

## SF Series



## SlimFit Regulating Dampers

Low/Medium air velocity regulating damper

### Introduction

The SF series Slimfit damper has been designed for air regulation and control of low to medium pressures and velocities in air conditioning and ventilation systems.

This damper has been developed to provide an engineered product that is robust in its design and yet offers refined control via aerodynamic opposed blade operation rotating via low maintenance nylon bushes contained within its slimline flange case to meet the exacting standards required by project designers, contractors and end users.

The use of quality components and materials in the manufacture of this low maintenance product provides the solution for effective planned maintenance of any system.

The SF series is available in a single section from 100mm x 100mm to 1000mm x 1000mm in millimetre increments in both the width and height dimensions.

The flange case depth of 65mm provides a slim line case which allows ease of installation where space and installed weight are important, yet allows for the most commercially available of actuators to be easily fitted prior to or post delivery.

The SF series damper can be supplied with factory fitted Control options:

- Manual Quadrant Control
- 12.5mm dia extended spindle for motorisation by others.
- Electric Actuator factory fitted.



### Testing and Conformities

- Unless stated otherwise, flange models are suitable for classes A & B of DWI44, with spigot models suitable for classes A, B & C of DWI44
- Independently tested for pressure loss, test report I 66 refers
- Independently tested for casing leakage, test report I 67 refers
- Conforms to HVCA specification DWI44 as relevant
- Conforms to Eurovent 2/2 as relevant

### Features and Benefits

- Standard case construction is galvanised mild steel
- Standard blade construction 50mm wide extruded aluminium
- Linkage out of airflow
- Opposed blade operation
- Blade end caps as standard
- Optional stainless steel case grades 316 and 430
- Optional 63.5mm wide stainless steel blades grades 316 and 430
- Optional flange sizes
- Optional side seals grade 301
- Optional control

### Typical Tender/Specification Text

The BSB SF series opposed blade regulating damper has been designed primarily for installation into ventilation ducts to regulate low to medium velocities.

The BSB SF regulating damper shall have 50mm extruded aluminium symmetrical blade section providing smooth air flow thus minimising air turbulence and rotating in low maintenance free running nylon bushes.

Housed within a 65mm deep flanged case with 30mm or 35mm flange options incorporating elongated corner alignment holes.

The SF series has a nominal size range of 100mm to 1000mm in both width and height dimensions in millimetre increments.

The blade drive linkage shall be fully enclosed and outside of the airstream for protection against damage and air contamination, allowing smooth air flow to be maintained.

Dampers are supplied with a unique factory fitted control option designed to facilitate simple conversion from quadrant control operation to motorisation without the need for additional components or tools being required.

The SF series flanged damper unless stated otherwise are suitable for classes A & B of DWI44.

Conforms to HVCA specification DWI44

Conforms to Eurovent 2/2 as relevant.

Independent performance tests for pressure loss, leakage and casing air tightness.

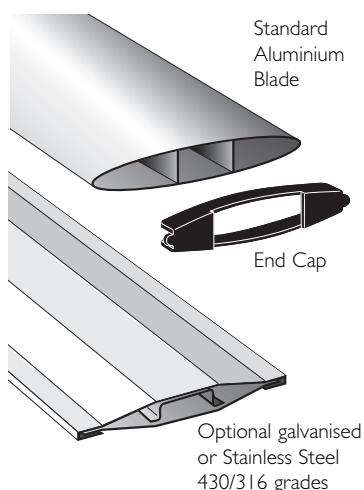
### Blades

The 50mm wide extruded aluminium airfoil blades are fitted to 12.5mm diameter spindles for robust, low-friction movement.

The option of blades manufactured from grades 430 and 316 stainless steel are available to order and are available in 63.5mm widths only.

Blades are fitted with end caps as standard to negate noise generation and are of opposed operation. Parallel blade operation available to order.

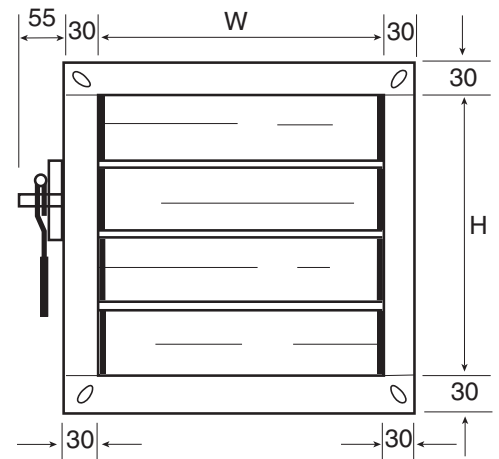
Blades are suitable for horizontal or vertical orientation without the need for modification.



## SlimFit regulating damper - Dimensions and material specifications

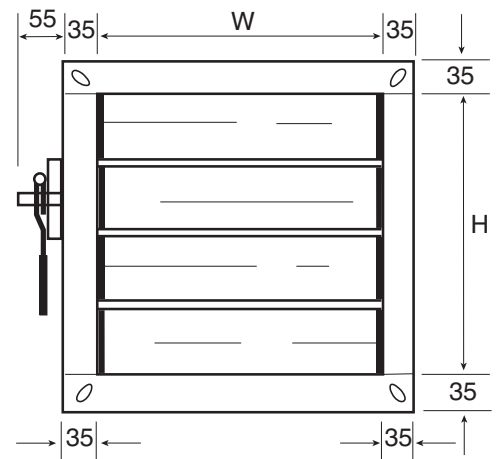
### Model SF Flangefit 30

Width x Height = 100mm to 1000mm square



### Model SF Flangefit 35

Width x Height = 100mm to 1000mm



### Material Specification

#### Casing

1.2mm (18swg) galvanised mild steel to BS EN 10142 1991.  
Coating Class Fe P02b Z275 Na.

#### Blades

Extruded airfoil aluminium to BS 1747 1987, wall thickness 1.0mm (20swg) minimum.

#### Blade End Caps

Injection moulded black polypropylene to BSB's recorded design.

#### Blade Spindles

12.5mm (1/2") diameter die-cast Mazak alloy to BS 1004 Alloy A DIN 1743, 2400 or engineering quality thermoplastic nylon dependant on availability, with a 6mm diameter steel linkage pin pressed in for the linkage bar to connect to.

#### Drive Spindles

12.5mm (1/2") diameter die-cast Zinc alloy to BS 1004 Alloy A DIN 1743, 2400 or IXEF semi-crystalline polymer polyarylamide dependant on availability.

#### Blade Spindle Bushes

Injection moulded (Hoescht) Nylon 66 "Top Hat" design (melting point 220°C).

#### Quadrant

1.2mm (18swg) galvanised mild steel chassis with integral rotation slot and blade position indication. 20mm x 2.5mm (3/4" x 1/8") zinc plated mild steel handle with integral clamp and locking nut to to BS EN 10142 1991. Coating Class Fe P02b Z275Na.

#### Drive Bar

22mm x 1.6mm galvanised mild steel flat bar punched to fit onto zinc plated drive pins.

#### Rivets

High quality self-sealed rivets are used to European standards as relevant.

#### Sealant

All joints and seams are sealed with 3M sealant conforming to dictates of DWI44.

#### Paint

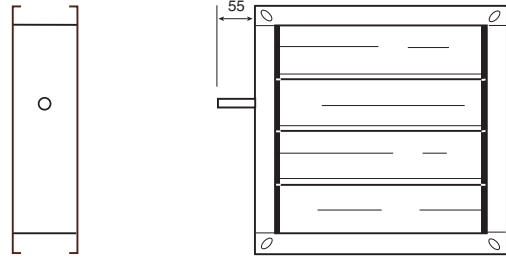
Aluminium primer is applied to all welds and ground surfaces.

#### Operating Temperature

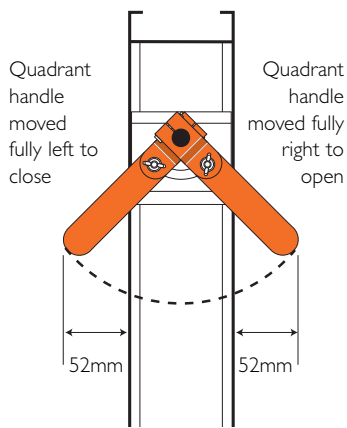
-10°C to +100°C

### Option E Extended spindle

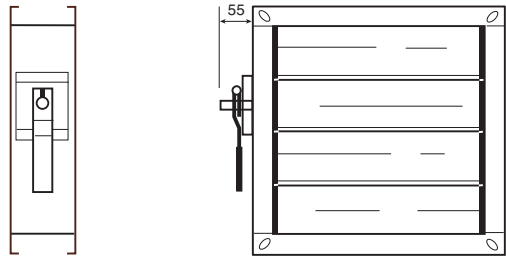
When the specification requires the Slimfit Regulating Damper to be supplied for motorisation by others, BSB supplies the damper with a 12.5mm diameter spindle, 55mm in length.



### Option H Hand control



The unique hand lockable quadrant has infinite adjustable settings and is supplied complete from the factory. When the specification is amended from Option "E" to Option "H" (regardless if during manufacture or after delivery), conversion is easily completed.



**Notes:** The quadrant handle when moved fully to the left or the right, will overlap the damper face and consideration should be given to the mounting position of the damper so as not to interfere with its operation.

The operating drive spindle will always be fitted to the second blade down as standard unless otherwise specified

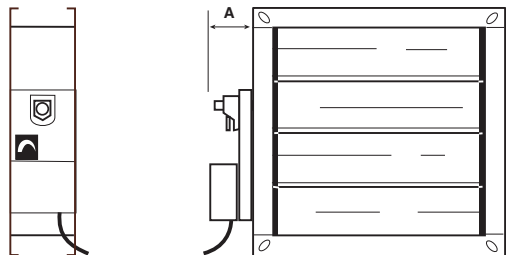
### Option M Electric motor

The SF Series Damper can be supplied with the following control motors fitted:

Open/Close operation

Spring Return operation

Please be aware that some motors may have a greater depth than the damper that they are being fitted to and when fitted, may compromise the damper installation.



### Option P Pneumatic actuator

Where pneumatic actuator control is required, you will be referred to the BSB HD Series damper. Please contact the BSB sales office for further details.

#### Multiple Assemblies

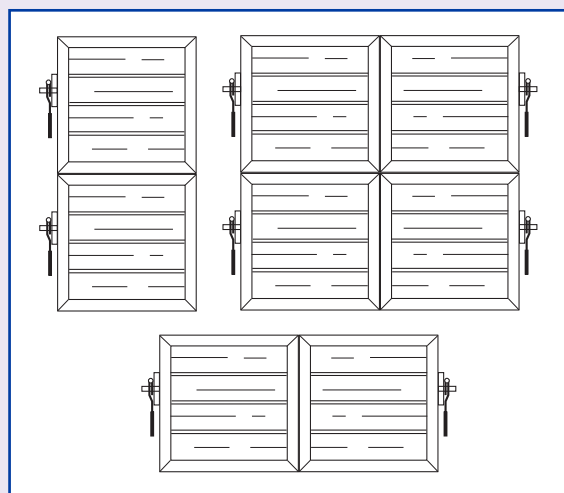
Illustrated opposite are several variants to multiple section units. Where sizes exceed 1000mm square, multi-section units will be supplied.

When there are transportation restrictions, large multiple units will be broken down and shipped as individual sections for site assembly. Unless requested, joining strips would not normally be supplied drilled.

#### Special Note:

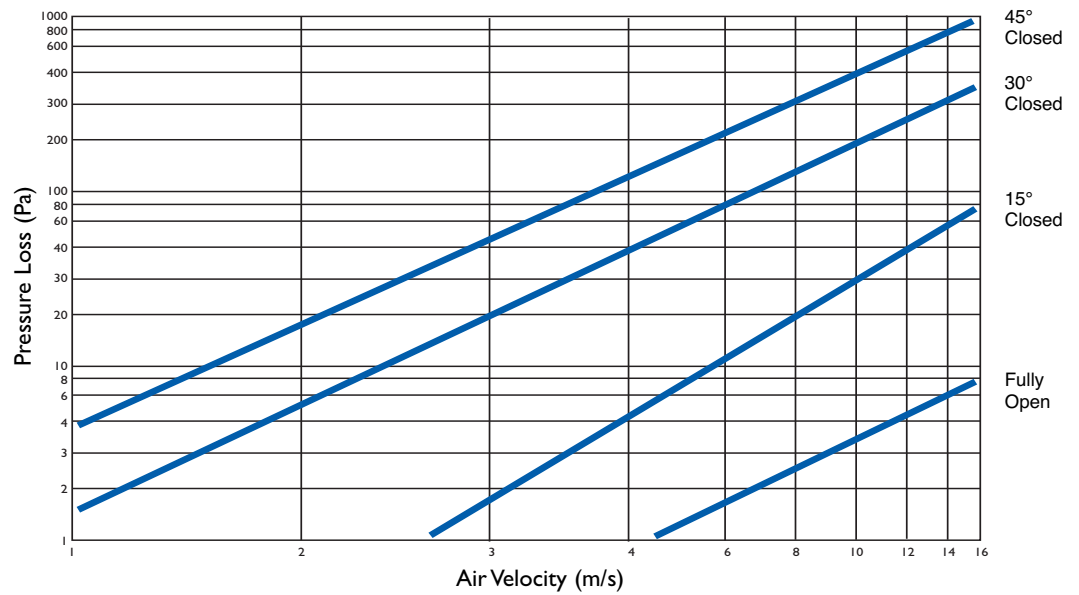
BSB can manufacture to individual specifications and applications. Illustrated opposite are standard variants only, with other variants available to order.

*It is recommended that for sizes greater than 1000mm width or height, the HD Series Heavy Duty Damper is used.*



**Pressure Loss**  
(Report Ref. 166)

These figures are based on 600mm x 600mm unit.



**Weight Chart (Kg) Flangefit - Aluminium blades**

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

Please note that these values have been rounded up or down to whole values and are therefore illustrated for estimation purposes only.

**Torque Chart (Kg)**

Differential Pressure (Pa)	Damper Size W x H (mm)							
	250 x 250		500 x 500		750 x 750		1000 x 1000	
	Nm	lb/ins	Nm	lb/ins	Nm	lb/ins	Nm	lb/ins
250	1.5	13.0	3.0	26.0	4.5	40.0	6.0	53.0
500	2.0	18.0	4.0	62.0	6.0	53.0	7.5	66.0
750	3.0	26.0	5.0	44.0	7.0	62.0	9.0	79.0
1000	4.0	35.0	7.0	62.0	9.0	79.0	11.0	97.0

Please note these values have been rounded up or down at blade inter-action, with actual blade rotation being at reduced torque levels.

# SF Series

## SlimFit regulating damper - Ordering codes



### Ordering Codes Example

**SF    F30    A    E**

**SF Series** SlimFit Regulating Damper

**Model**

- F30** Flangefit 30mm
- F35** Flangefit 35mm

**Blade Material**

- A** Aluminium Airfoil Blades
- S** Stainless Steel Airfoil Blades (please specify grade)

**Control Options**

- E** Extended Spindle
- H** Hand Control
- M** Electric Motor
- P** Pneumatic Motor

### Air, Fire and Smoke Control Products in the BSB Range:



For full details of the complete BSB Product Range, please refer to our individual product brochures, sales office or website.



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For pricing, technical and general enquiries, please email: [enquiries@bsb-dampers.co.uk](mailto:enquiries@bsb-dampers.co.uk)

Website: [www.bsb-dampers.co.uk](http://www.bsb-dampers.co.uk) • A member of the Maico group

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