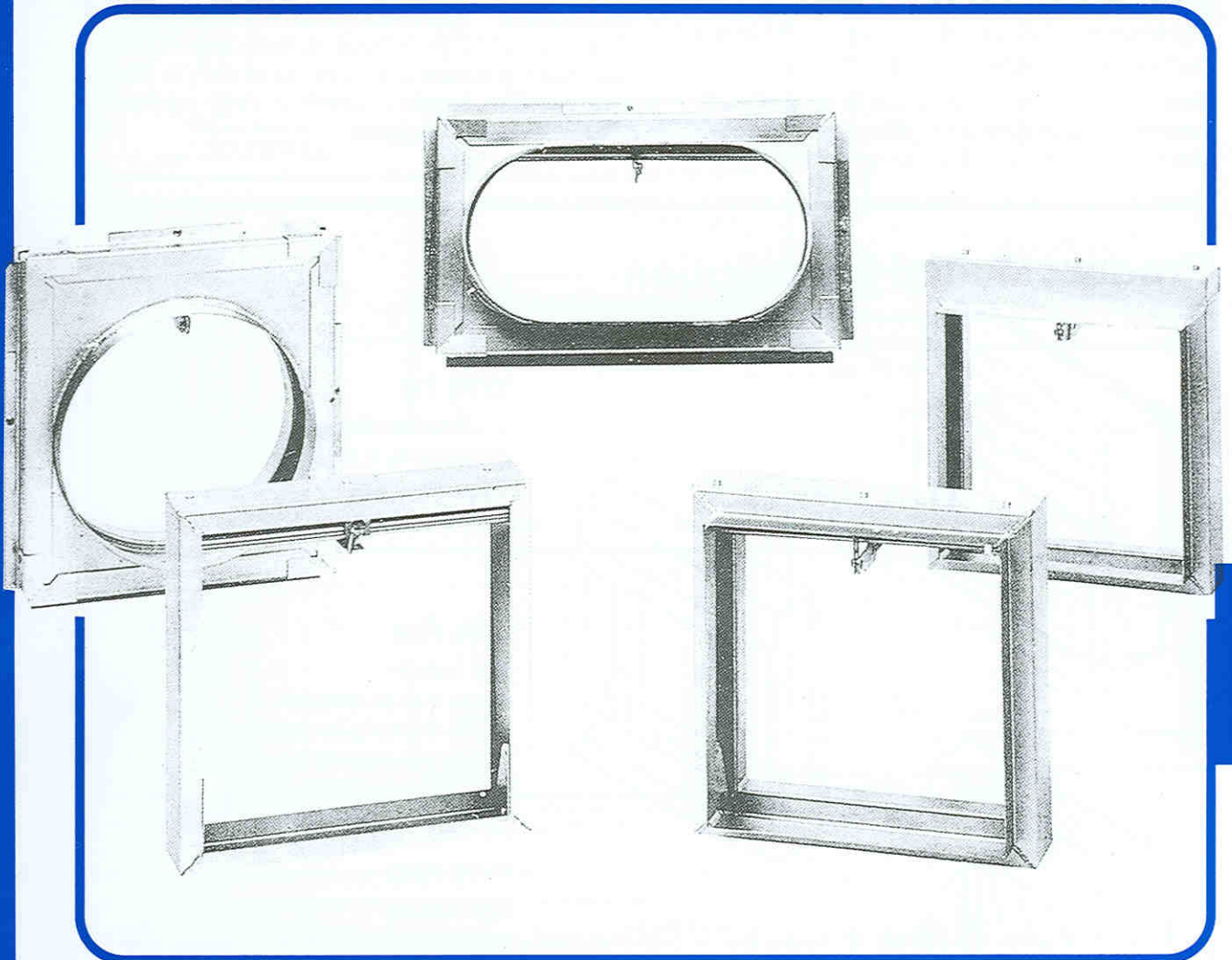


GMAMCO

FB SERIES FOLDING BLADE FIRE DAMPER



features

- Low, medium and high velocity models
- 1 1/2 hour rated assemblies
- Infinite sizing capability
- Factory fitted HEVAC/HVCA approved installation frame
- Standard construction is galvanised mild steel, Stainless steel blades and casings available to order
- Comprehensive control options
- Fully welded construction

approvals

- U.A.E. Civil Defence Approved
- Fire tested to NFPA 90 A
- UL Listed fusible link, rated 165°F (72°C)
- Conformance to UL 555



Introduction

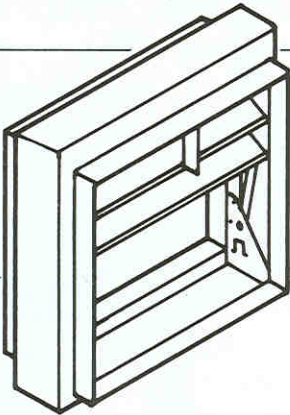
The FB Series Folding Blade Fire Damper manufactured by GMAMCO and designed by Caradon Air Diffusion UK is to stop the spread of fire through ducts, walls, ceilings, doors, partition walls or floors. The product incorporates numerous features as required and specified by contractors, local fire and/or hospital authorities in addition to consultants.

There are three casing variants - all fully welded: square/rectangular, circular and flat-oval with infinite sizing capability

within minimum/maximum dimensions. All are suitable for either low, medium or high velocity/pressure applications.

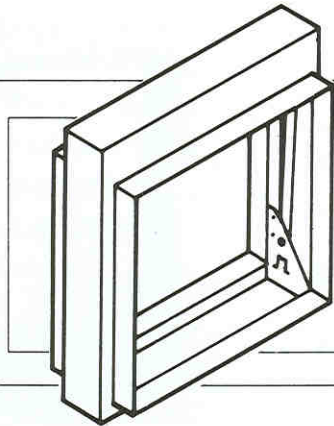
Available to order are various control options in addition to local or remote blade status indication; factory fitted approved HEVAC/HVCA installation frames, 1 1/2 or 3 hour rated assemblies; all manufactured in compliance to the companies quality control and quality assurance procedures.

Product Model Description



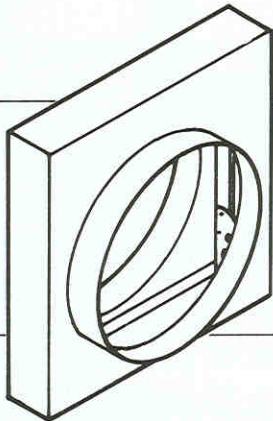
TYPE FBL

Low/Medium Velocity
Blades partly in airstream
Square/Rectangular spigot connection
Vertical or horizontal mounting



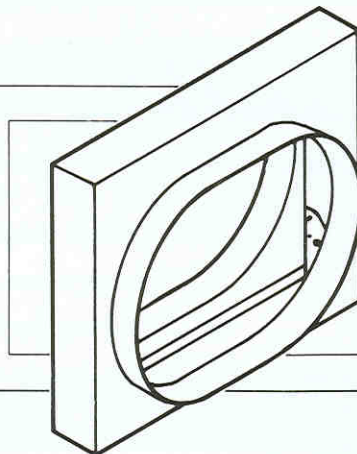
TYPE FBH

High Velocity
Blades outside airstream
Square/Rectangular spigot connection
Vertical or horizontal mounting



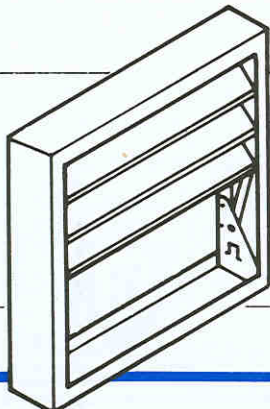
TYPE FBC

High Velocity
Blades outside airstream
Circular spigot connection
Vertical or horizontal mounting



TYPE FOB

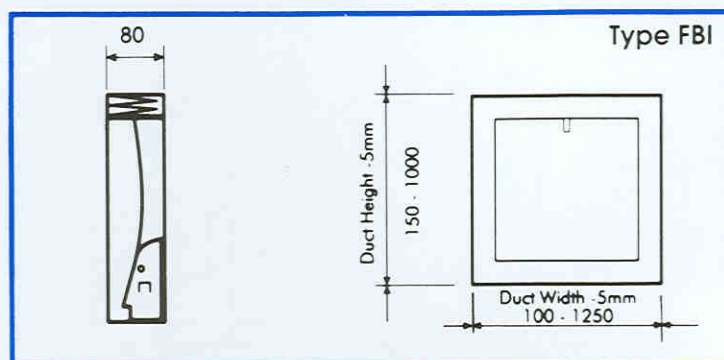
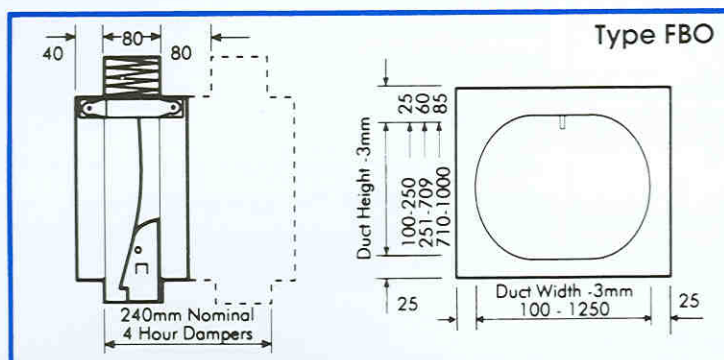
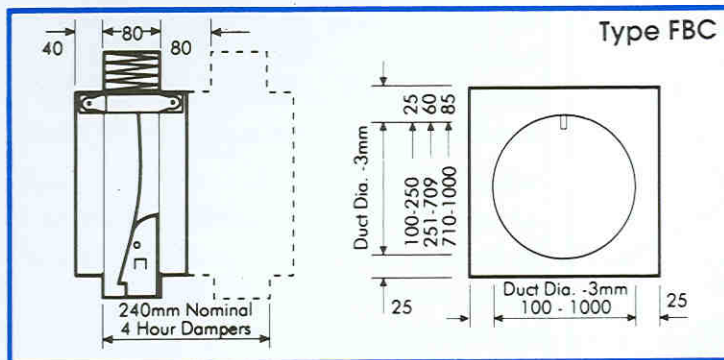
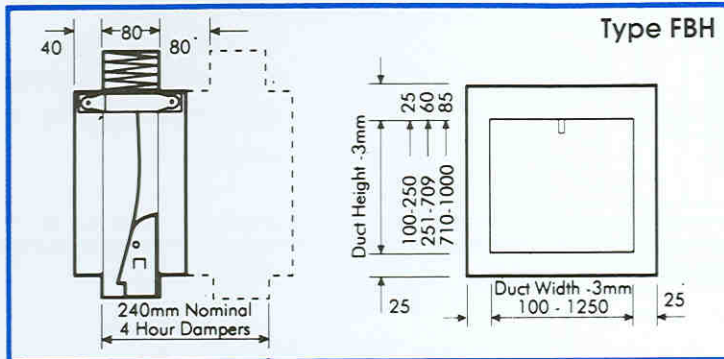
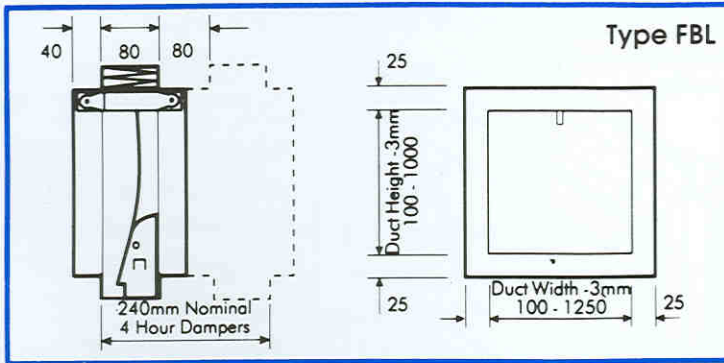
High Velocity
Blades outside airstream
Flat oval spigot connection
Vertical or horizontal mounting



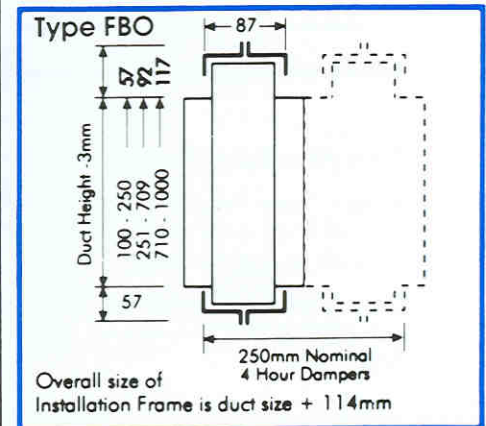
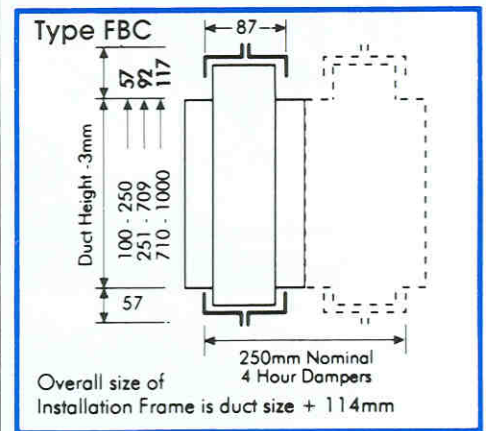
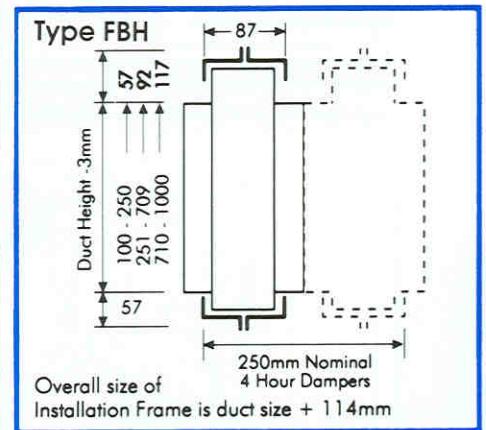
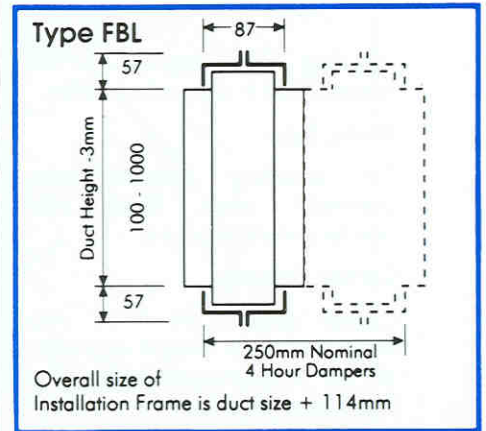
TYPE FBI

Low Velocity
Blades partly in airstream
Square/Rectangular induct design
Vertical or horizontal mounting

Dimensional Data



Fire Dampers Fitted with Installation Frames



Installation Frames

Mitred Corner Joints

Mitred joint is welded to ensure rigidity and is riveted using aluminium rivets to allow internal expansion of the installation frame without

affecting the integrity of the construction it is installed within

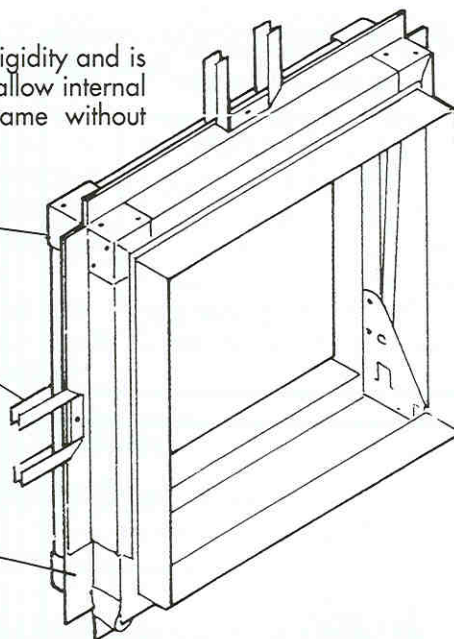
Fixing Tabs

For securing damper/frame assembly when fitted into builders work structure.

Corner Spacers

Corner spacer are fitted into each corner to permit expansion of the fire damper within the frames construction.

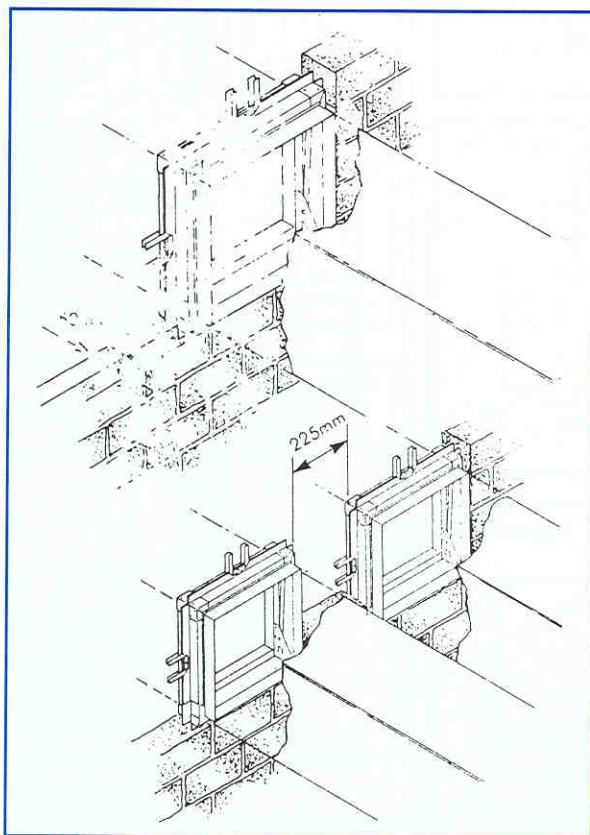
See Page 2 of this brochure for dimensional detail



The frame is designed to allow, under fire conditions, expansion of the damper without distorting the surrounding structure.

Where fire dampers are mounted in series to provide a three hour rated assembly, each damper will be fitted with its own installation frame.

This type of installation frame is suitable up to 2000mm wide by 1000 mm high and can be fitted to larger sizes if agreed by the appropriate authority or district surveyor.



Installation

Installation Codes of Practice

The frame should be installed centrally within the thickness of the surrounding wall or floor, or, in the case of thick walls or floors the centre line of the frame should be at least 50mm away from the nearest face.

Where more than one duct penetrates a wall or floor, adjacent fire damper assemblies should be separated by builders work of a minimum thickness of 225mm. During installation all fixing tabs should be bent out and built into the surrounding structure so as to ensure "positive fixing into the surrounding builder's work" as detailed in Section 6.2 Sub-Section (a) and (b) of the HEVAC/HVCA installation frame specification.

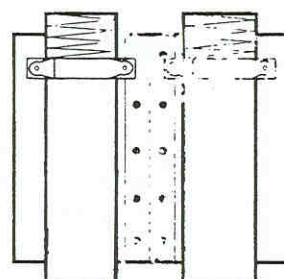
Special Note :

All fire damper installations should be carried out to the satisfaction of the appropriate district surveyor, fire officer, and/or specifying authority as other approved methods of installation may well be used.

Three Hour Rated Assemblies

Where three hour rated assemblies are specified, one and half hour rated units are joined together to conform to specification.

Each module should be supplied with its own independent HEVAC/HVAC installation frame and fusible link.



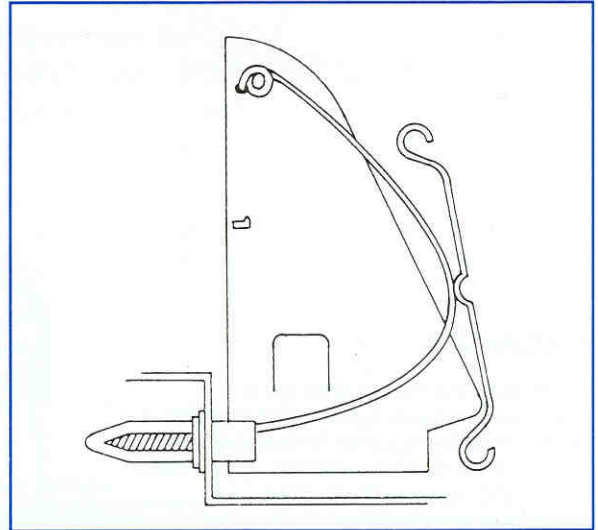
Blade Status Indication

Option 001

Mechanical Visual Indicator

To enable "local" indication outside of the damper casing, as to whether the blade pack is open or closed.

The leading blade whilst travelling onto the locking ramp simultaneously forces the spring with the indicator into the clear bulb to provide local blade status.



Option 002

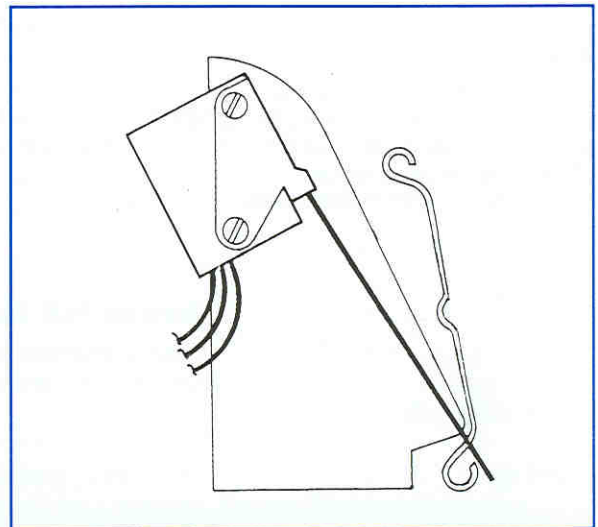
Electrical Single Pole Microswitch

To provide "remote" indication of blade status. The leading blade whilst travelling onto the locking ramp connects with the "extension arm" and operates the switch.

Red = Common

Blue = Normally Open

Yellow = Normally Closed



FB Series

Weight Chart

All references are in kilograms and are approximate values only.

Nominal Damper Size	Width Dimension (mm)											
	100	200	300	400	500	600	700	800	900	1000	1100	1250
100	1	2	3	4	5	5	6	7	9	10	11	13
200	2	3	4	5	5	6	7	8	9	10	12	14
300	3	4	5	5	6	7	8	9	11	11	13	14
400	4	5	6	6	7	8	9	10	12	14	14	15
500	5	6	7	7	8	9	10	12	13	14	15	16
600	6	6	7	8	9	10	11	12	13	15	16	16
700	6	7	8	9	10	11	12	13	14	16	17	18
800	7	8	9	10	11	12	13	14	16	17	18	20
900	8	9	10	12	12	13	14	15	16	18	20	22
1000	9	11	11	13	14	15	15	16	17	19	21	23

- Guidance 1. The above reference values are to Model FBLG - 01
 Notes : 2. For Models FBHG-01 and FBCG-01, apply the following respective multipliers : 1.3 and 1.5
 3. To include a HEVAC/HVCA Installation Frame, a multiplier of 1.5 should be used.

Folding Blade Fire Damper

Fusible Link

The straight bar type fusible link is designed to ensure tight packing of the blades whilst being easy to replace. The double sided hooks is supplied as standard with a 72°C temperature rating. Alternative temperature ratings are also available.

Blades

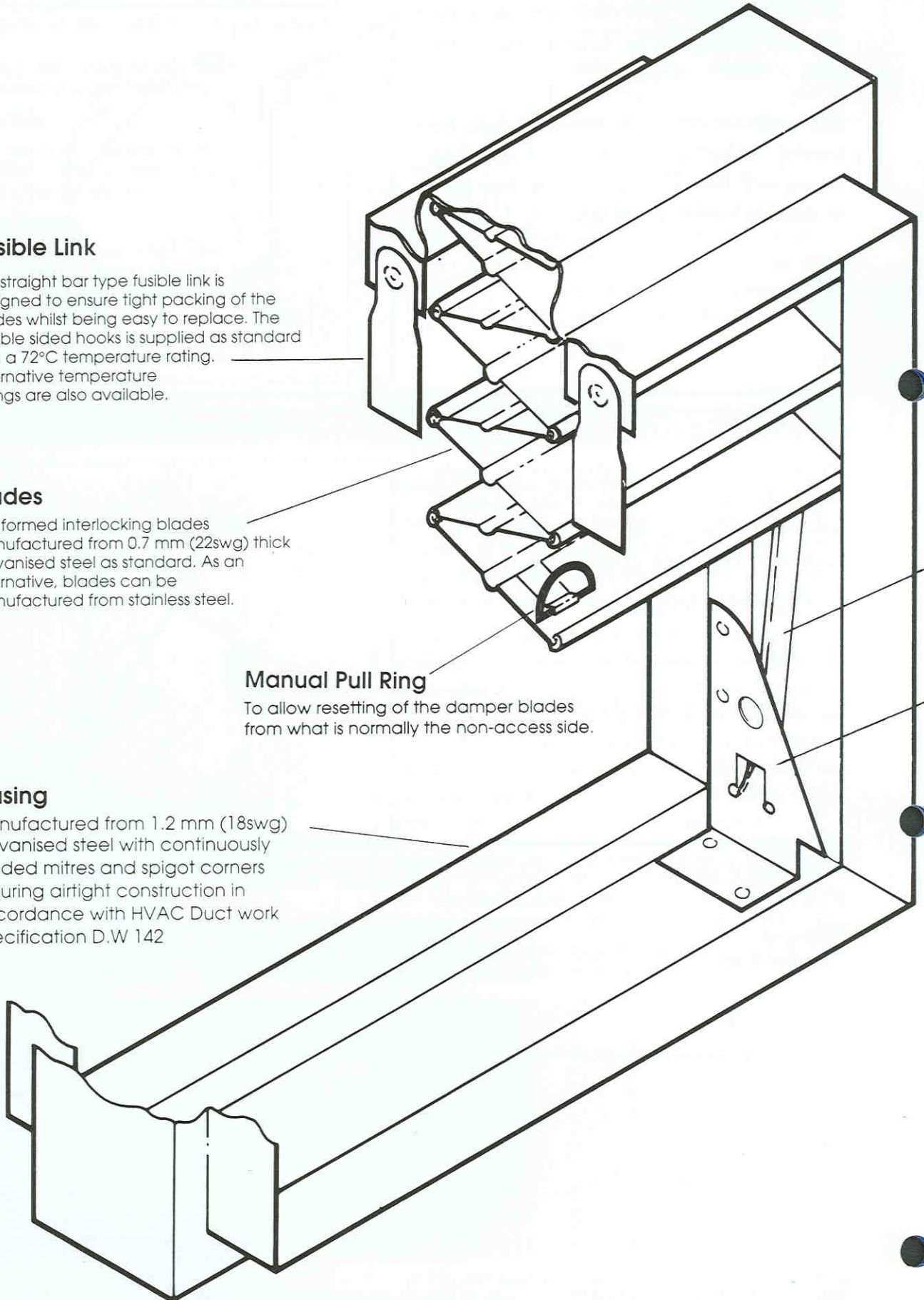
Roll formed interlocking blades manufactured from 0.7 mm (22swg) thick galvanised steel as standard. As an alternative, blades can be manufactured from stainless steel.

Manual Pull Ring

To allow resetting of the damper blades from what is normally the non-access side.

Casing

Manufactured from 1.2 mm (18swg) galvanised steel with continuously welded mitres and spigot corners ensuring airtight construction in accordance with HVAC Duct work Specification D.W 142



Control and Indication Options

Please contact our sales department for "Secondary Electrical Actuation" and "Blade Status Indication" options, available to order.

Springs

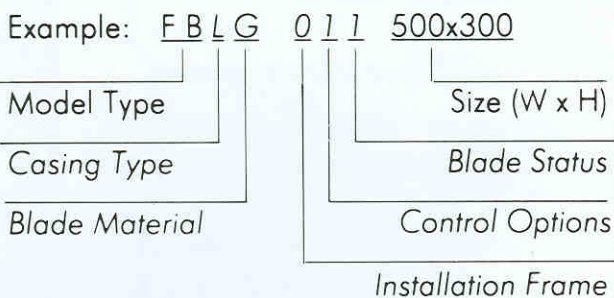
Stainless steel constant tension springs positioned out of the airstream to ensure positive closure of blades when the damper is installed either vertically or horizontally.

Blade Ramp

Manufactured from the same material as the casing. The blade ramp is designed to ensure the lower blade is closed fully and remains locked in position until manually released.

FB SERIES

Order Specifications



Casing Type

- L Low Velocity, Square/Rectangular Spigot
- H High Velocity, Square/Rectangular Spigot
- C Circular Spigot, High Velocity as standard
- O Flat Oval Spigot, High Velocity as standard
- I Induct, Low Velocity, Square/Rectangular Spigot

Blade Material

- G Galvanised Mild Steel
- S Stainless Steel

Installation Frame

- 0 Without Installation Frame
- 1 With Installation Frame

Options

- 1 Standard Fire Damper with Fusible Link
- 2 As 1 with De-energised Solenoid
- 3 As 1 with Energised Electro-Magnet
- 4 As 1 with Electro-Thermal Link

Blade Status

- 1 Mechanical Visual Indicator
- 2 Single Pole Micro-Switch
- 3 Double Pole Microswitch

Specifications

Casing

The damper casing to be shaped as to provide two 25.4mm internal flanges spaced at not more than 80mm apart with two male spigots formed as an integral part of the casing. This casing to be not less than 1.2 mm (18swg.) cold reduced hot dipped galvanised mild steel to Grade G90/227 and is to be welded to provide an airtight casing.

All welded areas to be protected with zinc rich paint applied during manufacture.

Blades

The damper blade shall be shaped on both edges to form a continuous interlocking hinge extending the full length of the blade to ensure correctness of action. Each blade will incorporate a "U" rib along its length to give maximum strength under fire conditions.

The damper blade shall not be less than 0.7 mm (22swg) thickness and manufactured from either cold reduced hot dipped galvanised mild steel to BS EN 10 142 1991 Coating Class FE P02b 7275 NA or stainless steel to BS 1449 Part 2 1983, Grade 430.

The blades are to be attached to the damper casing by the first blade being secured flat to the inside face of the casing. Such fixing is to be by steel rivets to BS3111.

Spring

All dampers shall be closed by two constant tension coil springs manufactured from stainless steel to BS5770 Grade 301, 4 hard. The springs are to be securely attached to the leading blade by steel rivets to BS 970. The coiled

end of the springs to be retained by the blade ramp in such a way that they will not become dislodged and be so positioned out of the airstream, so as to always maintain the force necessary to close the damper blades regardless of operating in the horizontal or vertical mode.

Blade Ramp

The blade locking ramps are positioned to lock the leading blade in the closed mode when the fusible link has melted or been released for examination. The blade ramps are manufactured from not less than 1.2 mm (18swg) cold reduced hot dipped galvanised mild steel to G90/227 Grade.

The two blade ramps are securely attached to the damper casing by steel rivets to BS970 in such a way as to ensure that at all times they do not obstruct the operation of the damper.

Fusible Link

The fusible link is UL listed and rated at 165°F (72°C).

HEVAC Installation Frame

Available on request.

Each damper is labelled indicating clearly its size, model reference, direction of airflow and top of unit, whether the damper is installed in either the horizontal or vertical models.

GMAMCO

GULF MECHANICAL

ACOUSTIC MANUFACTURING COMPANY

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