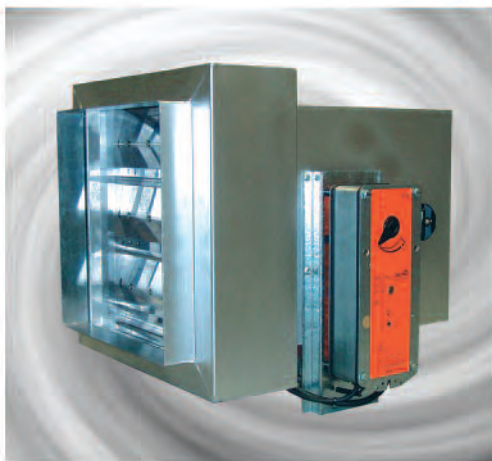


Mech-Elec®



Fire and Smoke Control Dampers

FSD Series

Fire, Smoke and Control
Damper for use with Electro
Mechanical or Fully
Addressable Control Systems

FSD Series

Fire and Smoke Control

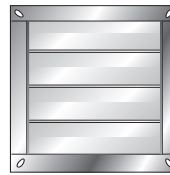


Introduction

FSD Series Combination Fire and Smoke Dampers are by tradition a reliable engineered product to prevent the free passage of smoke and the containment of fire.

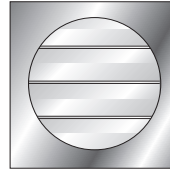
The FSD Series damper incorporates features as required by specifiers, contractors and Fire Authorities/Enforcement agencies. Designed for air conditioning and ventilation systems where smoke and fire protection up to 4 hours is a requirement.

Fully welded cases ensure compliance with damper case leakage to DW144 classes A, B and C on square/rectangular, circular and flat oval applications. The FSD Series suitability for low, medium and high velocities makes it a versatile product in the suppression of the spread of smoke and flame.



Model FSD Rectangular Spigotfit

Square/Rectangular Spigot Connection
Vertical or Horizontal Mounting
100mm - 1200mm wide
100mm - 1000mm high



Model FSD Circular Spigotfit

Circular Spigot Connection
Vertical or Horizontal Mounting
100mm - 1000mm diameter



Model FSD Flat Oval Spigotfit

Flat Oval Spigot Connection
Vertical or Horizontal Mounting
100mm - 1200mm wide
100mm - 1000mm high

Features

- Standard construction is galvanised mild steel
- Stainless steel blades and/or casings available to order
- Infinite sizing capability
- Fully welded casing construction
- Factory fitted HEVAC approved installation frames
- Various control options
- Compatible to B.M.S. and bespoke control systems
- Factory Fitted Access Doors available
- Interlocking blade design
- Multiple assemblies

Tested and Conforms to:

- Tested to BS EN 1366-2:1999
- BS EN 1366-2:1999 – ES Classification (ES245)
- Integrity class within BS EN 1366 for 245 minutes
- Leakage class within BS EN 1366 (achieved 191m³/hr/m²) for 245 minutes
- BS ISO 10294-1:1966(E)
- Complies with the requirements of HTM 81: Fire Code
- Corrosion tested to ASTM B117. Report No. RLR.3

FSD Series

Fire and Smoke Control



Specification

The combination Fire and Smoke Dampers shall be the type FSD Fire and Smoke Control Damper with 100mm aerodynamic interlocking double skin blades being formed from 0.7mm galvanised steel or 430 grade stainless steel as required on a 19mm dia. stainless steel full width drive shaft for strength. The blade drive linkage shall be fully enclosed and outside of the air stream for protection against damage and air contamination.

Side seal gasketing between the blade ends and inner damper case shall be 0.3mm spring steel to BS5770 to impede the passage of combustible material and smoke. The fully welded spigotted damper case shall be formed from 1.5mm galvanised steel suitable for square, rectangular, circular or flat oval connections, and shall meet the air tightness test requirements of HVCA specification DW144 to classes A, B and C up to 1500Pa. Damper blades shall be held open by a replaceable combined thermally activated fuse and momentary test button designed to release closed at 72°C, complete with a Control Option 5a (BF24-T) or Control Option 5b (BF230-T) Belimo motor as required.

The motor operates the FSD Series Damper via a star drive accepting a 12mm square drive shaft from the damper to ensure positive control. Dampers shall be complete with 300mm long stub duct and be supplied complete with factory fitted pre-commissioned control option, thermal fuse and connection box. Dampers where called for shall be fitted with an approved HEVAC expansion/installation frame and the complete assembly shall be installed as recommended by the damper manufacturer and satisfy the requirements of the relevant local authority.

The FSD damper can also be supplied with stainless steel blades if required.

Casings

Casings shall be from 1.5mm (16swg) hot dipped zinc coated steel to BS EN 10142 DX51D + Z 275-N-A-C, with the inner bearing channels from 0.9mm (20swg) zintec plated mild steel. The bearing channel incorporates an integral formed low friction bush for the blades to rotate freely. All welds, seams and joints are coated with commercial grade zinc based aluminium paint. Where necessary, seams and

joints shall be filled with sealant to comply with the requirements of HVCA ductwork specification DW144.

Linkage, Blade Shafts and Bearings

The opposed blade action linkage shall be fully enclosed and outside the airstream and shall consist of galvanised punched drive discs 2mm in thickness with zinc plated drive pins. Tie bars are from zinc plated mild steel 12mm x 3mm punched to fit onto zinc plated drive pins connecting the drive mechanism. Each blade is fitted with 2 number 19mm diameter zinc plated mild steel drive stub shafts

Side Jamb Gasket Seal

A formed 80mm wide stainless steel side seal gasket to provide lower leakage characteristics shall be fitted to the jamb on each side of the casing and will be from 0.3mm (0.010") stainless steel grade 301 515 60 BS5770.

Blades

The blades shall be double skin aerofoil sections from 0.7mm (22swg) hot dipped zinc coated steel to BS EN 10142DX51D + Z 275-N-A-C or from 0.7mm (22swg) stainless steel grade 304.

Control Option

The control option shall be factory fitted to the damper stub duct section, with the control option and damper assembly being bench tested for correct mode of operation. FSD Series dampers with their appropriate control option for failsafe closed applications, control options 5, 6 and 7 are supplied with a thermal sensor operating at 72°C and control option 8 incorporating a mechanical fusible link.

Reverse Operation

For applications where the damper is required to be normally closed and to spring open on loss of power or under the dictate of the alarm system, the thermal sensor can be omitted on options 6, 7 and 8 only. Local authority approval must be required.

Maintenance

FSD Series dampers are designed for normal dry filtered air systems and a programme of planned inspections should be carried out to include cleaning and light lubrication. These inspection and maintenance programmes may need to be repeated more regularly if the dampers are exposed to inclement conditions or fresh air intakes.

FSD Series

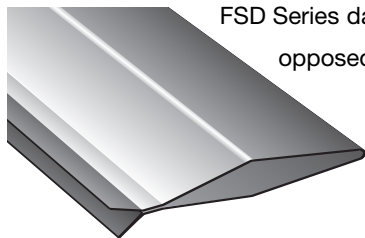
Fire and Smoke Control

Blades

The 100mm wide steel airfoil inter-locking blades are fitted to 19mm diameter spindles for robust, low-friction rotation.

Galvanised blades are offered as standard, with Stainless Steel Grade 430 and 316 options available to order. Where stainless steel blade option is requested, Grade 430 will be supplied unless otherwise stated.

Stainless steel peripheral gasketing to the inner case ensures that low closed blade leakage is maintained and allows for expansion during a fire condition.



FSD Series dampers are supplied with opposed blade operation only.

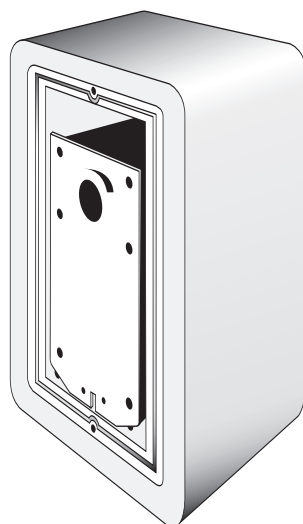
Thermal Housing

The thermal motor housing consists of an advanced phenolic composite resin.

The enclosure uses a mould which has been specifically designed to encase Damper Actuators.

The thermal housing has been independently fire tested at 300°C by the Warrington Fire Research Establishment and results show that the surface temperature of the actuator inside the enclosure did not exceed 78°C during the 60-minute test.

The use of a thermal enclosure provides a tested and proven method to ensure operation of sensitive equipment when subjected to the extremities of fire.



Enclosure size:
395mm length, 174mm width and 140mm depth.

Thermal Fuse

An Electrical Thermal Release (ETR) is fitted to Options 5, 6 and 7 operating at 72°C or on interruption of power supply in accordance with BS5588 Part 9: 1999. The Electrical Thermal Fuse is now fitted with a green LED indication light as standard into the ETR housing. This provides a quick visual check that the control option is receiving power and that the thermal fuse is intact. Features a manual test switch for periodic testing of the damper. For safety reasons the ETR is designed to operate only once upon reaching the activation temperature.

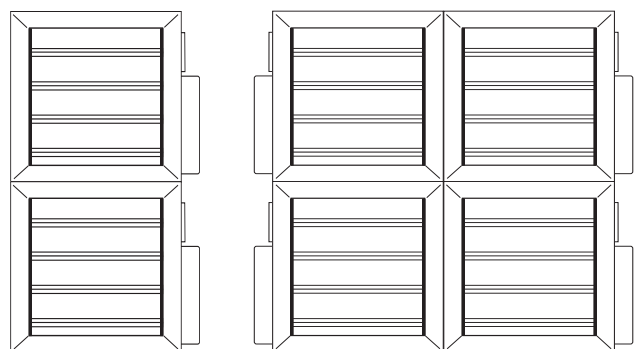


Multiple Assemblies

FSD Series dampers can be supplied in multiple module sections to achieve requested sizes larger than the maximum manufactured single module units. We illustrate below several variants of multiple module arrangements.

When there are transportation restrictions, large multiple units will be shipped in individual sections for site assembly by others. Joining strips are supplied un-drilled unless requested otherwise.

Large multiple units required to be shipped fully assembled will incur additional packing/shipping costs. Please contact our sales office for further information.



Special Note:

BSB can manufacture to individual specifications and applications. Illustrated above are standard variants with other variants available to order.

For applications which necessitate the blades to be installed vertically, BSB's sales office must be informed so that thrust bearings are fitted to eliminate blade friction.



Model Control Options

Reset method	Failsafe position	Control option	Application & operation principle	Supply/control voltage	Motor end switches
Motorised remote	Closed	Option 5a	Fully open to fully closed, automatic electronic BF24-T motor drive fitted with a failsafe spring return mechanism operated via a thermal fuse.	24V AC/DC	Yes
Motorised remote	Closed	Option 5b	Fully open to fully closed, automatic electronic BF240-T motor drive fitted with a failsafe spring return mechanism operated via a thermal fuse.	240V AC	Yes
Motorised remote	Open	Option 6a	Fully open to fully closed, automatic electronic BF24-T motor drive fitted with a failsafe spring return mechanism (with or without thermal fuse as required).	24V AC/DC	Yes
Motorised remote	Open	Option 6b	Fully open to fully closed, automatic electronic BF240-T motor drive fitted with a failsafe spring return mechanism (with or without thermal fuse as required).	240V AC	Yes
Motorised remote	Closed	Option 7a Modulating Spring return	Modulating automatic electronic BF24SR-T motor drive fitted with a failsafe spring return mechanism (with or without thermal fuse as required).	24V AC 0-10V DC signal Potentiometer Output	No
Motorised remote	Open	Option 7b Modulating Spring return	Modulating automatic electronic BF24SR motor drive fitted with a failsafe spring return mechanism (with or without thermal fuse as required).	24V AC 0-10V DC signal Potentiometer	No
Pneumatic	Closed	Option 8a Open/Closed Spring return	Pneumatic opening and closure fitted with a failsafe spring return mechanism operated via a 72°C fusible link.	Specify pressure operating range in psi or bar	
Pneumatic	Open	Option 8b Open/Closed Spring return	Pneumatic closure and opening fitted with a failsafe spring return mechanism (with or without 72°C fusible link).	Specify pressure operating range in psi or bar	

FSD Series

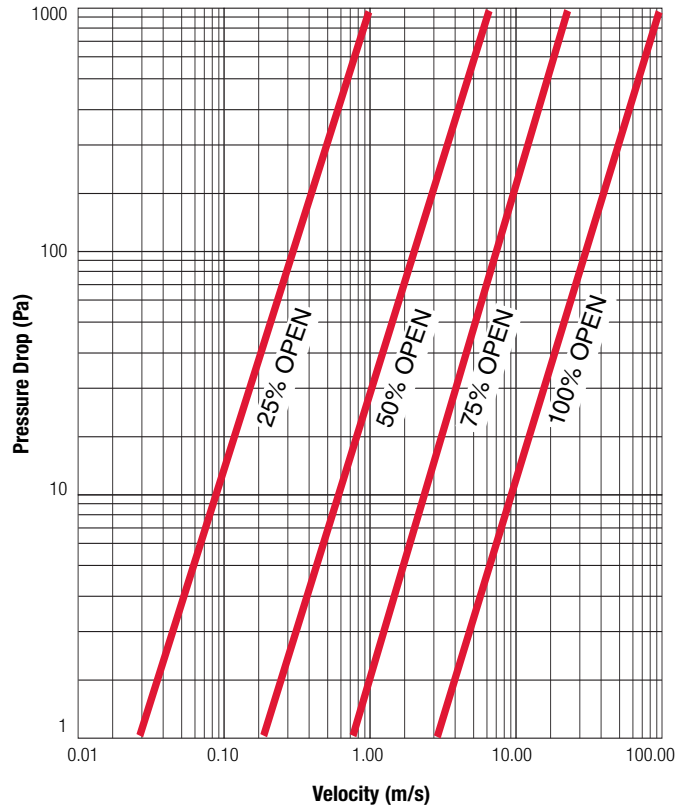
Fire and Smoke Control



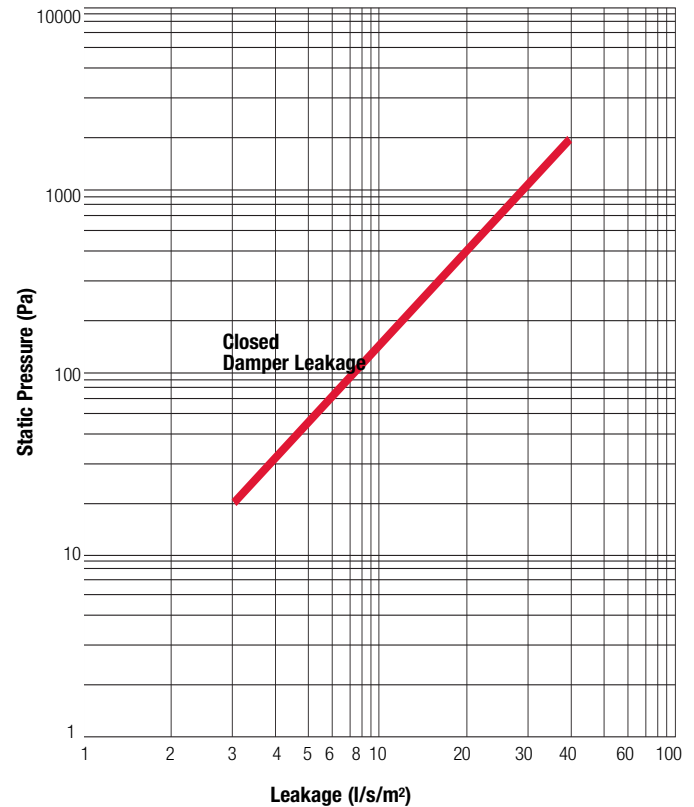
Performance Data

Pressure Drop BSRIA Report 15633/1

Calculated performance at various damper settings



Leakage BSRIA Report 15633/1



Weight Chart (Kg) Model FSD-R

Damper Height (mm)	Fire/Smoke Damper with Motor - Width (mm)											
	150	200	300	400	500	600	700	800	900	1000	1100	1200
150	10	10	11	12	13	14	15	16	17	18	19	20
200	10	11	12	13	14	15	16	17	19	20	21	22
300	12	13	14	15	16	17	19	20	21	22	23	25
400	13	14	15	17	18	19	21	22	23	25	26	27
500	15	16	17	18	20	21	23	24	26	27	28	30
600	16	17	19	20	22	23	25	27	28	30	31	33
700	18	18	20	22	24	25	27	29	31	32	34	36
800	19	20	22	23	26	27	29	31	33	35	36	39
900	20	21	23	25	28	29	31	34	35	37	39	42
1000	22	23	25	27	30	31	33	36	38	40	41	45
1100	23	24	27	29	31	33	35	38	40	42	44	48
1200	25	26	28	30	33	35	37	40	43	45	47	50

1. The reference values below are for Model FSD - R 2. For Models FSDC and FSDO, apply the following respective multiplier: 1.1
3. To include a HEVAC/HVCA Installation Frame, apply the following respective multiplier: 20%

FSD Series

Fire and Smoke Control

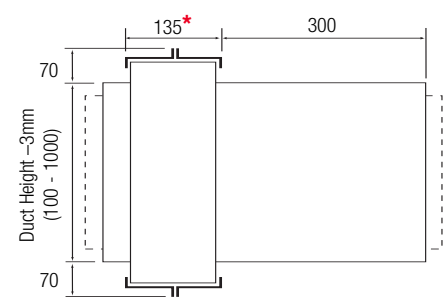
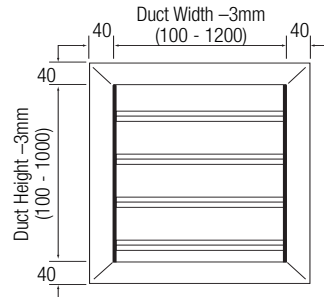
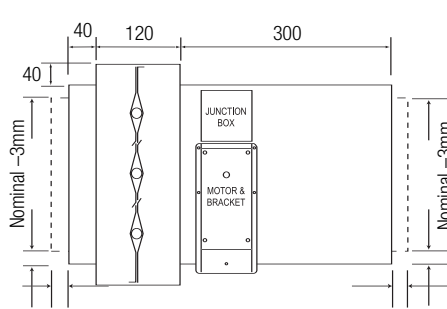


Dimensional Data

Model FSD - S Square/Rectangular Spigotfit Vertical or Horizontal Mounting

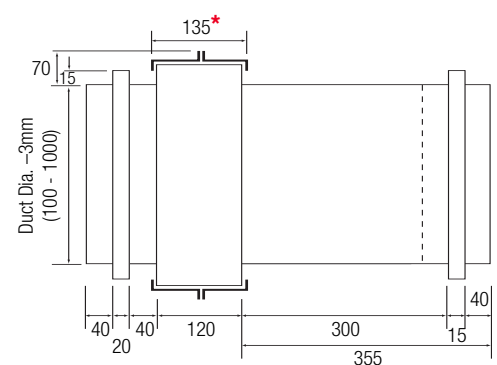
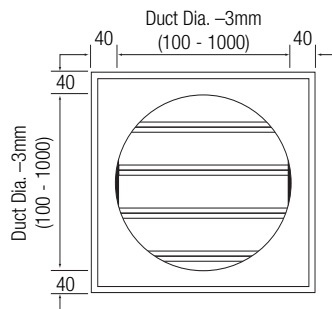
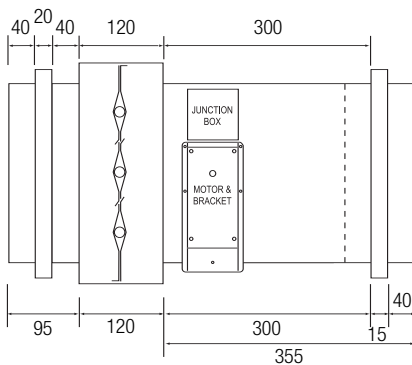
Note: Where marked thus --- on units under 150mm high, reducing spigots are fitted increasing the casing length. Please contact the Sales Office for full details.

Overall dimensions of installation frame is duct dimension + 140mm



Model FSD - C Circular Spigotfit Vertical or Horizontal Mounting

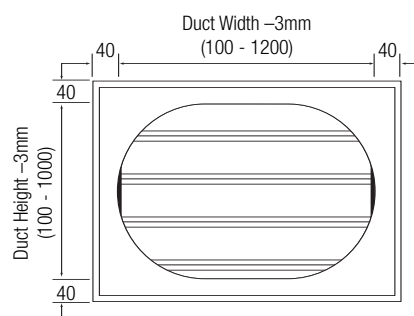
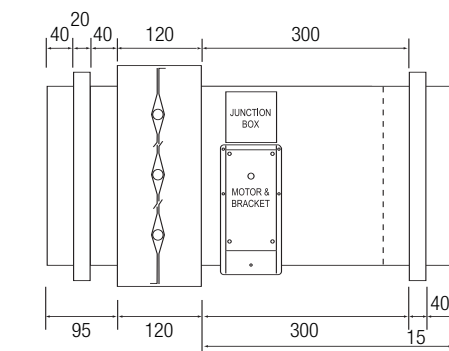
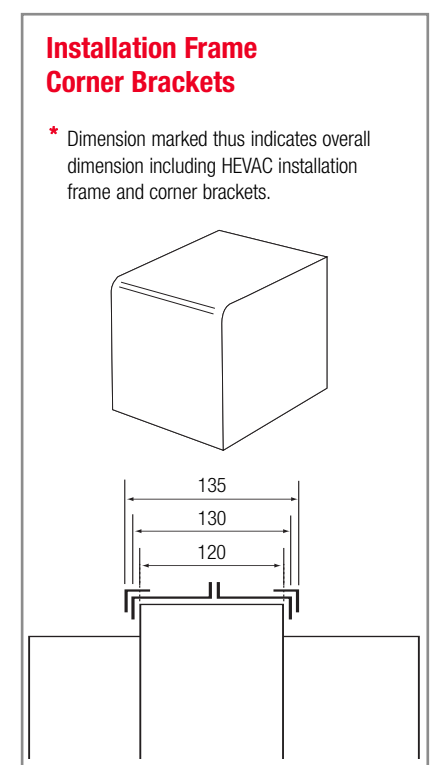
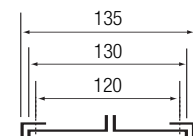
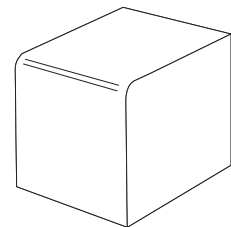
Overall dimensions of installation frame is duct dimension + 140mm



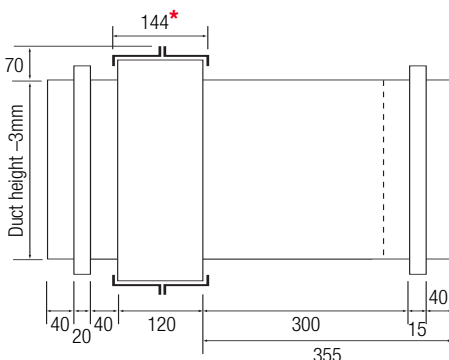
Model FSD - O Flat Oval Spigotfit Vertical or Horizontal Mounting

Installation Frame Corner Brackets

* Dimension marked thus indicates overall dimension including HEVAC installation frame and corner brackets.



Overall dimensions of installation frame is duct dimension + 140mm

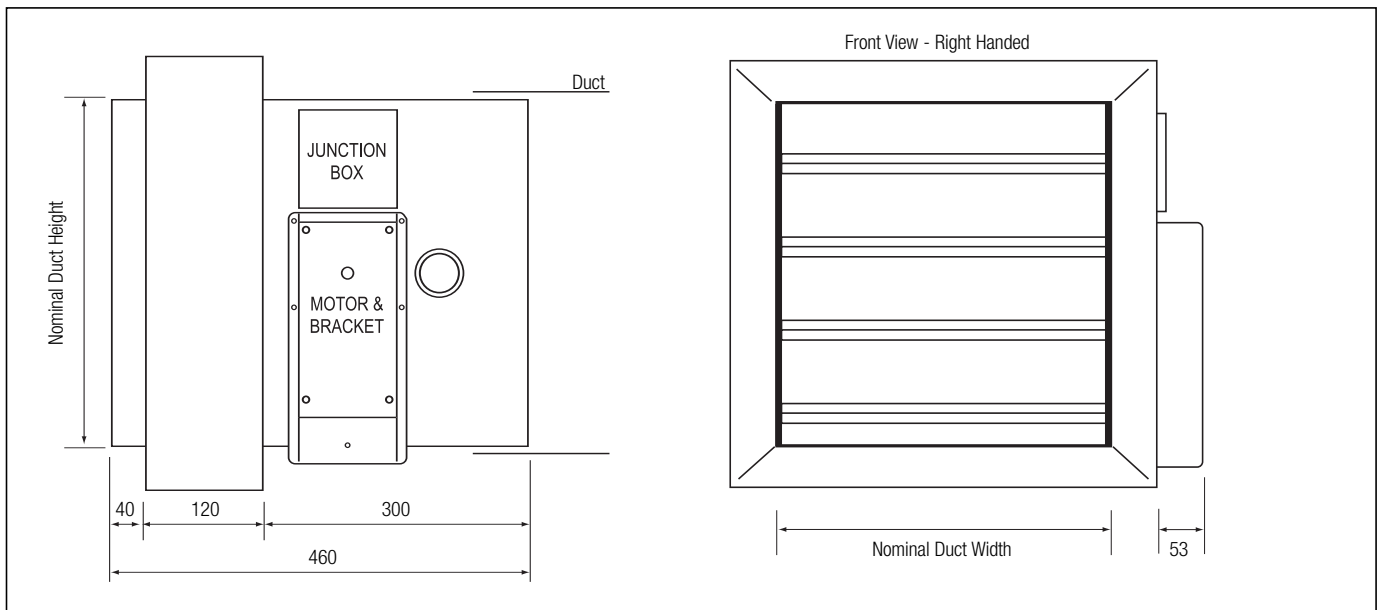


FSD Series

Fire and Smoke Control



Option 5a Spring Return Motor (BF24-T) with Thermal Fuse



Control and Operation

Control Option 5a provides automatic reset on resumption of the power supply.

Features

- Failsafe closure of the damper upon interruption of the power supply - 24 volt AC.
- Motor integral spring closing time approx. 16 seconds.
- Automatic reset on resumption of power supply, motor running time approx. 150 seconds.
- Facility to manually open damper external of duct.
- External indication of blade positions.
- Local test switch facility.

Accessories

Single pole microswitches
Damper Control Panels

Technical Specification

Running Times: Motor: Approx. 150 secs

Motor (Spring Return):

Approx 16 secs

Motor Power Consumption: 24V

Motoring: 7 watt

Holding: 2 watt

Motor Weight: 3kg

Damper Weight: See Weight Chart (Page 4)

Motor Maintenance: Maintenance Free

Damper Maintenance:

As recommended in BSB Maintenance Manual

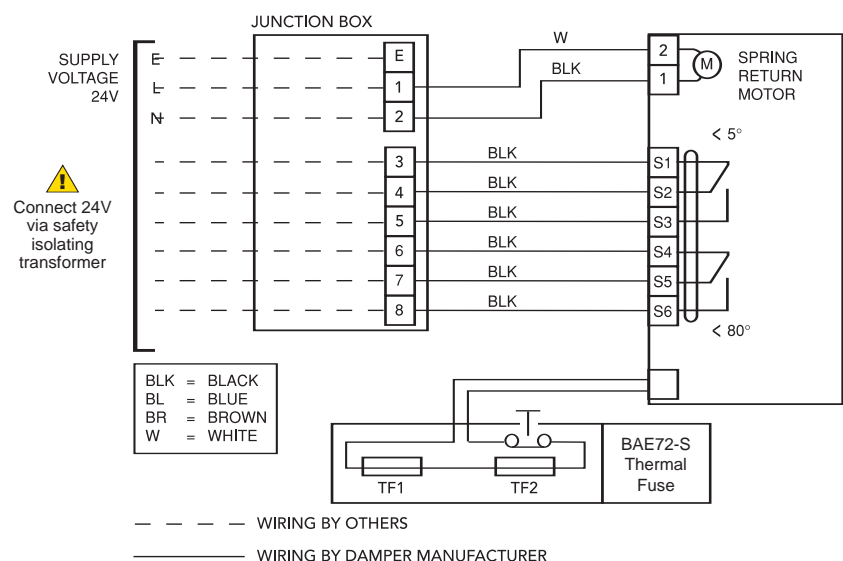
Fusible Link:

The thermal fuse link fitted to Option 5a as standard is rated at 72°C.

Motor Operating Temperature:

-30°C to +50°C

Halogen Free Low Smoke and Fume cabling supplied as a standard safety feature

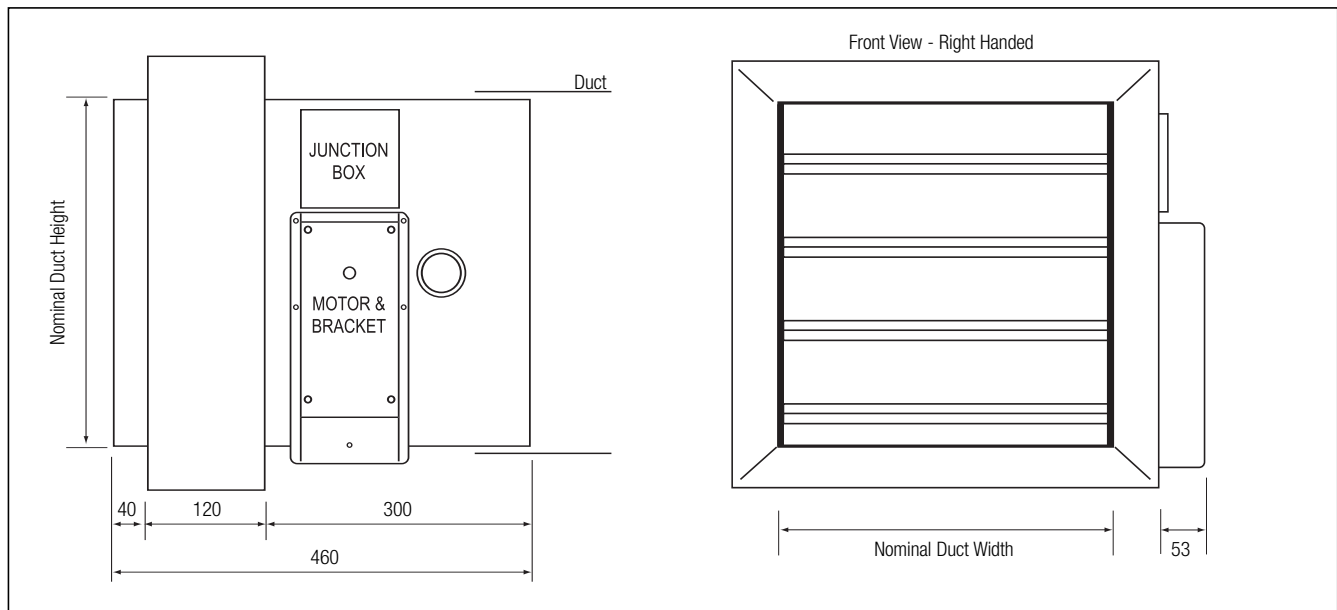


FSD Series

Fire and Smoke Control



Option 5b Spring Return Motor (BF230-T) with Thermal Fuse



Control and Operation

Control Option 5b provides automatic reset on resumption of the power supply.

Features

- Failsafe closure of the damper upon interruption of the power supply - 230 volt AC.
- Motor integral spring closing time approx. 16 seconds.
- Automatic reset on resumption of power supply, motor running time approx. 150 seconds.
- Facility to manually open damper external of duct.
- External indication of blade positions.
- Local test switch facility.

Accessories

Single pole microswitches
Damper Control Panels

Technical Specification

Running Times: Motor: Approx. 150 secs

Motor (Spring Return):

Approx 16 secs

Motor Power Consumption: 230V

Motoring: 8 watt

Holding: 3 watt

Motor Weight: 3kg

Damper Weight: See Weight Chart (Page 4)

Motor Maintenance: Maintenance Free

Damper Maintenance:

As recommended in BSB Maintenance Manual

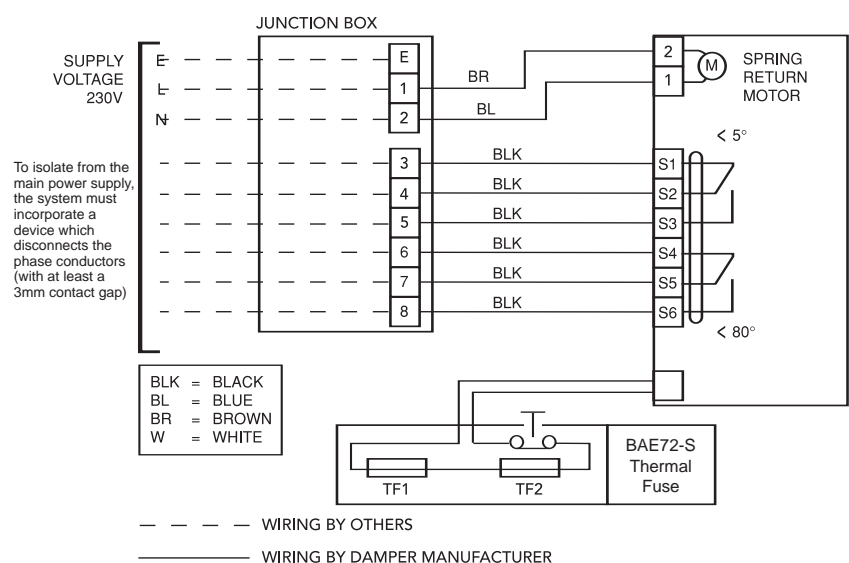
Fusible Link:

The thermal fuse link fitted to Option 5b as standard is rated at 72°C.

Motor Operating Temperature:

-30°C to +50°C

Halogen Free Low Smoke and Fume cabling supplied as a standard safety feature

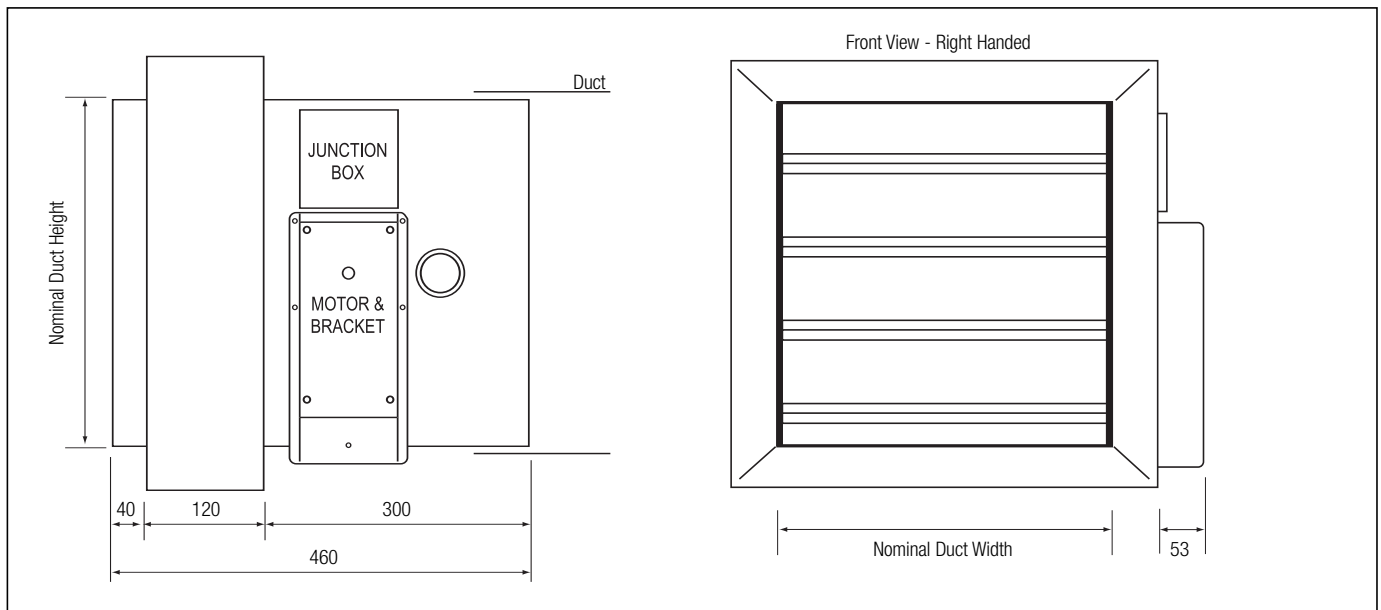


FSD Series

Fire and Smoke Control



Option 6a Spring Return Motor (BF24-T) with or without Thermal Fuse



Control and Operation

Control Option 6a provides automatic reset on resumption of the power supply.

Features

- Failsafe opening of the damper upon interruption of the power supply - 24 volt AC.
- Motor integral spring opening time approx. 16 seconds.
- Automatic reset on resumption of power supply, motor running time approx. 150 seconds.
- Facility to manually close damper external of duct.
- External indication of blade positions.
- Local test switch facility.

Accessories

Single pole microswitches
Damper Control Panels

The Thermal Fuse BAE72-S is offered as standard but is optional on all fail safe open dampers.

Technical Specification

Running Times: Motor: Approx. 150 secs

Motor (Spring Return):

Approx 16 secs

Motor Power Consumption: 24V

Motoring: 7 watt

Holding: 2 watt

Motor Weight: 3kg

Damper Weight: See Weight Chart (Page 4)

Motor Maintenance: Maintenance Free

Damper Maintenance:

As recommended in BSB Maintenance Manual

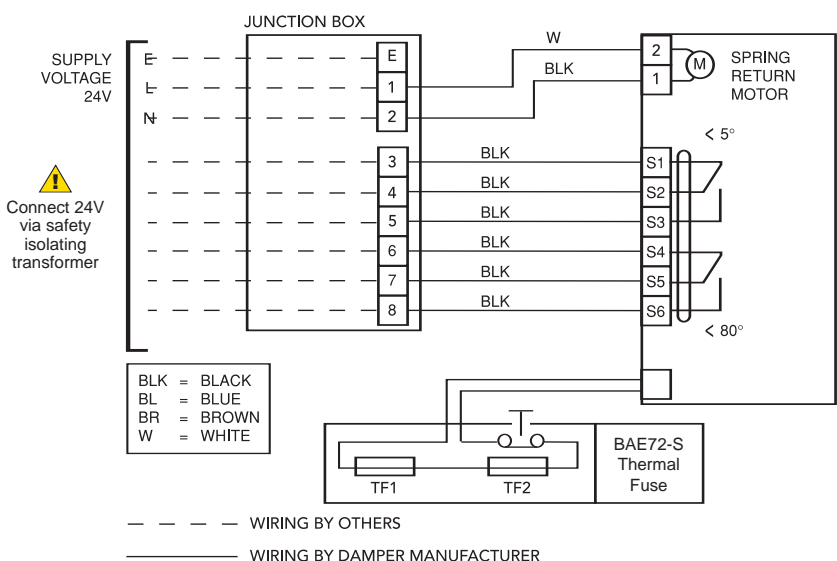
Fusible Link:

Optional thermal fuse link for Option 6a is rated at 72°C.

Motor Operating Temperature:

-30°C to +50°C

Halogen Free Low Smoke and Fume cabling supplied as a standard safety feature

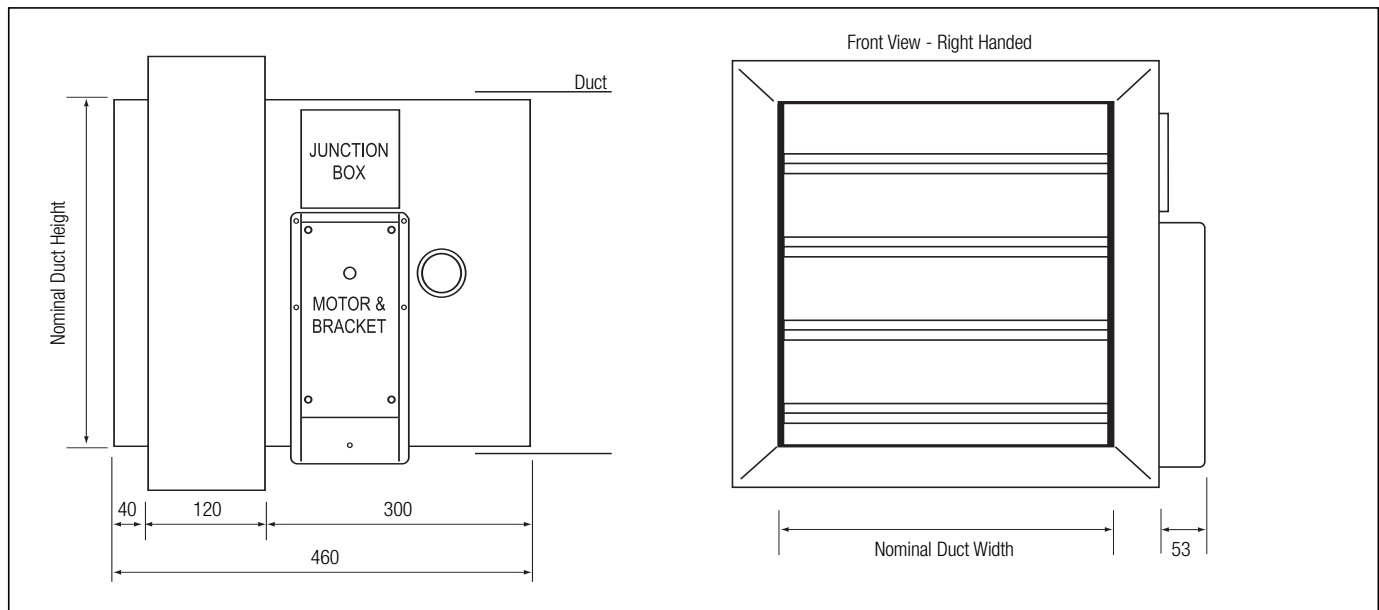


FSD Series

Fire and Smoke Control



Option 6b Spring Return Motor (BF230-T) with or without Thermal Fuse



Control and Operation

Control Option 6b provides automatic reset on resumption of the power supply.

Features

- Failsafe opening of the damper upon interruption of the power supply - 230 volt AC.
- Motor integral spring opening time approx. 16 seconds.
- Automatic reset on resumption of power supply, motor running time approx. 150 seconds.
- Facility to manually close damper external of duct.
- External indication of blade positions.
- Local test switch facility.

Accessories

Single pole microswitches
Damper Control Panels

The Thermal Fuse BAE72-S is offered as standard but is optional on all fail safe open dampers.

Technical Specification

Running Times: Motor: Approx. 150 secs

Motor (Spring Return):

Approx 16 secs

Motor Power Consumption: 230V

Motoring: 8 watt

Holding: 3 watt

Motor Weight: 3kg

Damper Weight: See Weight Chart (Page 4)

Motor Maintenance: Maintenance Free

Damper Maintenance:

As recommended in Maintenance Manual

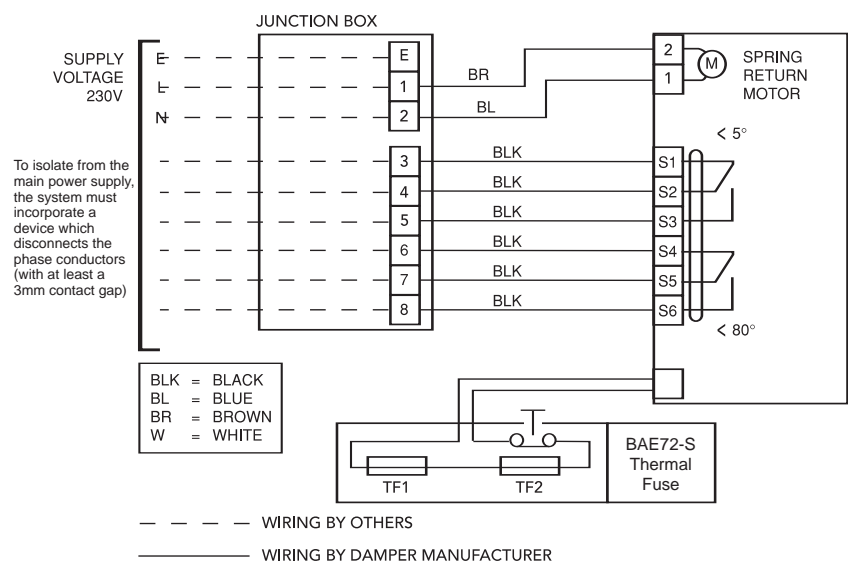
Fusible Link:

Optional thermal fuse link for Option 6b is rated at 72°C.

Motor Operating Temperature:

-30°C to +50°C

Halogen Free Low Smoke and Fume cabling supplied as a standard safety feature

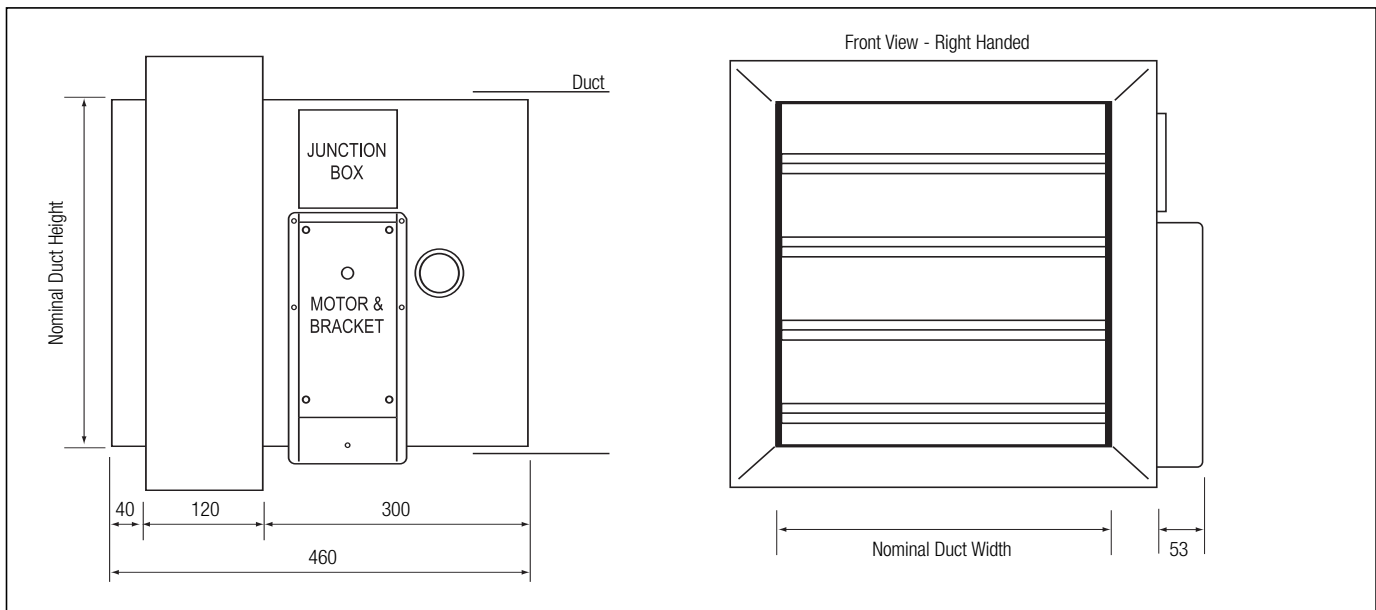


FSD Series

Fire and Smoke Control



Option 7a Modulating Motor (BF24SR-T) with Thermal Fuse



Control and Operation

Control Option 7a provides automatic reset on resumption of the power supply providing the 0-10 input is active.

Features

- Failsafe closure of the damper upon interruption of the power supply - 24 volt AC.
- Motor integral spring closing time approx. 16 seconds.
- Automatic reset on resumption of power supply, motor running time approx. 150 seconds.
- Facility to manually open damper external of duct.
- External indication of blade positions.

Accessories

Single pole microswitches
Damper Control Panels

Technical Specification

Running Times: Motor: Approx. 150 secs

Motor (Spring Return):

Approx 16 secs

Motor Power Consumption: 24V

Motoring: 7 watt

Holding: 2 watt

Motor Weight: 2.8kg

Damper Weight: See Weight Chart (Page 4)

Motor Maintenance: Maintenance Free

Damper Maintenance:

As recommended in Maintenance Manual

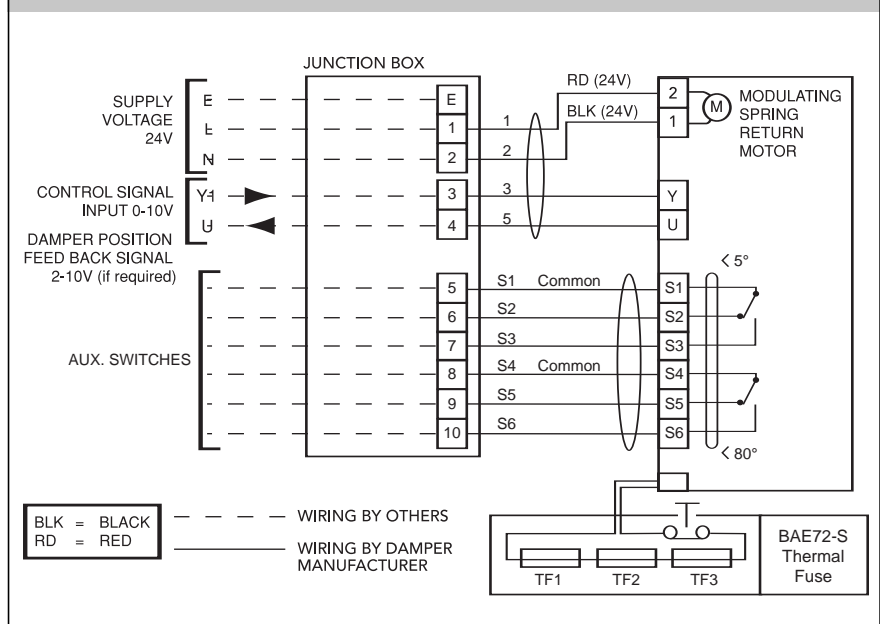
Fusible Link:

The thermal fuse link fitted to Option 7a as standard is rated at 72°C.

Motor Operating Temperature:

-30°C to +80°C

Halogen Free Low Smoke and Fume cabling supplied as a standard safety feature

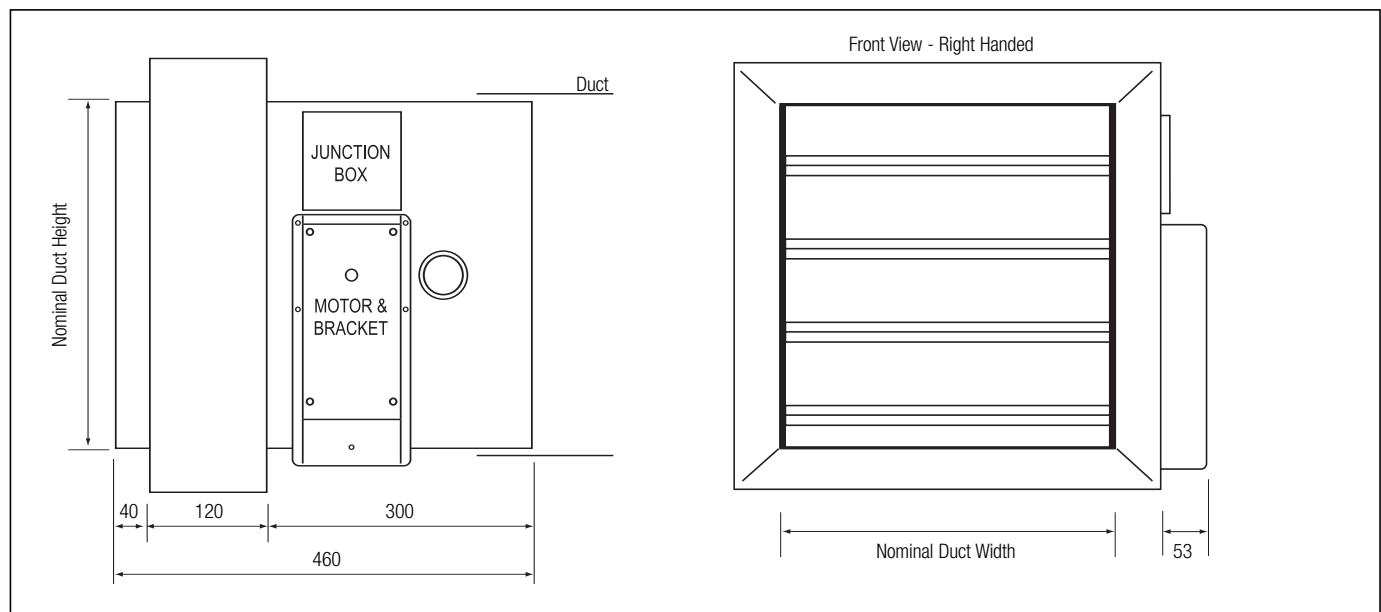


FSD Series

Fire and Smoke Control



Option 7b Modulating Motor (BF24SR-T) with Thermal Fuse



Control and Operation

Control Option 7b provides automatic reset on resumption of the power supply providing the 0-10 input is active.

Features

- Failsafe opening of the damper upon interruption of the power supply - 24 volt AC.
- Motor integral spring opening time approx. 16 seconds.
- Automatic reset on resumption of power supply, motor running time approx. 150 seconds.
- Facility to manually close damper external of duct.
- External indication of blade positions.

Accessories

Single pole microswitches
Damper Control Panels

The Thermal Fuse BAE72-S is offered as standard but is optional on all fail safe open dampers.

Technical Specification

Running Times: Motor: Approx. 150 secs

Motor (Spring Return):

Approx 16 secs

Motor Power Consumption: 24V

Motoring: 7 watt

Holding: 2 watt

Motor Weight: 2.8kg

Damper Weight: See Weight Chart (Page 4)

Motor Maintenance: Maintenance Free

Damper Maintenance:

As recommended in Maintenance Manual

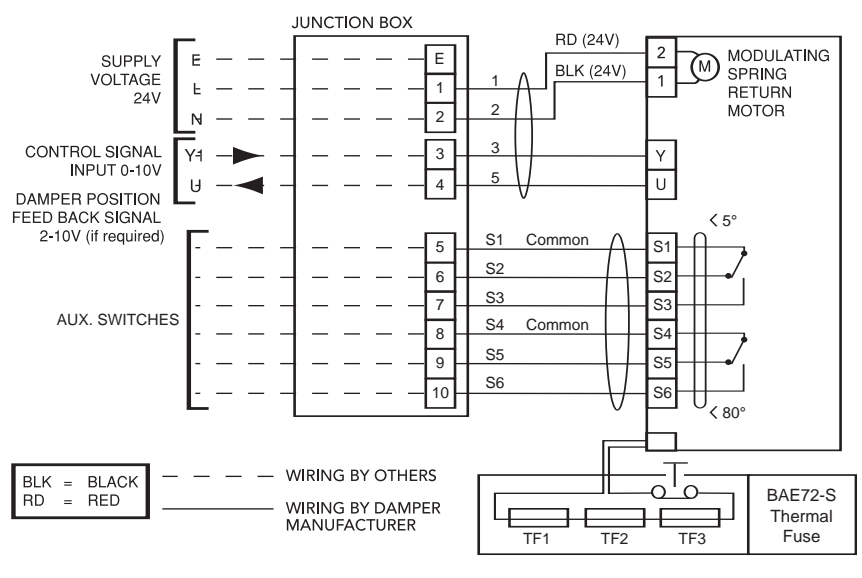
Fusible Link:

Optional thermal fuse link for Option 7b is rated at 72°C.

Motor Operating Temperature:

-30°C to +80°C

Halogen Free Low Smoke and Fume cabling supplied as a standard safety feature

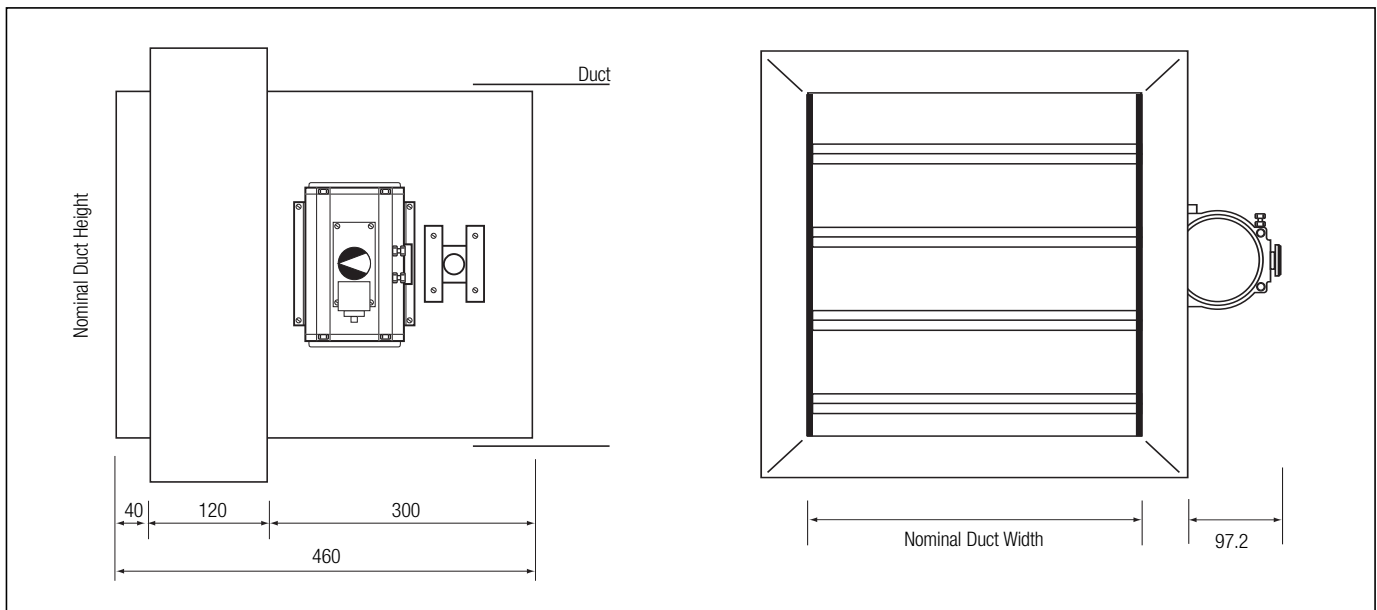


FSD Series

Fire and Smoke Control



Option 8a Pneumatic Actuation with or without Fusible Link



Control and Operation

Control Option 8a provides instant failsafe closure from a 72°C fusible link release and an external manual reset mechanism.

Features

- Failsafe instant closure of the damper upon a rise in temperature within the duct exceeding 72°C ($\pm 4^\circ\text{C}$) or removal of the air supply.
- Motor spring closing time approx. 1 second.
- External indication of blade positions.
- Local test switch facility.

Accessories

Single pole microswitches

Technical Specification

Closure Time: Approx. 1 second

Option Weight: 2kg

Damper Weight: See Weight Chart (Page 4)

Damper Maintenance:

As recommended in Maintenance Manual

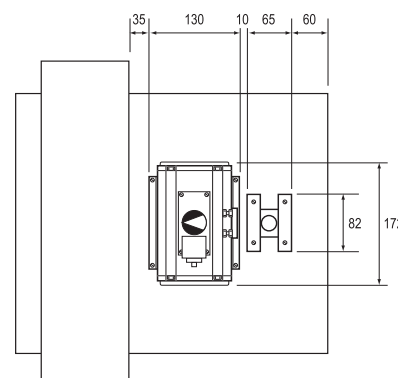
Fusible Link:

The thermal fuse link fitted to Option 8a as standard is rated at 72°C $\pm 4^\circ\text{C}$.

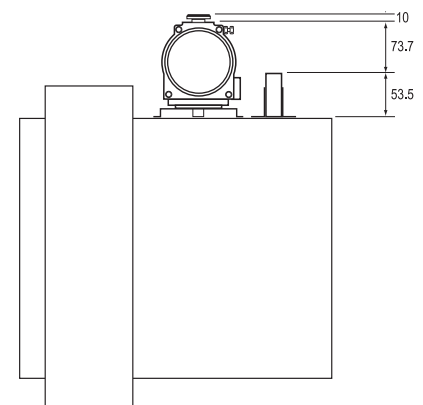
Halogen Free Low Smoke and Fume cabling supplied as a standard safety feature

Arrangement of Fire/Smoke Damper 150 - 1000mm in height. Damper not fitted with HEVAC Frame

SIDE VIEW



BOTTOM VIEW



Dampers with a height or diameter of 200mm or less will have the actuator mounted on the left of the dampers.

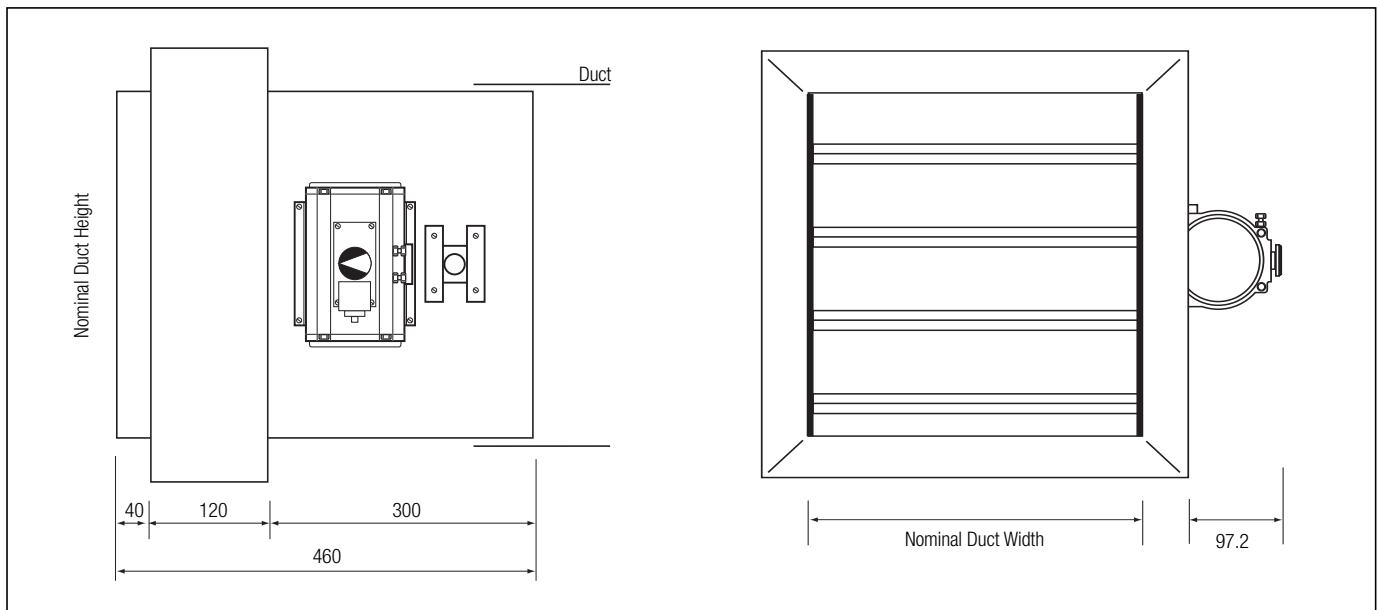
Please refer to our Sales Office for further details.

FSD Series

Fire and Smoke Control



Option 8b Pneumatic Actuation with or without Fusible Link



Control and Operation

Control Option 8b provides instant failsafe opening from a 72°C fusible link release and an external manual reset mechanism.

Features

- Failsafe instant opening of the damper upon a rise in temperature within the duct exceeding 72°C ($\pm 4^\circ\text{C}$) or removal of the air supply.
- Motor spring closing time approx. 1 second.
- External indication of blade positions.
- Local test switch facility.

Accessories

Single pole microswitches

Technical Specification

Closure Time: Approx. 1 second

Option Weight: 2kg

Damper Weight: See Weight Chart (Page 4)

Damper Maintenance:

As recommended in Maintenance Manual

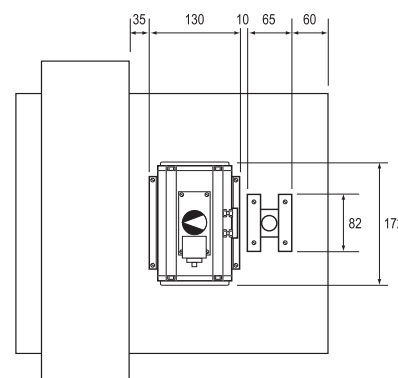
Fusible Link:

The thermal fuse link fitted to Option 8b as standard is rated at 72°C $\pm 4^\circ\text{C}$.

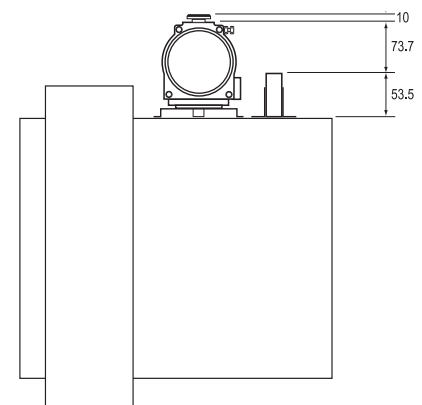
Halogen Free Low Smoke and Fume cabling supplied as a standard safety feature

Arrangement of Fire/Smoke Damper 150 - 1000mm in height. Damper not fitted with HEVAC Frame

SIDE VIEW



BOTTOM VIEW



Dampers with a height or diameter of 200mm or less will have the actuator mounted on the left of the dampers.

Please refer to our Sales Office for further details.

FSD Series

Fire and Smoke Control



Options 5, 6 and 7 Spring Return Motor or Modulating Spring Return Motor with or without Thermal Fuse

Arrangement of Fire/Smoke Damper with Duct exceeding and including 450mm in height.

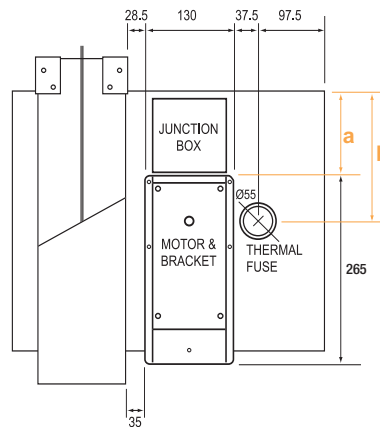
Damper fitted with HEVAC Frame

Junction Box

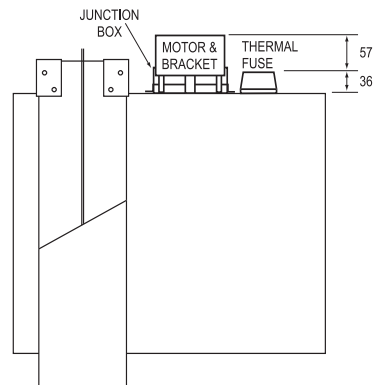
The junction box measures 105mm x 105mm x 50mm deep.

The position of the box is centrally placed against the top of the motor bracket on dampers with duct height including and exceeding 450mm.

SIDE VIEW



BOTTOM VIEW



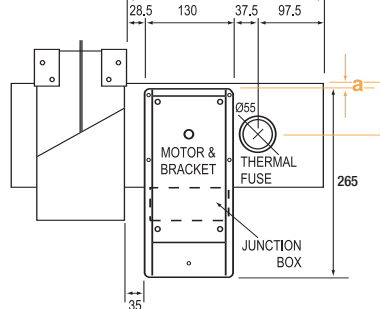
Arrangement of Fire/Smoke Damper with duct size range of 150 - 449 mm in height.

Damper fitted with HEVAC Frame

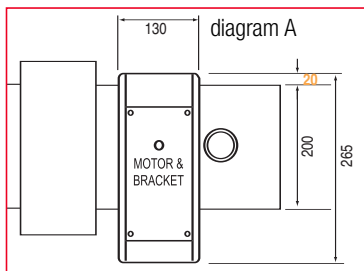
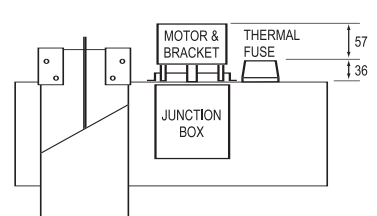
Junction Box

The junction box measures 105mm x 105mm x 50mm deep. The position of the box is placed centrally against the back of the motor bracket **on the underside of the stub duct** on dampers with duct height up to 449mm.

SIDE VIEW



BOTTOM VIEW



Position of Motor Bracket and Thermal Fuse

The measurement for the motor bracket is taken from the top of the stub duct to the top of the motor bracket. ('a')
The measurement for the thermal fuse is taken from the top of the stub duct to the centre of the fuse. ('b')

* On 200mm high dampers, the top of the motor bracket protrudes the top of the stub duct by 20mm. (Diagram A)

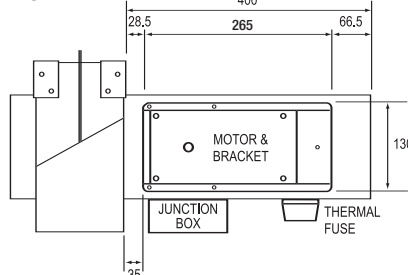
Duct Height	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
Motor Bracket ('a')	5	-20	55	80	55	80	155	180	155	180	255	280	255	280	355	380	355	380
Thermal Fuse ('b')	70	45	120	145	120	145	220	245	220	245	320	345	320	345	420	445	420	445

Options 5, 6 and 7 Optional Motor Mounting

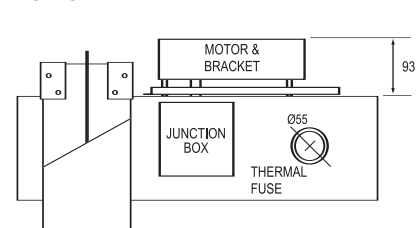
Motor mounted at 90° to the normal mounting position where space is at a premium.

Note: stub duct supplied 400mm for this application.

SIDE VIEW



BOTTOM VIEW



FSD Series

Fire and Smoke Control



Damper Control Panels

BSB offer two alternative panels when monitoring and controlling dampers. the Electro Mechanical System and the fully Addressable System.

Electro mechanical panels are generally used for up to 50 dampers and where hard wiring costs are not an issue. The damper logic being hardwired and the facia being engraved, means that any changes will require physical alterations and additional costs.

The fully addressable panel is fully software programmable allowing for additional dampers or changes to the “cause and effect” being reprogrammed by an engineer on site.

For additional functions and options to meet all site and system requirements, please contact our sales office.



example standard panel shown

Standard Electro Mechanical Control and Monitoring System

Provides a straight forward control panel offering the most common features called for as standard.

Due to differing site control and monitoring properties, damper actuators will be connected to site wiring when installed by the contractor to provide the relevant functions.



example fully addressable panel and DID shown

Fully Addressable Control and Monitoring System

Software driven offering simplified installation and commissioning. Utilises data wiring in a loop configuration.

Can be configured to suit all types of system. Fully integrated and secure network provides an intelligent interface for building control.



example premier panel shown

Premier Electro Mechanical Control and Monitoring System

Controls and monitors a number of smoke/fire dampers hard wired individually or in groups, in a single or multiple zone arrangement.

Dampers can be individually or collectively controlled and are continuously monitored.

Due to differing site control and monitoring properties, damper actuators will be connected to site wiring when installed by the contractor to provide the relevant functions.

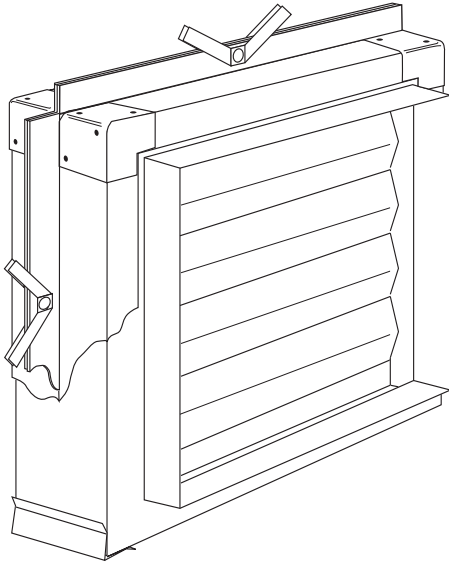
FSD Series

Fire and Smoke Control



Installation

HEVAC/HVCA Frames



The HEVAC approved factory fitted Installation Frame is designed to allow expansion of the damper under fire conditions, without affecting its integrity or the construction it is installed within.

Expansion Corners

These pressed corners are fitted into each corner to permit expansion of the fire damper within the construction of the frame.

One Piece Corner Bracket

The one piece pressed corner bracket is rivetted (using aluminium rivets) to the "Z" Section which makes the frame. This bracket allows the frame to expand under fire conditions without affecting the integrity of the construction it is installed within.

Fixing Tie Tabs

For securing the assembly into the builders work structure as specified by the specifying/authorising authority.

Code 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 (See Fig.1) away from the nearest face.

Where more than one duct penetrates a wall or floor, adjacent fire damper assemblies should be separated by builder's work of a minimum thickness of 225mm (See Fig.2). 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".

The illustrated detail on this page is BSB's interpretation of the HEVAC 6583 REV 1 Installation Frame specification. For additional details, contact our sales office.

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.

Fig.1

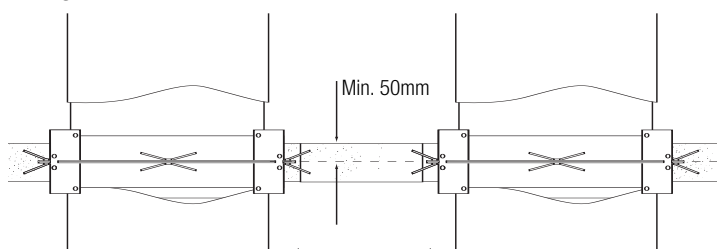
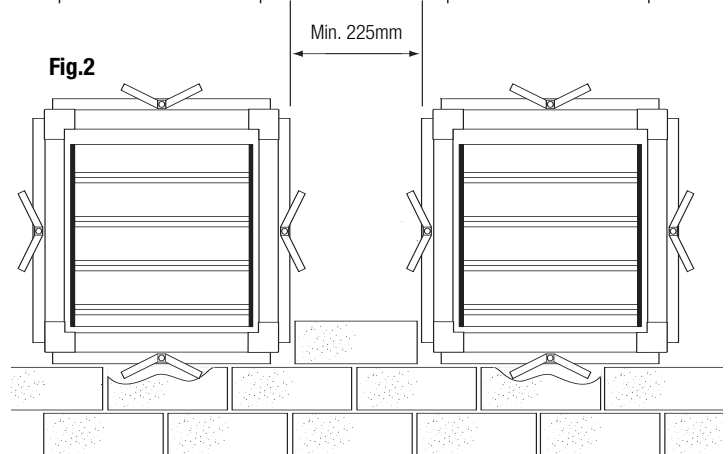


Fig.2

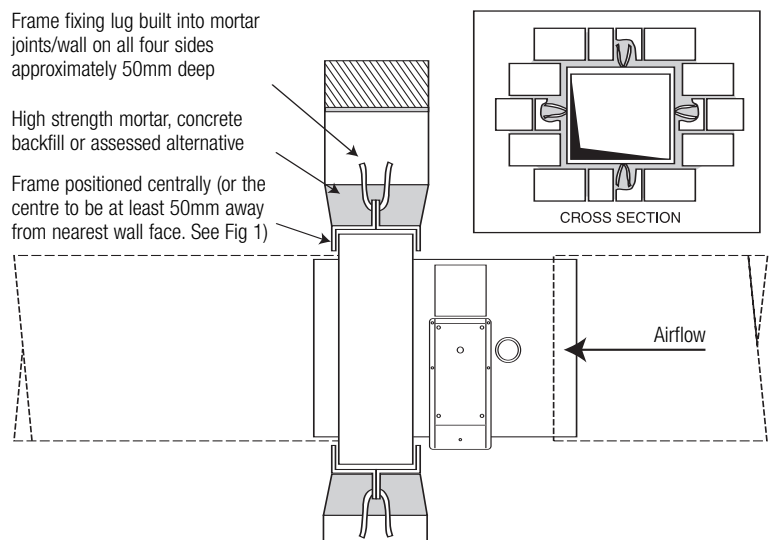


In Brick/Block Wall

Frame fixing lug built into mortar joints/wall on all four sides approximately 50mm deep

High strength mortar, concrete backfill or assessed alternative

Frame positioned centrally (or the centre to be at least 50mm away from nearest wall face. See Fig 1)

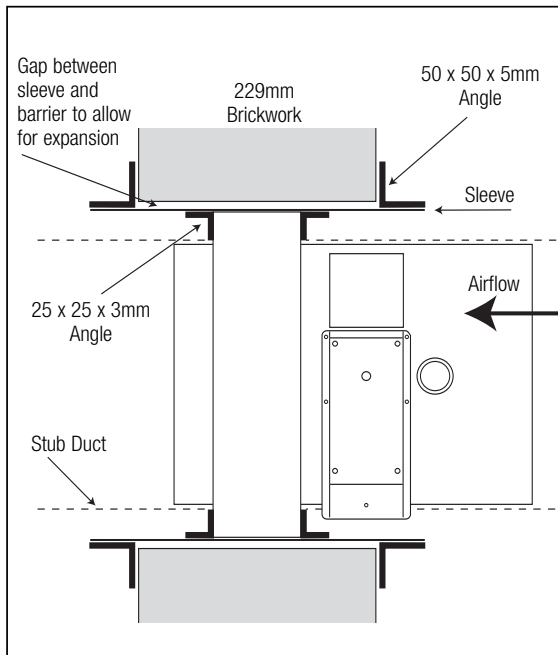


FSD Series

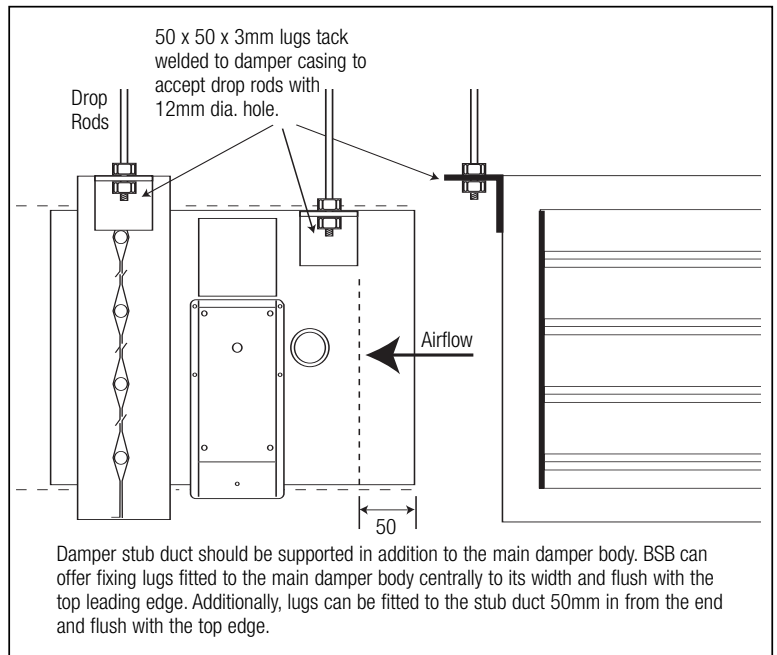
Fire and Smoke Control



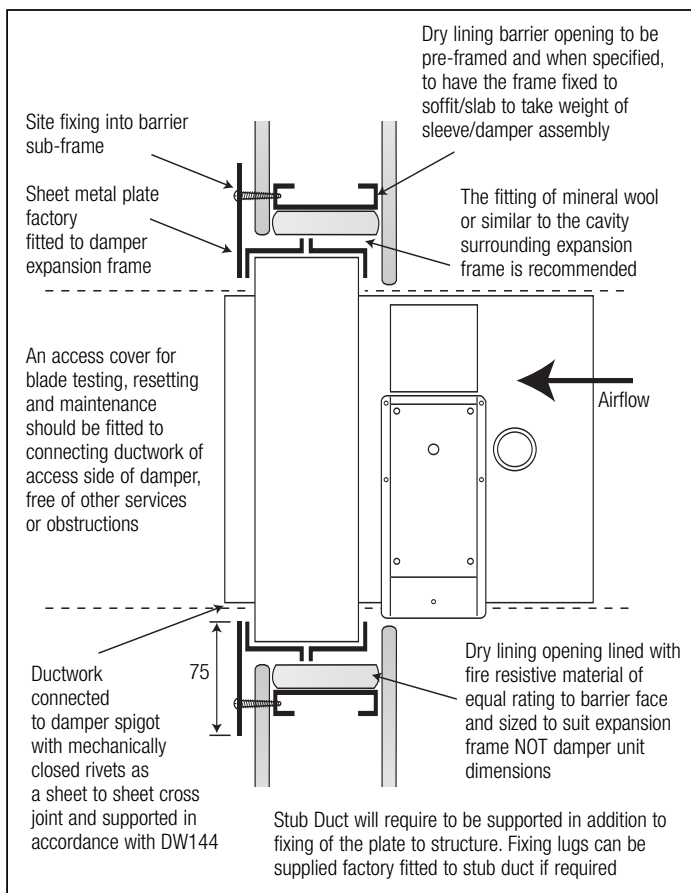
Sleeves and Angle Application



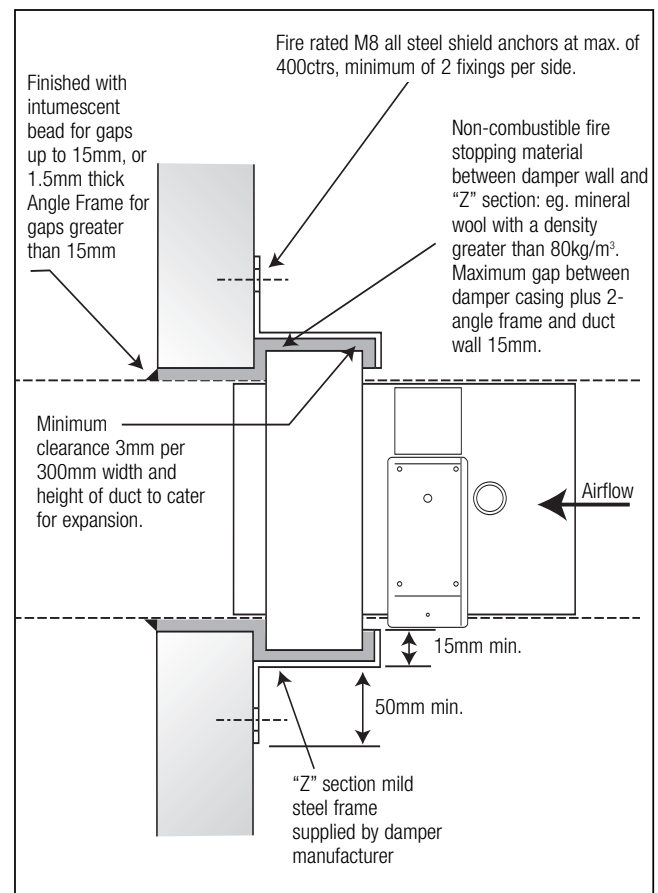
Fitted with Lugs for Drop Rod Support



Dry Line Partition Walls



In Concrete Wall - "Z" Frame



Special Note:

The methods detailed in these illustrations are proposed methods only. Acceptance must be sought from the specifying authority prior to ordering or installation. These options must be factory fitted prior to despatch.

FSD Series

Fire and Smoke Control



FSD S G F 3

FSD Series Fire, Smoke and Control Damper

Case

- S Rectangular Spigotfit
- C Circular Spigotfit
- O Flat Oval Spigotfit

Blade Material

- G Galvanised Mild Steel
- S Stainless Steel
- (Grade 430 standard - 316 to order)

Frame

- F HEVAC Installation frame required*

Options

- 3 Modulating Motor
- 4 Pneumatic Motor
- 5 Spring Return Motor - Thermal Fuse

* Contact our Sales Office for alternative installation methods

Special Note: Options 3 and 5 - Voltages are required to be specified.

Air, Fire and Smoke Control

Air Balance Control



BD Series

Backdraught
Regulating Dampers



DD Series

Duct Regulating
Dampers



HD Series

Heavy Duty Regulating
Dampers



SB Series

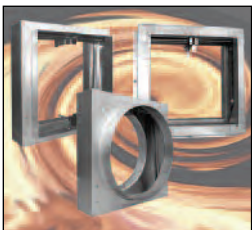
Single Blade
Regulating Dampers



SF Series

Slimfit Regulating
Dampers

Fire and Smoke Control



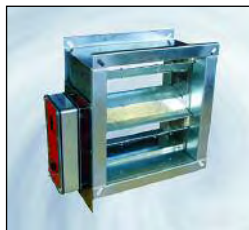
FD Series

Fire Control



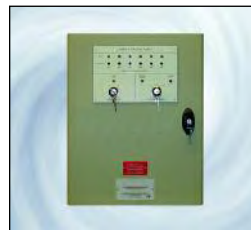
FSD Series

Fire and Smoke
Control



SC Series

Smoke Control



Control Systems

Electro Mechanical



Control Systems

Fully Addressable