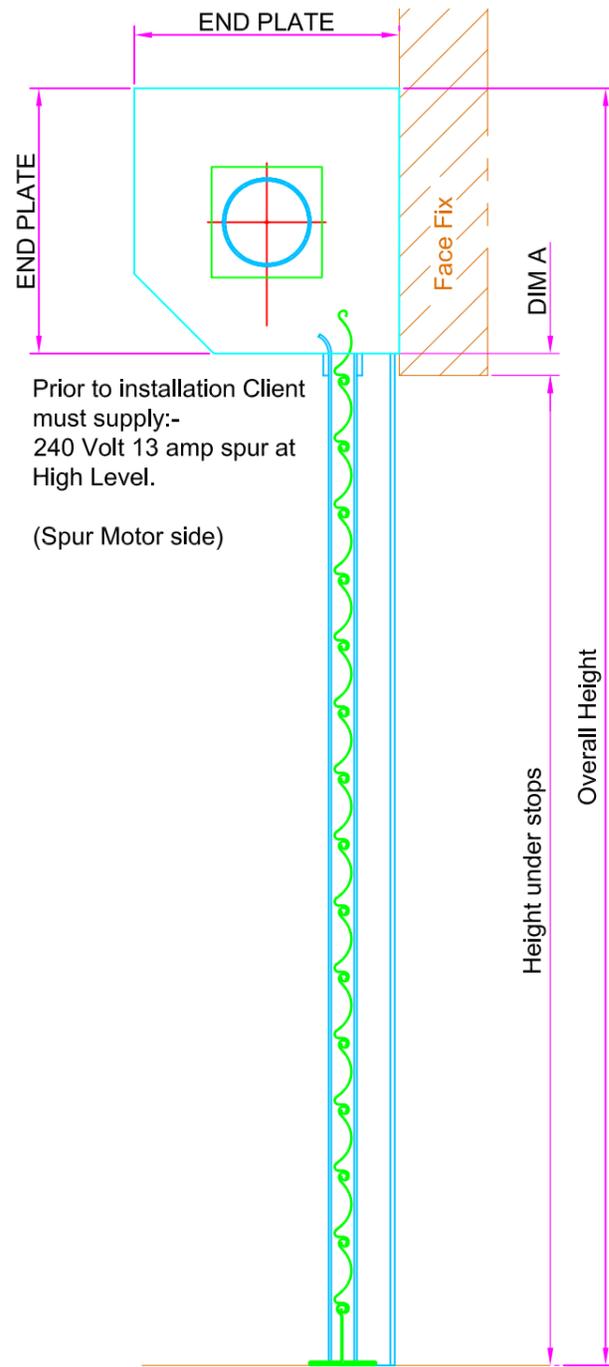
The solenoid unit requires a 24volt D.C. signal (0.5 amps on activation) Audio Visual unit requires a normally open volt free signal going closed on fire.

If you have any queries, please do not hesitate to contact our technical department.

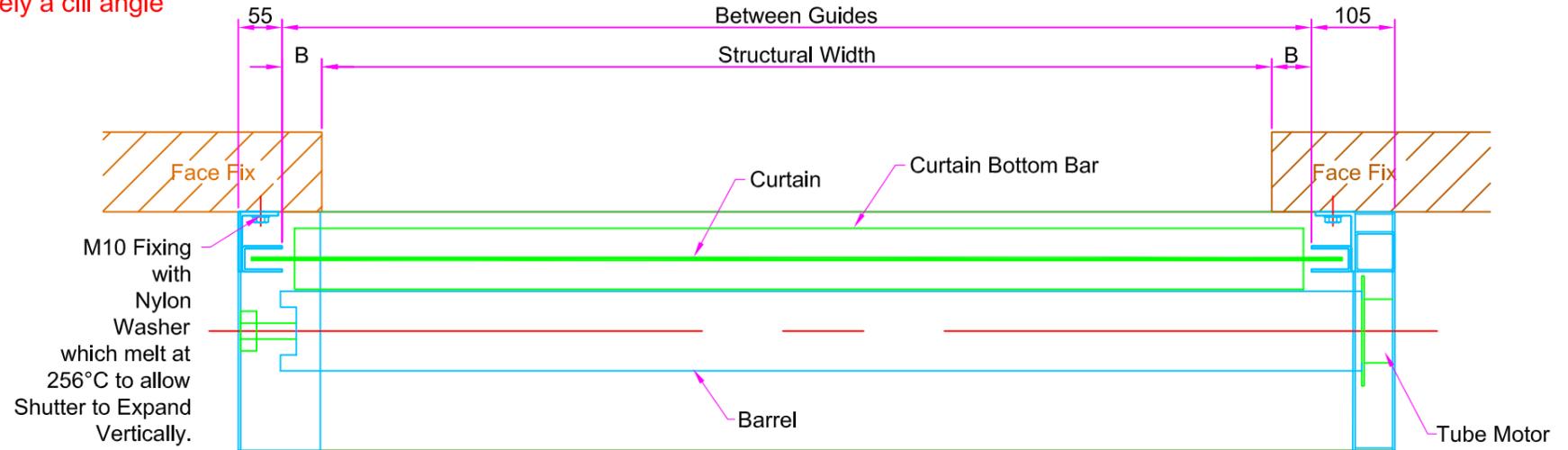


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Note:- The Fire Shutter must close onto a fire resistant surface, Alternately a cill angle can be provided at an additional costs



SECTION THROUGH



HARDWARE REQUIRED

Handing:- RH	Location:- Internal	
Type:- TM-1ph	Qty:- 1	Fire Rated:- 2hr
Finish:-		Certified No:-
RAL:-		Safety Brake :- No
LATH TYPE:-	75mm Solid Galvanise	
BOTTOM RAIL:-	Double Formed	
GUIDE ANGLES:-	75x50x5	FACE FIXED

NORMAL COIL:-	Yes
KEY SWITCH:-	Yes
PUSH BUTTON STATION:-	
CONTROL UNIT:-	
FUSEABLE LINK SWITCH:-	
AUDIO VISUAL UNIT:-	
BATTERY BACK UP UNIT:-	Yes
AXLE SUPPORT CRADLE:-	

Dimensions (mm)

STRUCTURAL WIDTH:-	
HEIGHT UNDER STOPS:-	
DIM A:-	25
END PLATE SIZE:-	
OVERALL HEIGHT:-	
DIM B:-	50
BETWEEN GUIDES:-	
GUIDES SIZE:-	
OVERALL WIDTH:-	

This Product has been tested to
BS 476: Part 22: 1987
BS EN 1634-1: 2008

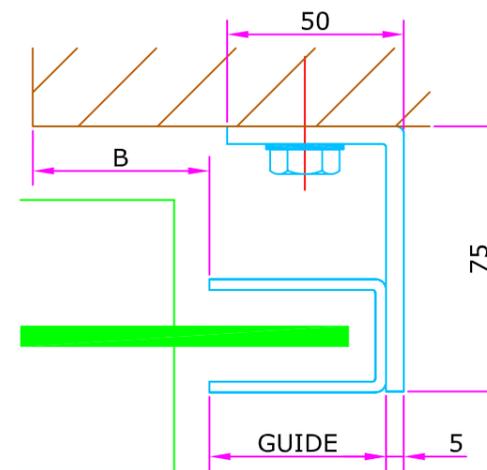
Effectively the shutters are generally intended for protection of a range of openings in masonry / concrete, steel, steel stud or timber partitions.

The opening must be fire rated to suit and be capable of carrying the weight of the shutter. (40kg/sq m)

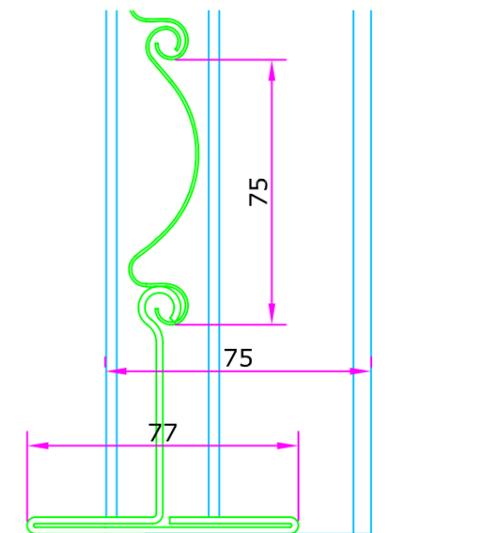
Consideration must be given to the additional weight of the shutters over 3500mm wide x 3000mm high, the configuration / strength of the partition must be increased accordingly.

Where the shutters are used to protect serveries it is assumed that the counter is composed of non-combustible material and the counter is of sufficient width to ensure that the bottom rail movement under heating cannot result in the rail overhanging the counter.

Shutter curtains are traditional curved lath tube motor construction, based on a maximum area of 10sq mtrs. Flat lath curtains can be used up to 3500mm wide. Shutters under 4000mm clear width will have 50mm guides and shutters over this width will have 65mm guides.



CROSS SECTION THRO GUIDE



SECTION THRO LATHS

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DOOR SOLUTIONS FOR ALL REQUIREMENTS

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DRAWN	CHK'D	APP'D	DATE	SCALE	Job No:
CH					Guardian maintains a policy of progressive design and we reserve the right to modify specifications without prior notice or alteration to this drawing
TITLE					ISSUE
Fire Resistant -TM60-240 Roller Shutter FACE FIXED					DATE
					APP'D
					1
					07/03/12
					PN

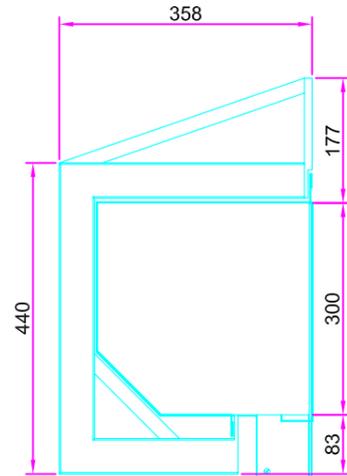
ISSUE	DATE	APP'D
1	07/03/12	PN

The expansion allowances provided for the most critical components have been compared with the minimum required based on the test information or BS 5950

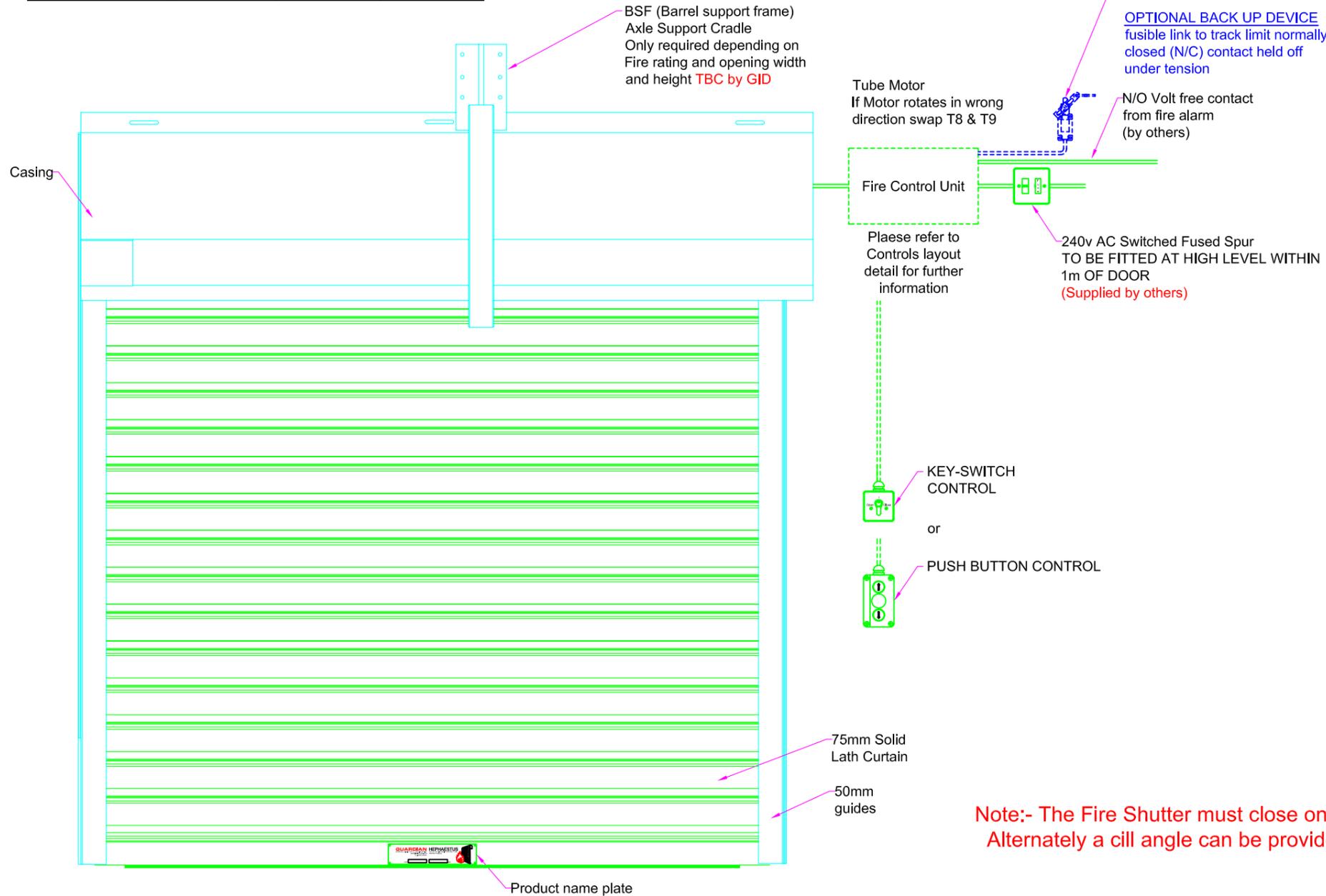
Component	1 Hour mm/m	2 Hour mm/m	4 Hour mm/m
Barrel/Axle	11.6	13.7	15.1
Guides	12.0	13.2	14.6
Bottom Rail	8.8	9.6	10.3
Curtain	7.7	7.7	7.7

The maximum clear opening size for the different curtain thicknesses are as follows

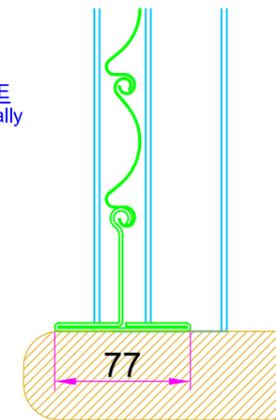
Lath thickness - mm	Fire Resistance - minutes	
	60 & 120	240
0.7	4m x 4m	-
0.9	5m x 5m	5m x 5m
1.2	7m x 7m	7m x 7m



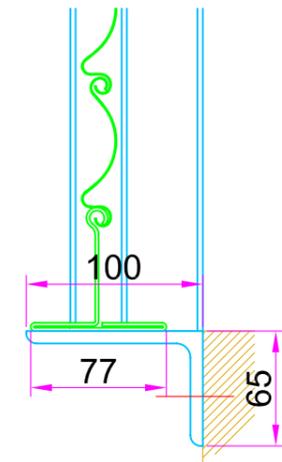
Base on a 300mm HEAD BOX



Bottom bar details



Option 01
(by others) Counter top or to FFL



Option 02
Steel angle to be fitted at extra costs

Note:- The Fire Shutter must close onto a fire resistant surface, Alternately a cill angle can be provided at an additional costs

This Product has been tested to
BS 476: Part 22: 1987
BS EN 1634-1: 2008

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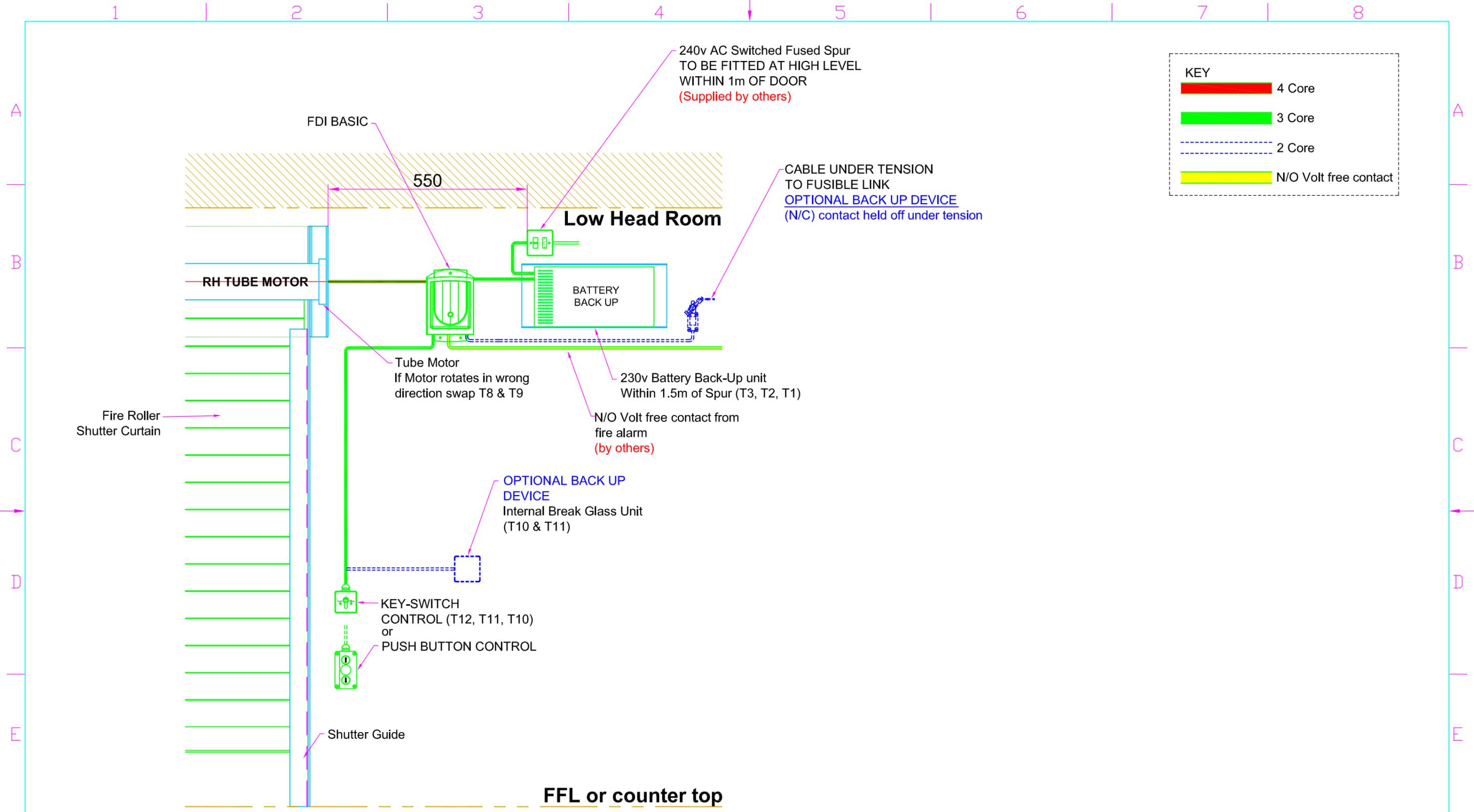
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TITLE Fire Resistant -TM60-240 Roller Shutter FACE FIXED - Generic Elevation				

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KEY

—	4 Core
—	3 Core
- - -	2 Core
—	N/O Volt free contact

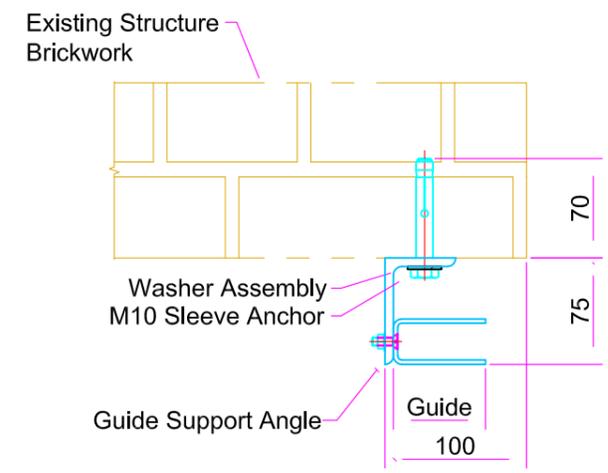
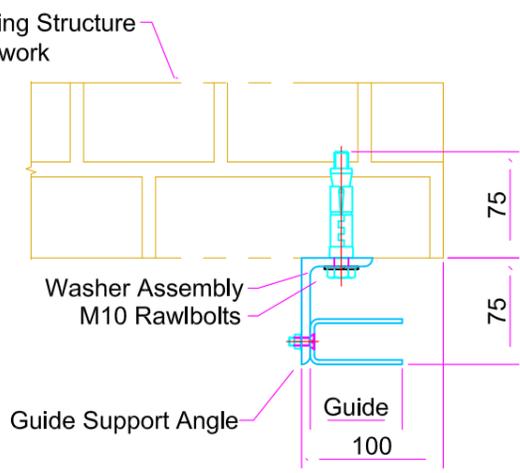
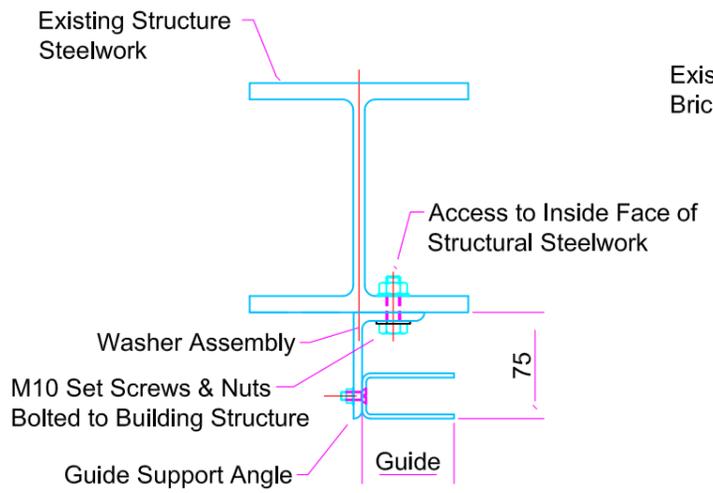
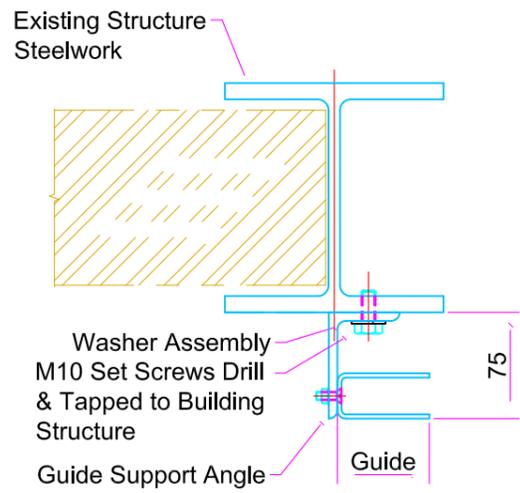
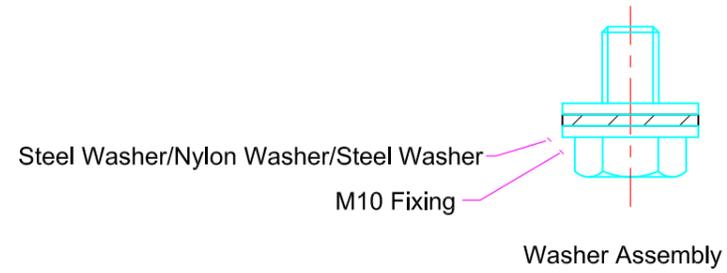
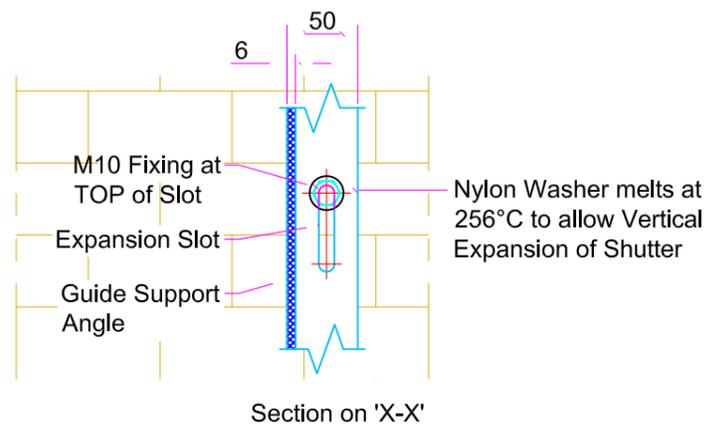
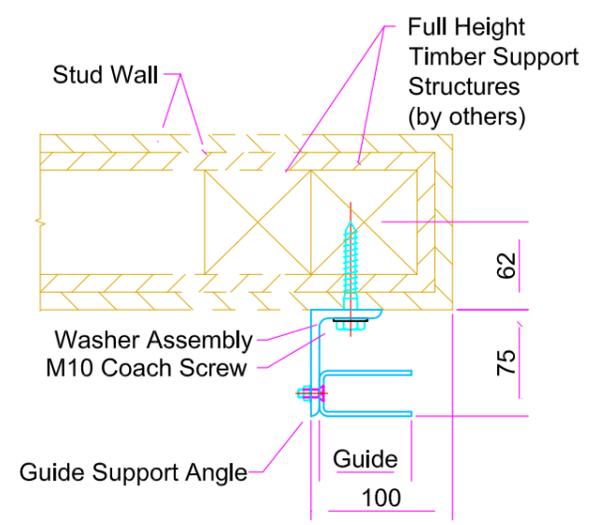
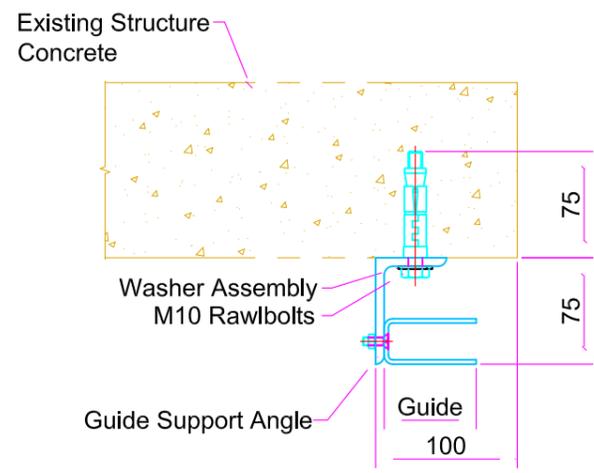
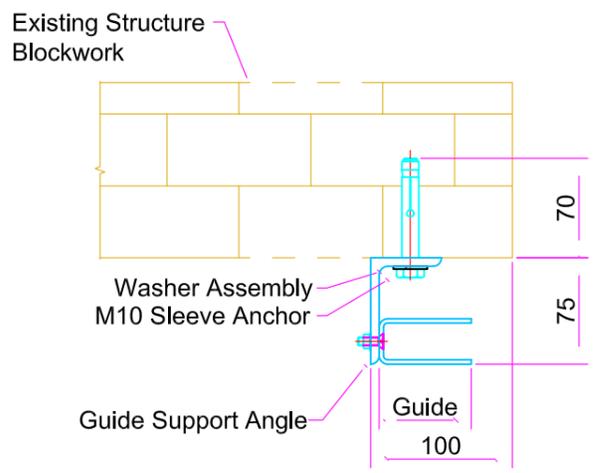
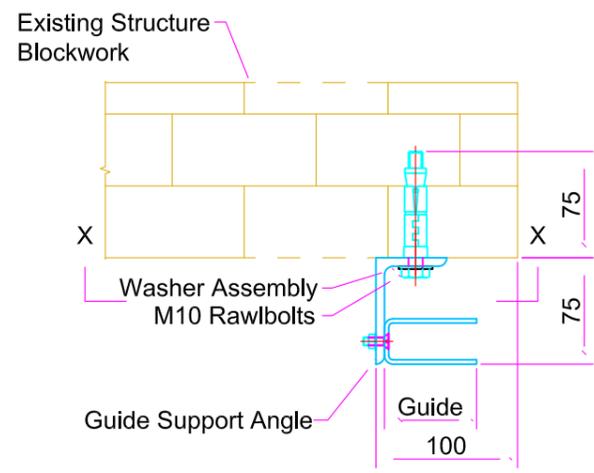


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DRAWN	CHK'D	APP'D	DATE	SCALE
NC				
TITLE				
FDI basic and battery back up General Arrangement (RH Controls Low)				

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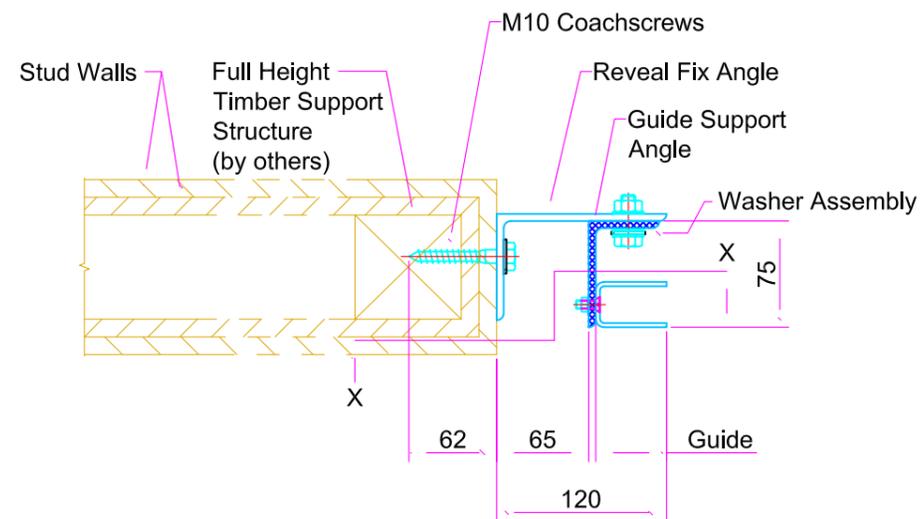
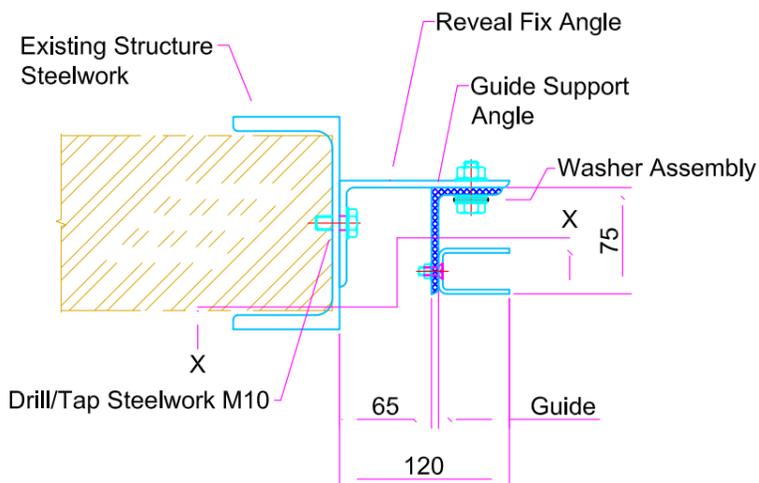
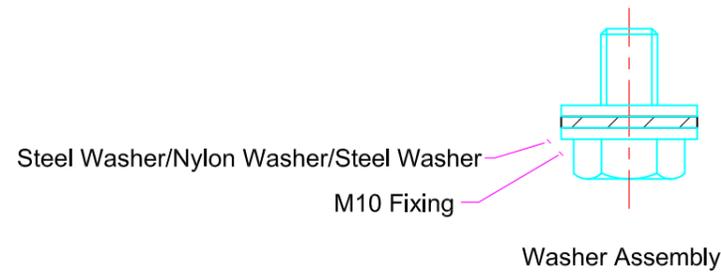
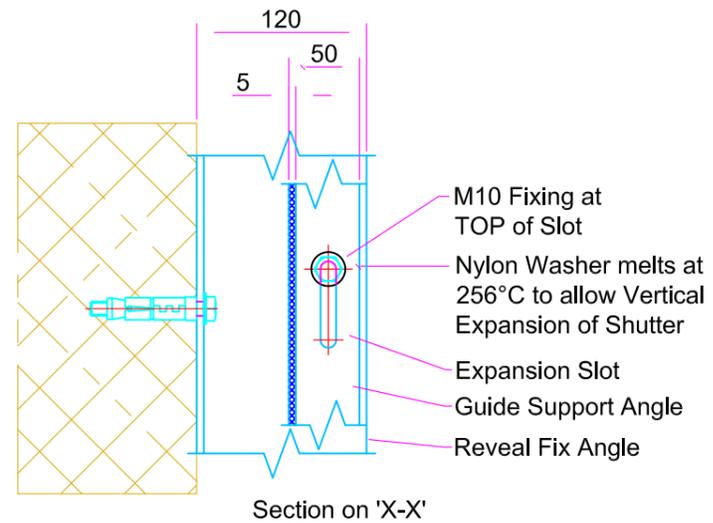
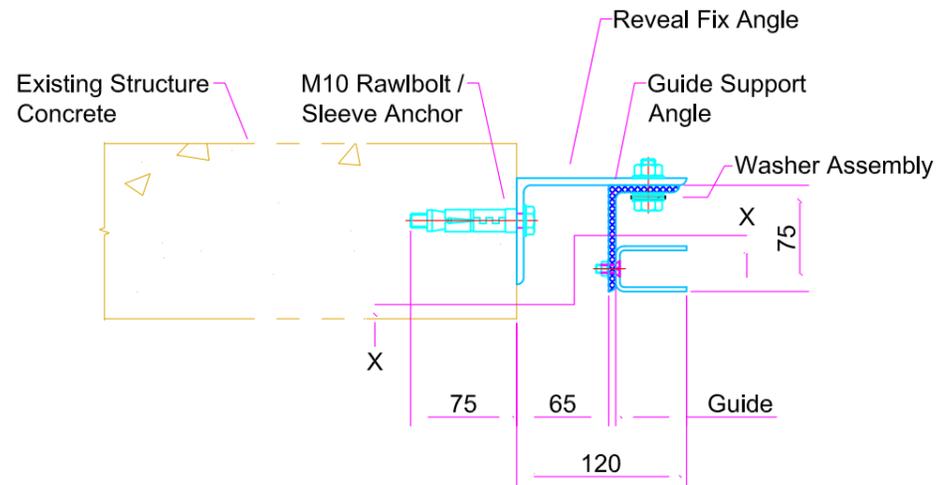
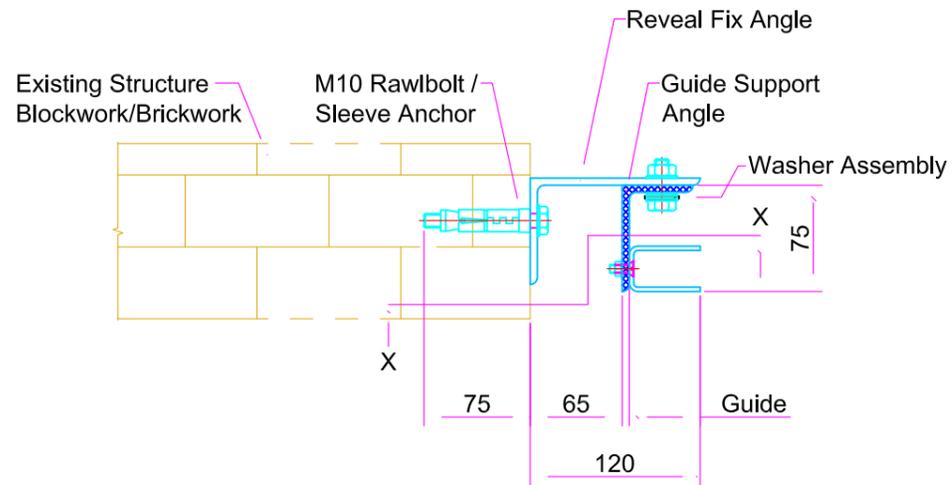


Remove ALL sharp edges

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	MB				@A3	Client:				
	TITLE Vertical Fixing Details for Face Fix Fire Shutters									
	FINISH									



Remove ALL sharp edges

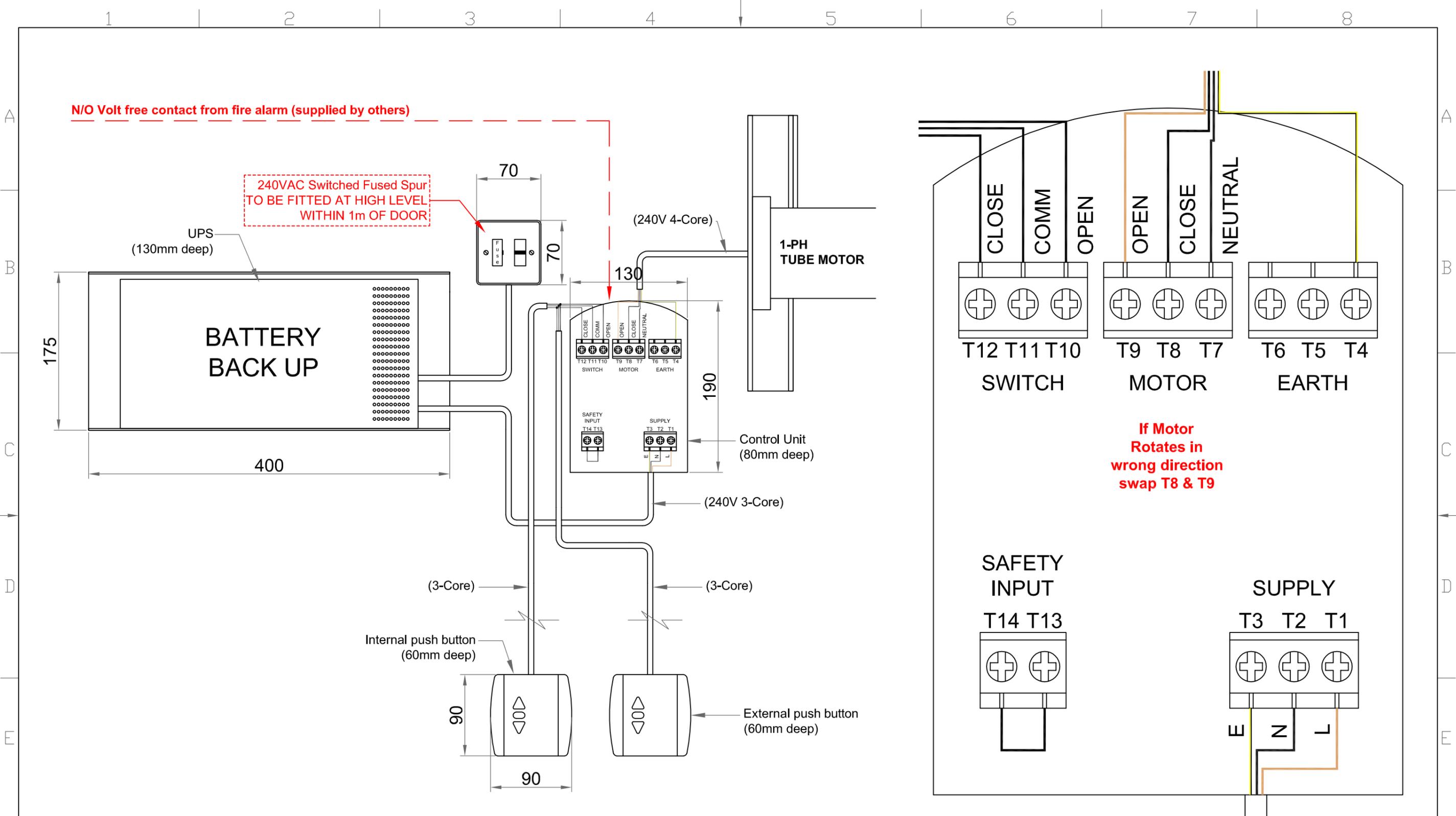
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MB				@A3	
TITLE Vertical Fixing Details for Reveal Fix Fire Shutters					
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(ABOVE) Typical GUARDIAN Safe control unit, Wiring diagram

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TITLE
GUARDIAN SAFE CONTROL UNIT GENERAL ARRANGEMENT

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