

FLAME SHUTTER

INSTALLATION INSTRUCTIONS

JUNE 2012

Version 3



SeceuroFire

Flame Shutter

1 Contents

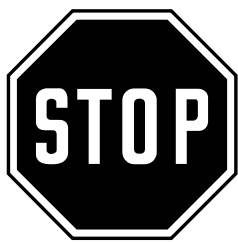
GENERAL

2	Key to Symbols/Meanings	4
3	Warranty / Life Cycles	5
4	General Safety Advice	5
4.1	General information	5
4.2	Repairing / Dismantling	6
5	Tools/Fixings required	7
6	Preparation for the Installation	8-10

INSTALLATION INSTRUCTIONS

7	Flame Shutter	11-15
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2 Key to Symbols/ Meanings:



WARNING! **Risk of personal injury!**

This is an important piece of safety advice which must be observed to avoid a risk of personal injury!



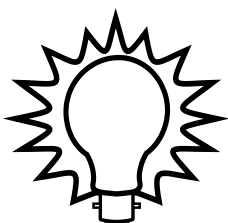
ATTENTION **Risk of material damage!**

This is an important piece of safety advice to avoid damaging the product you are installing!

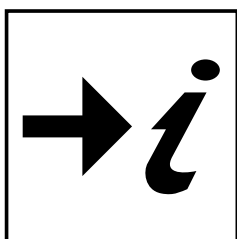


Operational check:

At this stage of the installation a component of the door, the operation of the door or the operator can be tested. This is very important as it can immediately identify an error which could take time to discover at a later stage.



Advice / Tip



Reference to further product information

Here a reference is made to another set of instructions which need to be used for installation of a particular component.

3 Warranty / Life Cycles

The warranty for this product is only granted if:

- **The installation is carried out by a competent installation engineer following these instructions.**
- **Only original parts are used.**
- **No additional objects are attached to the door.**
- **Regular maintenance checks are performed.**

For further details on the products warranties please refer to the products price list and our terms and conditions which are available upon on request.

4 General Safety Advice

4.1 General Information



This document is intended for a qualified, trained installation engineer and should not be given to the owner of the door but should be kept by the installer.

Please read all safety advice and relevant instructions carefully.

These installation instructions are intended for qualified and trained installation engineers.

Installation, initial operation, servicing, repairs and dismantling of this product should only be carried out by a qualified and trained installation engineer.

When installing an electrically operated product ensure the mains power supply to the product is disconnected before any electrical connections are attempted.

Before operating a shutter you must always ensure that there are no persons or objects in the opening before and during the opening.

Upon completion of the installation the owner of the shutter must be trained how to operate the product safely paying special attention to the following points:

- **The end user must read and follow the advice given in the operating and maintenance instructions.**
- **In the event of a malfunction the end user should follow the advice given in the operating and maintenance instructions and if applicable contact the installer.**

During the installation of the shutter you should follow safe working practices. Further advice is available from the Health and Safety Executive (HSE).

4.2 Repairing/ Dismantling / Maintenance

Always isolate the mains power before attempting any maintenance, repairs or dismantling. If you need to use the optional remote control during any maintenance, repairs or dismantling procedure you must engage the commissioning mode.

Before attempting to repair or dismantle a shutter you should check for the presence of any safety devices, for example:

- **Anti-fall back spring**
- **Anti-drop brake**
- **Bottom slat safety edge**
- **Safety photo cell**

When repairing or dismantling a shutter you should keep the opening and the surrounding area clear to prevent risk of injury to yourself and others.

When repairing or dismantling a shutter you should follow safe working practices. Further advice is available from the Health and Safety Executive (HSE).

Maintenance check list:

- **Curtain free running and clean**
- **All end locks are correctly and securely located in the curtain**
- **No debris in the guide rails**
- **Guide rails and end plates are securely fastened to the wall (check also the fascia if fitted)**
- **If applicable motor cable is correctly retained, has not been damaged or in danger of being damaged**
- **Check the operation of the manual override.**

Maintenance

There is a requirement under The Regulatory Reform (Fire Safety) Order 2005 for the buildings responsible person to ensure all fire safety equipment is maintained.

The period between checks is at the discretion of the customer however we recommend the following:

Weekly	Check all the system for correct operation. Test operation of systems and self contained detectors
3 – 6 months	Inspection and test of the system by a competent engineer.
Annually	Full inspection and test of the system by a competent engineer, clean self contained detectors. Replace the two 12v lead acid batteries in the control panel*.

Always isolate the mains power before attempting any maintenance or repairs.

When repairing or maintaining a fire shutter you should keep the opening and the surrounding area clear to prevent risk of injury to yourself and others.

Maintenance check list:

- Shutter free running, clean and no sign of damage
- No debris in the guide rails or across the opening
- Guide rails and box are securely fastened in place
- The motor cable is correctly retained, has not been damaged or in danger of being damaged
- *The control panel incorporates two 12v lead acid batteries which are maintenance free. However it is recommended that the battery condition is monitored on a regular basis and that they are exchanged as necessary and at least every 12 months.

5 Tools/ Fixings Required

This list of tools and fixings is a minimum guide, to be adapted for each installation.

- Drill with pneumatic/hammer action to take the drill bits used below
- 10mm & 5mm masonry bits up to 400mm long (or wall thickness)
- 3, 4.2, 5, 10 & 13mm metal drill bits
- Guide rails and end plates required at least 10 x 75mm fisher FSA sleeve anchor
- To secure the shutter box to the wall use at least self cutting flange head screws 6 x 75
- To secure the shutter box to the end plates use 5.5mm x 19mm hex head self drilling screws (Tec Screws) or 4.8 x 16 steel rivets
- 250mm long masonry drill bit
- Screw drivers and wire strippers
- 4mm & 5mm Allen key
- Pliers
- Metal files - round, half round and flat
- Spirit level
- Straight edge (square)
- Plastic hammer
- Tape measure
- Marker pen
- 3 core cable
- Junction box
- 10 amp plug
- Surface trunking
- Hacksaw
- Pop riveter
- Dust sheets
- Step ladders
- Workmate bench (optional)
- Silicone gun with fire rated sealant (shown by test to be suitable for the fire resistance period required)
- Cable grommet

6 Preparation for the Installation

Flame shutter installation criteria

Basic assumptions

Shutter position

It is assumed that the shutters are in the completely closed position once activated.

Floor support

It is assumed that the floor or surface that the curtain closes onto will be able to support the curtain weight in the event of a fire.

In what orientations can the product be installed?

Face fix, soffit fix and reveal fix

The Flame Shutter can be fixed to the soffit of the supporting construction, within the reveal of the opening instead or face fixed to either face of the wall.

For reveal fixing, the shutter is confined within the constraints of the aperture. It is acceptable to fix shutters in this manner subject to the provision of the correct allowance for expansion for the supporting components. In particular and in the situation where the endplates are fixed to the inside of the wall, the barrel and axle assemblies must be allowed to expand unrestricted. In these situations the guides may be exposed or recessed within the structure.

Recessed guide rails

Where it is required for the guides to be fitted within the concrete/masonry structure it is not necessary to provide an allowance for expansion of the guides on the understanding that the guides are fully fixed and grouted with cement mortar.

Orientation

The appraisal for the Flame Shutter is based on the details recorded during a fire resistance test where the rolling shutter was exposed on the side likely to provide the least period of fire resistance. The appraisal therefore is appropriate to exposure from either side.

What can the fire shutter be fastened to?

Supporting construction

It is assumed that the Flame Shutter will be fixed to appropriate masonry/concrete constructions that have a fire resistance of at least that specified for the Flame Shutter and are capable of supporting the weight of the Flame Shutter for the required period.

Alternatively it is assumed that the Flame Shutter will be fixed to appropriate structural steel members that are clad with a proprietary fire protection system such that they have a fire resistance of at least that specified for the doorset and are capable of providing adequate support to the Flame Shutter for the required period.

The products assessment report does not cover installation of this product to timber due to the uncertainties about the strength of the timber and how well the timber is protected from the fire.

Steel supporting structure

The fixing of the doorset components to the steel members must not reduce the ability of the fire cladding system to protect the members. Fixings through protection systems such as boards and fibrous sprays should be fitted with steel sleeve spacers such that they do not compress or crush the protection. Where the structural steel members are protected with an intumescent coating additional fire protection must be added around the connecting shutter components to compensate for the area of coating that is trapped between the steel members and the shutter components and therefore cannot intumesce. Any gaps between the fire

cladding system and the shutter components must be fitted with a fire rated seal system that has been shown by test to be suitable for the application and the fire resistance period required. The structural steel members may be contained within a partition system but must still be clad with a proprietary fire protection system.

The vertical structural steel members providing the support at the sides of the shutter must be continuous and secured to the structural floors slabs above and below the doorset. The horizontal steel member over the opening must be connected to the vertical structural steel members and must be deep enough to accept the fixings for the doorset. Alternatively, more than one horizontal steel member may be fitted.

Fixings that must be used

Fixings

To cover all conditions of the wall steel expansion bolt fixings are assumed to engage within the concrete or masonry structure for a depth of at least 100mm.

If the masonry or concrete of the wall is in a good condition then an engagement in the wall of at least 60mm is usually adequate for fire ratings up to 2 hours and 75mm for 4 hours.

Grade of bolts

The calculations referred to in this report are based on normal Grade 4.6 steel.

Product performance

The appraisal of the Flame Shutter is only valid provided that no other modifications are made to the tested construction other than those described in the product assessment report and that it is installed as per the criteria mentioned above.

6.1 Preparation for the Installation

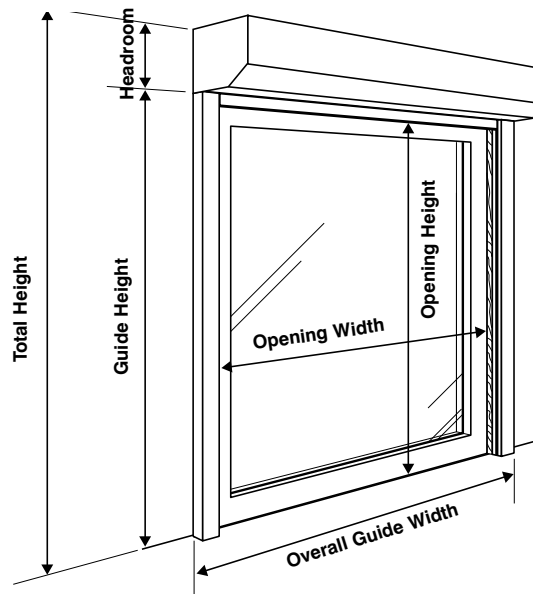
The structure of the opening must be adequate to take the weight of the door and suitable to take the appropriate fixings.



RISK OF MATERIAL DAMAGE Check that the opening is ready for installation. Surfaces should be flat and vertical to guarantee a parallel alignment of the guide rails. It is important that you check that the lintel does not bow inwards or have any projections that may catch on the curtain or could push the box back towards the curtain. If in doubt pack the guides and box out by at least 10mm.

Before you begin installing the shutter you should check that the shutter will not foul on any opening doors or windows or projecting door handles.

RISK OF MATERIAL DAMAGE Check the dimensions of the opening to ensure that the product



supplied is the correct size to suit the opening. This must be done before removing any existing products and before you begin installation of the shutter.

To avoid damages to the box and the curtain unpack the components very carefully. We recommend using the packaging supplied as a protective mat.

Check the packages you have received to ensure you have received all the parts you require and they are in a satisfactory condition before you begin installation of the shutter.

7 Flame Shutter

Parts List

General Parts

- Assembled axle assembly (1 per shutter)
- Pair of flag assemblies (angle, guides, and endplates)
- Assembled curtain (depending on the shutter size may be supplied in sections)
- Steel hood + Facia In Sections
- Installation Instructions
- Operating and maintenance instructions
- Accessories

Electric control method (depends on method requested):

- Switch (with back box surface/flush)
- Key switch
- Battery back up

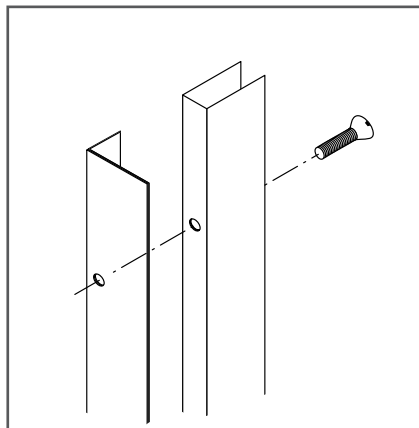
Accessories are packed in a separate box.



Override Handle



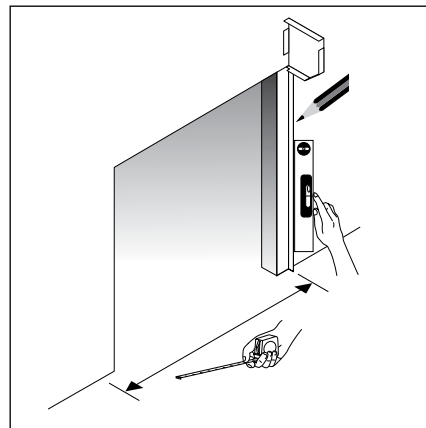
7.1 Flame Shutter Installation Instructions



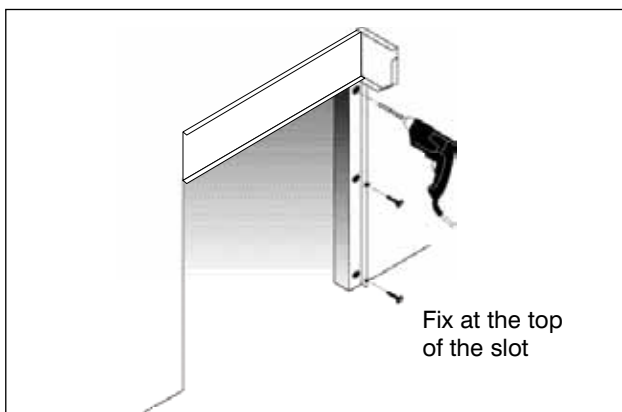
1 The channels are supplied with the angles attached these must be removed.



2 Determine where the cable needs to exit the end plate then drill a 13mm hole and insert a cable grommet in to the hole to protect the motor cable.

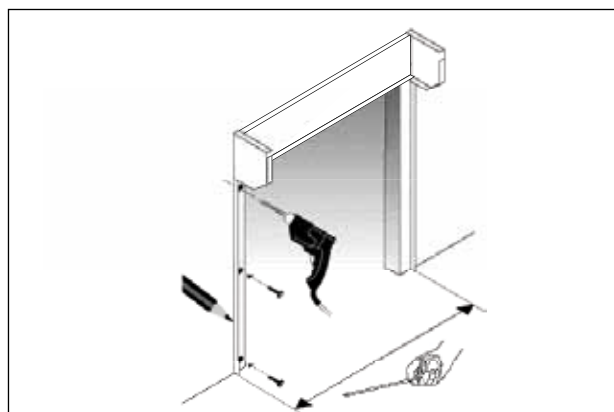


3 Measure the opening to determine the location of the first length of angle. If the motor end of the shutter is fitting within the reveal and you have been supplied with a 50 x 50mm steel box section this should be fitted into the opening now so the guide angle can be fastened to it

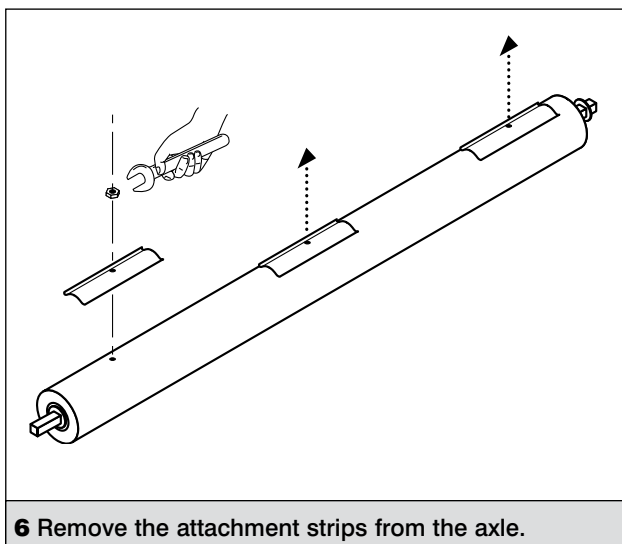


Fix at the top of the slot

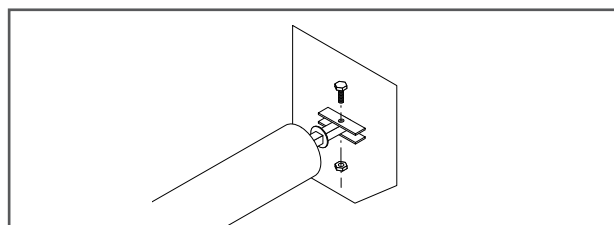
4 Offer angle up and fix to wall ensuring vertical (use all fixing slots provided) Loosely fix the angle to the wall to enable the fascia to be inserted behind the angle. Position the fascia, it will be held in place by the second angle fitted in the next step.



5 Measure from the first angle to determine the position of the second angle ensuring that the angles are vertical and also that the tops of the end plates are level. Fix the angle to the wall.



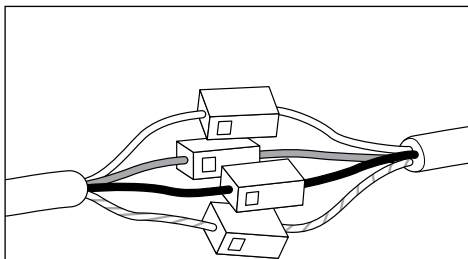
6 Remove the attachment strips from the axle.



7 Attach the axle to the end plates using the fixings provided. You must ensure that the bolts located along the length of the axle for curtain attachment will be available for step 11.

 **Tip:** Slide the dummy end of the axle over the end bracket first, using to notch out in the axle. Rotate the axle so that so that the bolt can be inserted through the bracket and into the dummy end shaft. Rotate the axle again to enable the motor plate to be located on the end plate studs.

7.1 Flame Shutter Installation Instructions (cont.)



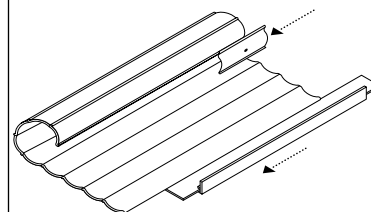
8 It is recommended that you use a test lead to set the motor limits. Power the axle so that it rotates to the fully closed position. If you connect the curtain when it is in this position the bottom limit will already be adjusted so you will only have to adjust the top limit at a later stage.



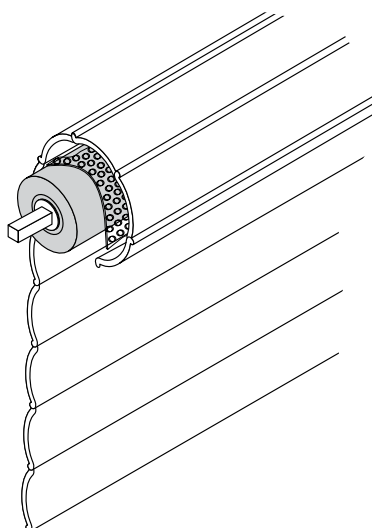
9 Fasten the motor cover plates in place.



TIP - Fasten them loosely to start with to enable them to be aligned



10 Slide the attachment strips on to the curtain.



13 Large curtains will be supplied in two or more sections to enable them to be transported. There are two alternative methods for assembling the curtain:

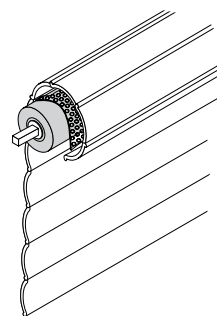
Method 1

(If limited room, may require mechanical lifting assistance)

Slide the sections of curtain together before attaching the curtain to the axle.

Method 2

Attach the top section of the curtain to the axle then rotate the axle in the up direction to roll the curtain around the axle. Then attach the next section of the curtain to the bottom of the first section. Rivet end locks in place. Repeat this process if applicable.

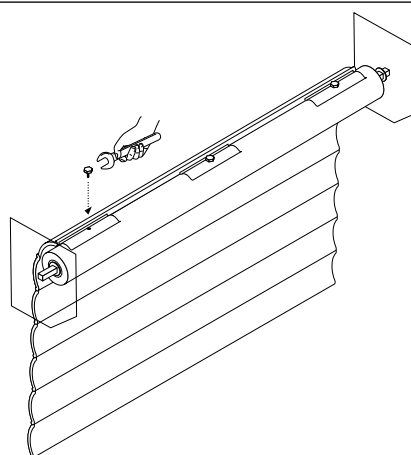


RISK OF MATERIAL DAMAGE!

12 Cover the axle with bubble wrap or a similar material to prevent the curtain from being damaged during the curtain loading process. Carefully load the curtain over the axle.

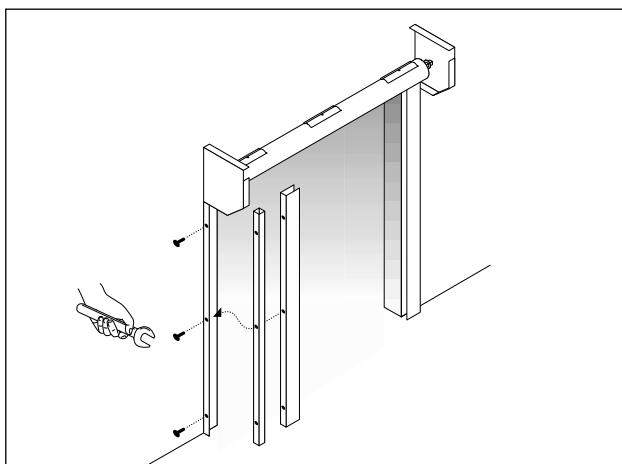


TIP - Place blocks on the floor under the bottom slat to raise the curtain of the ground. This will aid you to attach the curtain to the axle in the next step.



14 Attach the curtain to the axle using the attachment strips provided.

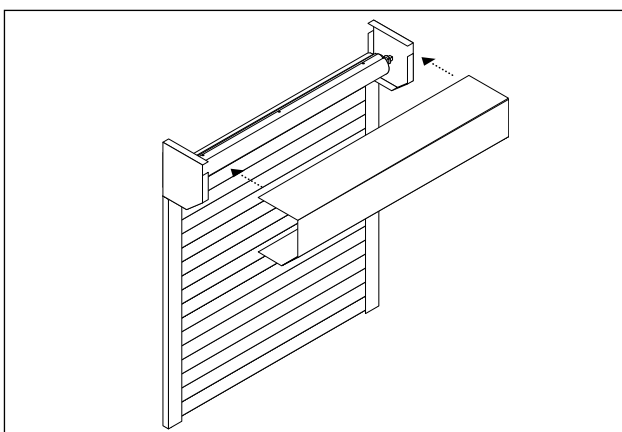
7.1 Flame Shutter Installation Instructions (cont.)



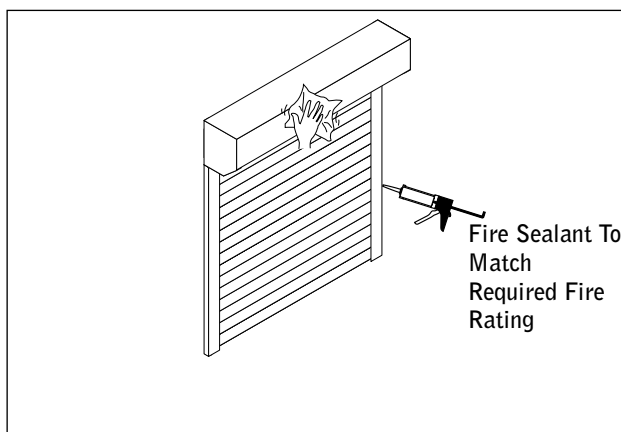
15 Attach the channels and the box section to the angles if applicable.



16 If applicable attach the override handle to the shutter and test the manual override facility. Once you have identified which direction will open the shutter attach the label supplied to the override handle showing the end user which direction to wind the manual override to operate the shutter.



17 Use steel Tec screws or 4.8 x 16 rivets (not supplied) and at the non-drive end only. Insert M6 x 23mm nylon washers (supplied) between the fixing and the hood to allow hood movement in the event of a fire.



Fire Sealant To Match Required Fire Rating

18 Test the operation of the shutter to ensure that the shutter moves freely up and down in the guide rails and that the shutter stops at its preset fully open and fully closed limits. To complete the installation you should mastic around the edges of the shutter then give the shutter a final clean and tidy.

Upon completion of the installation the owner of the shutter must be trained how to operate the product safely paying special attention to the following points:

- The operator should ensure there are no objects or persons in the opening before and during operation.
- The end user must read and follow the advice given in the operating and maintenance instructions.
- In the event of a malfunction the end user should follow the advice given in the operating and maintenance instructions and if applicable contact the installer.