

# FIREGARD

Curtain  
Fire  
Dampers

DAMPERS 4

SFB (57.9) X

UDC 697.9

FEBRUARY 2003



## FEATURES

- Galvanised or Stainless Steel Interlocking Blades in Airtight Casing.
- Optional Stainless Steel Side Seals.
- Constant Tension Stainless Steel Closure Springs.
- Blade Closure Locking Ramp.
- External Visual Blade Position Indicator.



**GILBERTS**



## Introduction

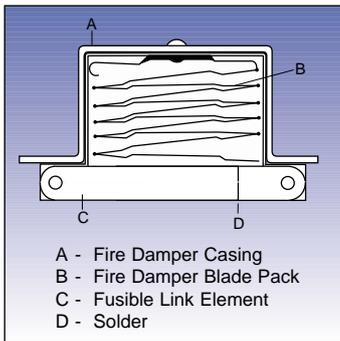
Gilberts Smoke and Fire Control Division, manufacture a full range of products designed to serve the smoke/fire protection industry including Duct Mounting combination Smoke/Fire Dampers, Door and Wall mounting Smoke/Fire Dampers and Duct Mounting Fire Dampers.

Gilberts Firegard range provides a curtain type Firedamper designed to prevent the spread of flames through ductwork in fire conditions. Fitted where the ductwork passes through an existing fire barrier the units are activated by a fusible link element set to trigger at 72°C.

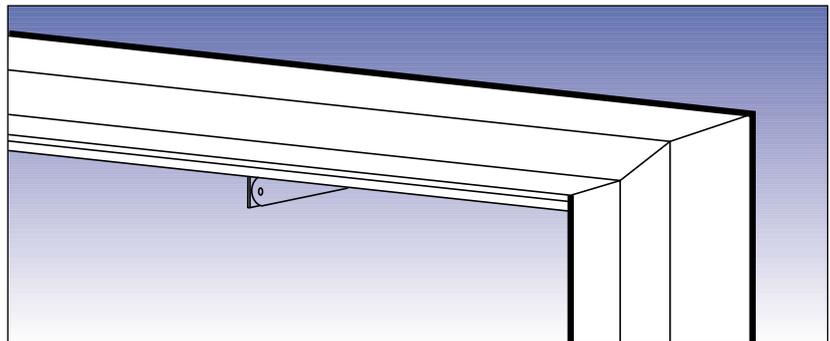
Operation of this link, which can also be tested manually, allows the blade pack to close instantly, in any orientation, under spring tension with guaranteed closure assured by the unique radiused locking ramps. Stainless steel or galvanised blades then provide a solid barrier to flames and smoke for up to 4 hours. Independently tested by the Warrington Research Centre the units have a full 4 hour fire rating.

Available size ranges span from 100mm up to 1200mm in width and 100mm up to 1000mm in height. Units greater than the size range are supplied as multiple assemblies. Hevac installation frames are available for all models as an optional extra.

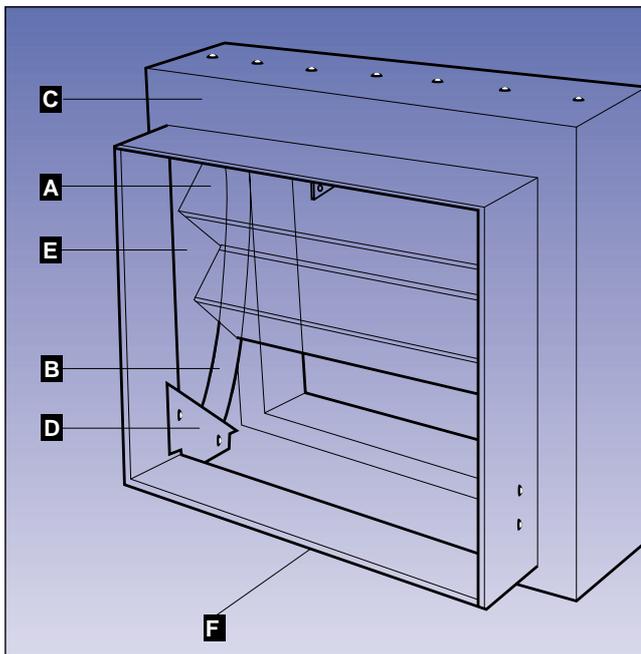
## Features



Side Elevation of Fusible Link Element



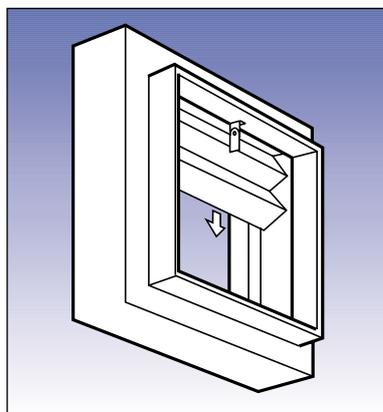
Fusible Link Assembly



- A Stainless Steel or galvanised interlocking blades provide a 4 hour fire rating.
- B Constant tension Stainless Steel springs ensure positive closure in horizontal or vertical positions.
- C All welded galvanised mild steel airtight casing resists corrosion and prevents leakage.
- D Angled Locking Ramps ensure full blade closure.
- E Stainless Steel flexible side seals. (optional Extra)
- F External visual blade position indicator (optional).

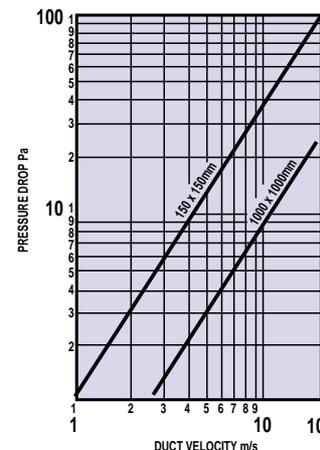


## Product Range Type FG1

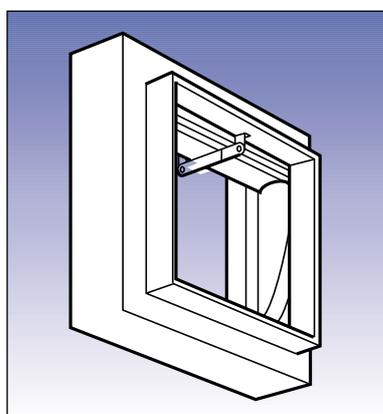


This unit has been designed for low and medium air velocity ductwork systems. It can be installed in either the horizontal or vertical position where a fire compartment integrity is to be maintained

**PRESSURE DROP GRAPH**  
Minimum free area = 91%  
velocity range 0 to 12.5 m/s

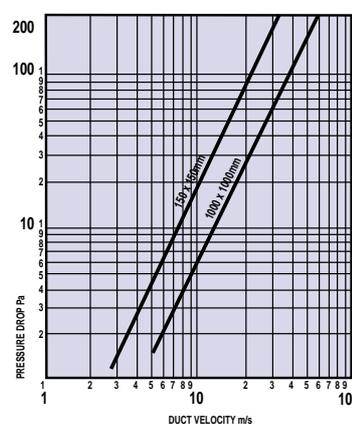


## Type FG2

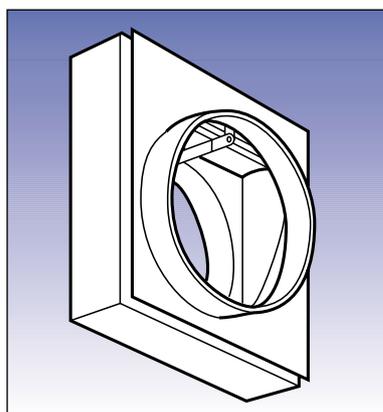


(Blade Pack Outside Airstream)  
This unit has been designed for high air velocity ductwork systems. It can be installed in either the horizontal or vertical position where a fire compartment integrity is to be maintained

**PRESSURE DROP GRAPH**  
Maximum unrestricted airflow  
velocity range 0 to 30 m/s

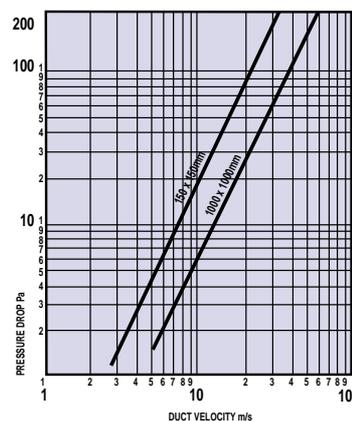


## Type FG3

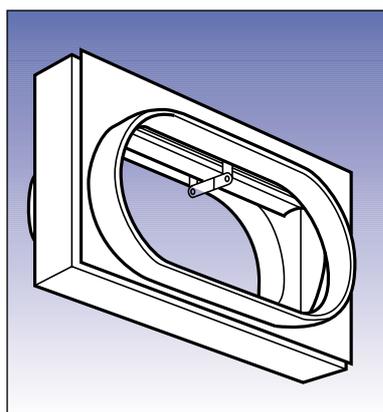


(Blade Pack Outside Airstream)  
This unit has been designed for low and high ductwork velocities associated with the ventilation and air conditioning industry. It is manufactured to suit circular ductwork, and can be installed in either a horizontal or vertical position

**PRESSURE DROP GRAPH**  
Maximum unrestricted airflow  
velocity range 0 to 30 m/s

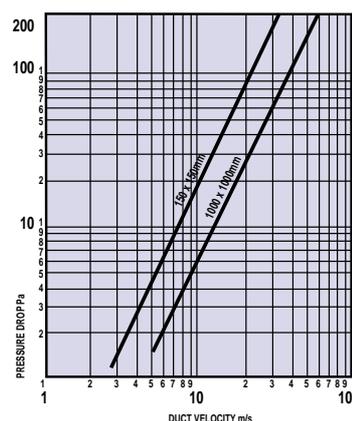


## Type FG4



(Blade Pack Outside Airstream)  
This unit has been designed for low and high ductwork velocities associated with the ventilation and air conditioning industry. It is manufactured to suit oval ductwork, and can be installed in either a horizontal or vertical position

**PRESSURE DROP GRAPH**  
Maximum unrestricted airflow  
velocity range 0 to 30 m/s

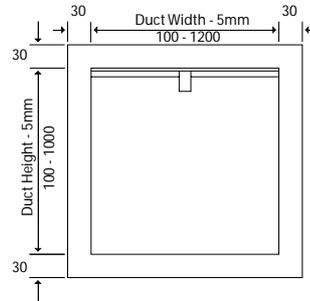
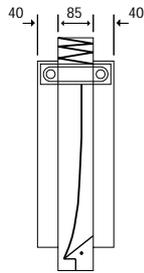




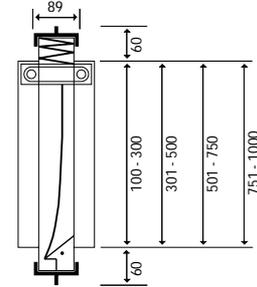
## Dimensional Data Type FG1

SIZE RANGE  
100 - 1200mm WIDE  
100 - 1000mm HIGH

### STANDARD DAMPERS



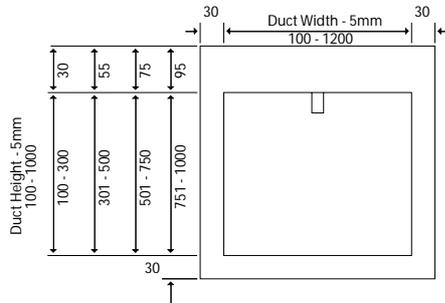
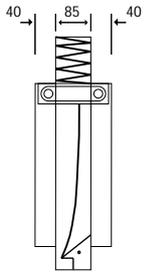
### DAMPERS COMPLETE WITH INSTALLATION FRAMES



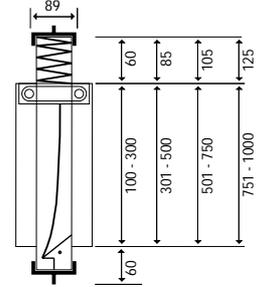
## Type FG2

SIZE RANGE  
100 - 1200mm WIDE  
251 - 1000mm HIGH

### STANDARD DAMPERS



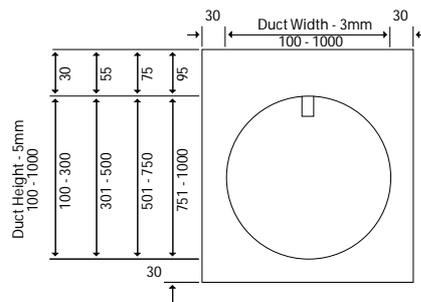
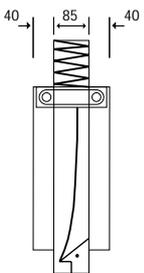
### DAMPERS COMPLETE WITH INSTALLATION FRAMES



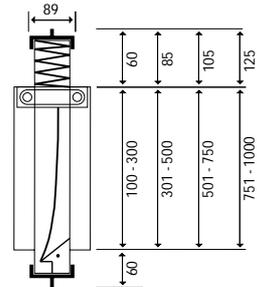
## Type FG3

SIZE RANGE  
100 - 1000mm DIAMETER  
MINIMUM OVERALL SIZE + 150MM

### STANDARD DAMPERS



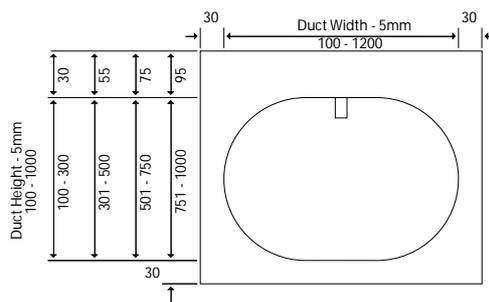
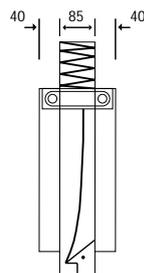
### DAMPERS COMPLETE WITH INSTALLATION FRAMES



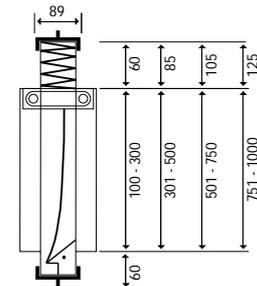
## Type FG4

SIZE RANGE  
100 - 1200mm WIDE  
100 - 1000mm HIGH

### STANDARD DAMPERS



### DAMPERS COMPLETE WITH INSTALLATION FRAMES



Note: 1. All dimensions are in mm.

2. Spigoted Models are supplied with actual spigot dimensions nominal less 5mm +/- 1mm
3. For sizes greater than detailed maximum sizes, multiple section units would be supplied.

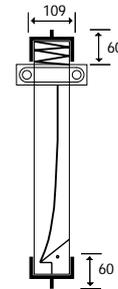
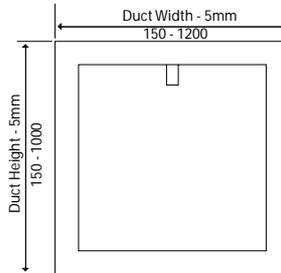
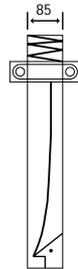


## Type FG5 (In Duct)

SIZE RANGE  
200 - 1200mm WIDE  
150 - 500mm HIGH

STANDARD DAMPERS

DAMPERS COMPLETE WITH  
INSTALLATION FRAMES



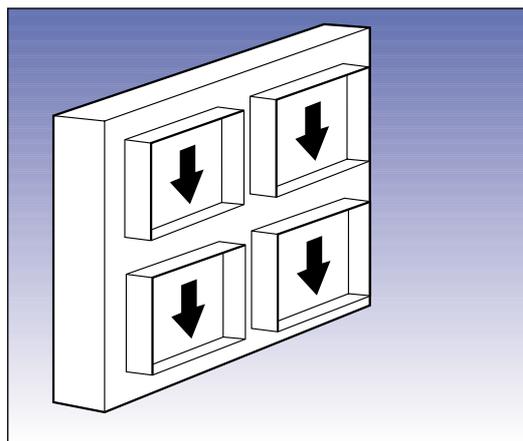
As an alternative fixing arrangement for both ducts or walls, the type FG5 fire damper can be supplied without spigot connections.

## Multiple Assemblies

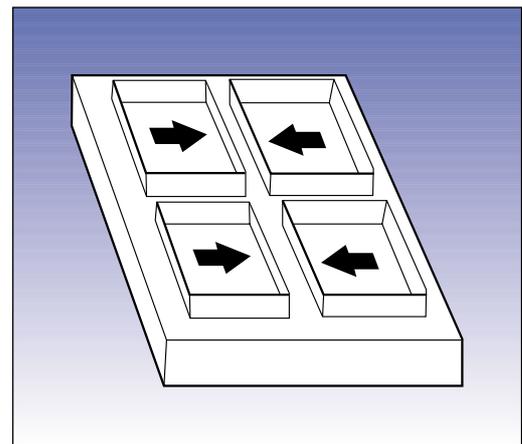
Where the duct sizes exceed 1200mm x 1000mm two or more FG1 or FG2 Type units can be arranged in a complete multiple assembly joined together by 16SWG Galvanised Steel Closure Strips.

Note:

Before installation of any multiple assembly the proposed arrangements should be agreed with the relevant local authority (a suggested arrangement drawing can be supplied).



4 Pack Unit  
Typical Vertical Assemblies  
Blade Closure Direction Indicated by Arrows

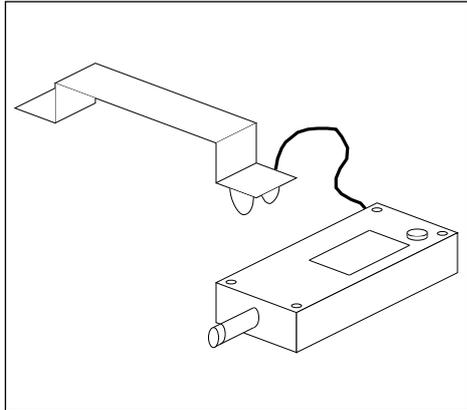


4 Pack Unit  
Typical Horizontal Assemblies  
Blade Closure Direction Indicated by Arrows



## Control Options

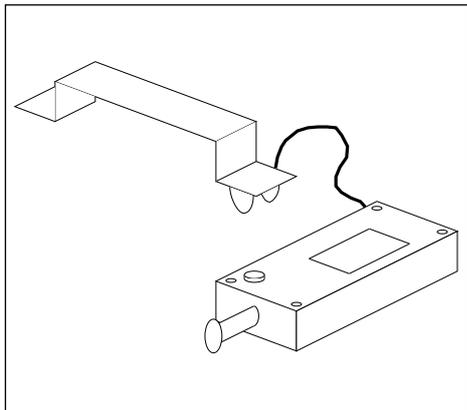
### Solenoid (non-Failsafe)



The Solenoid is normally de-energised (no power supply) and this holds the damper in the open position. When the solenoid is powered up by an electrical power signal the solenoid will operate, pulling a connecting cable, which releases the damper and allows it to close. The solenoid is housed in a control box enclosure, which should be mounted on the adjacent ductwork. A simple cable connection links the control box to the fusible link holding assembly. The cable length is 1 metre as standard though other lengths can be specified. The Control box enclosure also includes a status indication light. When the solenoid is activated (indicating the damper is closed) the status light will illuminate RED. Standard Solenoid voltage is 240v AC (50Hz). Other voltages available on request.

Available on Sizes 150 x 150 upto 1200 x 1000 and 150 to 1000 dia

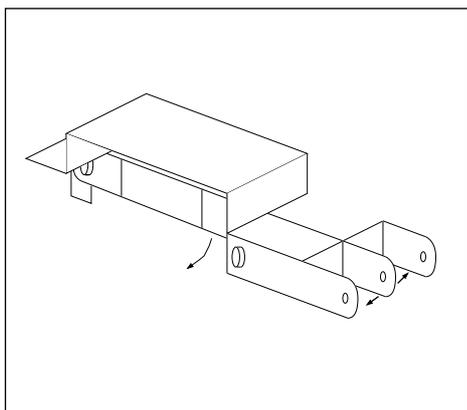
### Electro-Magnet (Failsafe)



The Electro-Magnet is normally energised (power on) and this holds the damper in the open position. When the powered is interrupted the Electro-Magnet will operate, pulling a connecting cable, which releases the damper and allows it to close. The Electro-Magnet is housed in a control box enclosure, which should be mounted on the adjacent ductwork. A simple cable connection links the control box to the fusible link holding assembly. The cable length is 1 metre as standard though other lengths can be specified. The Control box enclosure also includes a status indication light. When the Electro-Magnet is powered up (indicating the damper is open) the status light will illuminate GREEN. Standard Electro-Magnet voltage is 24v DC (50Hz). Other voltages available on request.

Available on Sizes 150 x 150 upto 1200 x 1000 and 150 to 1000 dia

### Trigger Release



Providing a trigger operation feature, this self-locating and easily resettable cassette can be used with either the solenoid or electro-magnet controls - or, as a standard component to assist the engineer in the resetting of the fire damper during regular inspection and maintenance procedures.

Only available from 150 to 1000mm (high).



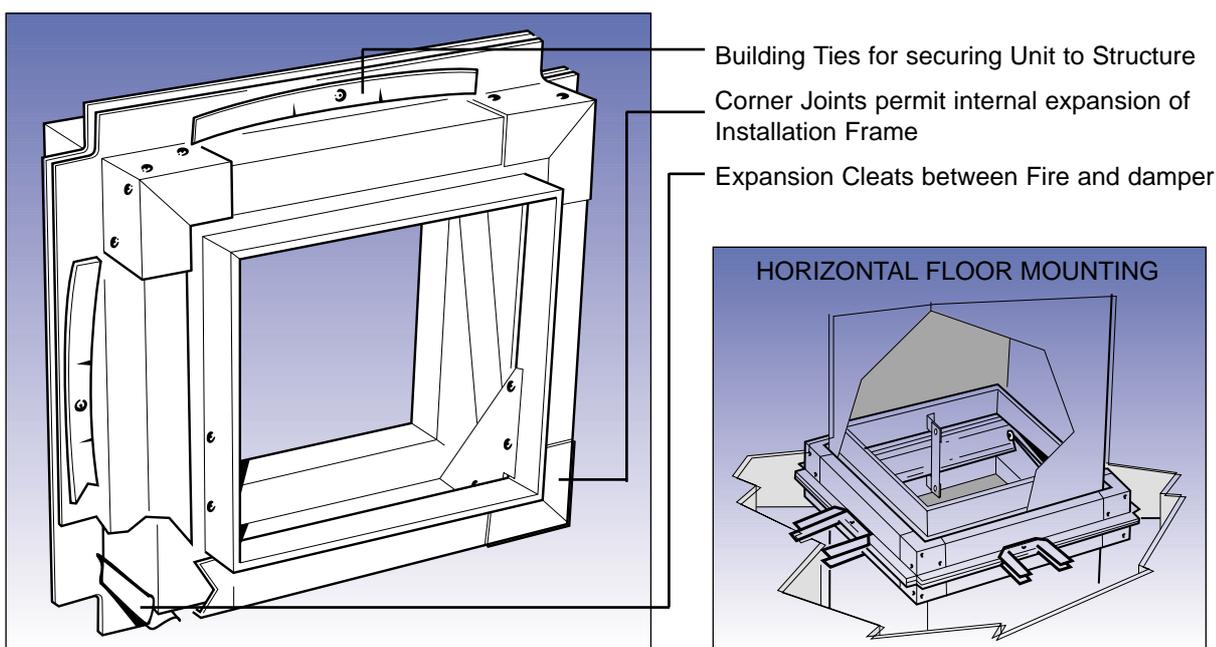
## Installation Frames

### HEVAC INSTALLATION FRAME (HVC 6/5/85)

The installation frame is designed to be factory assembled on to a fire damper. This frame will under fire conditions allow the damper to expand without distortion. Upstand flange webs with fixing tabs built into the surrounding structure ensure that the complete assembly will be retained within the structural opening.

A factory assembled installation frame may be provided and fitted to a double module assembly not exceeding an overall ductwork size of 1524 x 1016mm (split on the larger dimension). Adjacent frame assemblies must be separated by builders work of a minimum distance of 225mm (between installation frame upstand flanges unless approval has been previously obtained from the appropriate authority.) Where two fire dampers, or two double module assemblies are mounted in series to form a factory assembled four hour unit, each damper or double module assembly comprising the unit shall be provided with its own installation frame so as to allow each individual damper or double module assembly to expand under fire conditions.

The work shall be carried out to the satisfaction of the appropriate authority which, in inner London, will be the District Surveyor. Any deviation must have similar approval.



## Test Data

### FIRE TEST

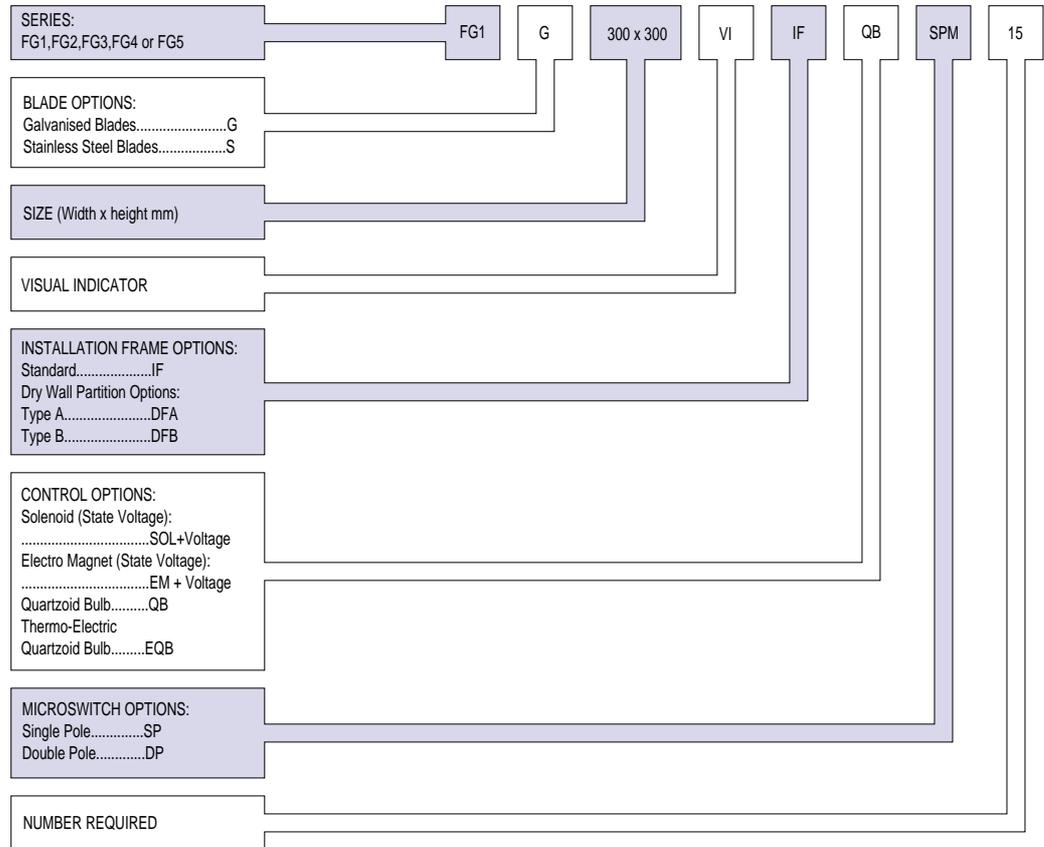
Fire tests conducted by the WARRINGTON RESEARCH CENTRE in both the horizontal and vertical position proved the Damper to comply with conditions specified by BRITISH STANDARD 476 PART 20 1987 for a 240 minute period.

Also tested to : European Standard EN1366-2:1999

International Standard ISO 10294-1:1996E



## Ordering Procedure



## Engineering Specification

- Fire Dampers shall be Steel Curtain Dampers consisting of a continuous series of folded and interlocked blades contained within and arranged to close the opening of a surrounding frame.
- The frame and component parts to be not less than 1.5mm Cold Reduced Steel, to BS EN10142 1991 Grade DX 51 D Z275 N.A.C.
- The blades to be 0.7mm Stainless Steel to grade 430 to BS EN 10088 part 2 1983 or, galvanised mild steel to BS EN 10142 1991 grade DX51D Z275 N.A.C.  
Shaped on both edges to form a continuous interlocking hinge extending the full length of the blade, and ensuring correct action, and having a reinforcing swage centrally along the length to provide maximum strength and rigidity.  
The assembly of blades to be fixed to the Damper frame by the first blade being riveted flat to the frame with zinc plated boron steel rivets 5.56mm long x 4mm diameter oval headed self-piecing bifurated rivets heat treated to 380/420 V.P.N., 50mm from the corners of the frame, and not more than 150mm centres along the length of the blade.
- The Damper framework to be of formed section to provide two continuous internal flanges or jambs covering the blade perimeters by not less than 30mm.
- The number of blades to be sufficient only to close the opening in the frame when in the fully extended position, with a minimum clearance between the edges of the blade and the casing of 5mm.
- The Damper blades to be held in the open position by means of an approved pattern fusible link, set to operate at 72°C unless otherwise specified.  
The link to be arranged in an exposed position in the centre of the leading blade, consisting of tinned brass parts so positioned and fixed as not to impede the operation of the Damper blades upon the fusing of the link.
- The Damper when used in a vertical position to be suitably marked "Top".
- All Dampers used in either vertical or horizontal positions to be closed by two constant force coiled band springs, exerting a pull of not less than 35N to be of Stainless Steel type 302, 19mm wide.
- The tail end of the springs to be rounded and fixed to the leading blade by a Stainless Steel rivet 4.8mm.
- The coiled end of each spring to be retained around a corrosive resistant steel pivot fixed to a locking bracket in such a way that it will not become dislodged from the pivot by side movement. The locking bracket to provide maximum cover over the coiled spring to prevent damage, and to be secured to the Damper by not less than two 4.8mm Stainless Steel rivets.
- Locking brackets shall be secured in such a position that at no time do they obstruct or interfere with the operation of the Damper but will positively lock the leading blade when the Damper is in the closed position.

## Contact

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