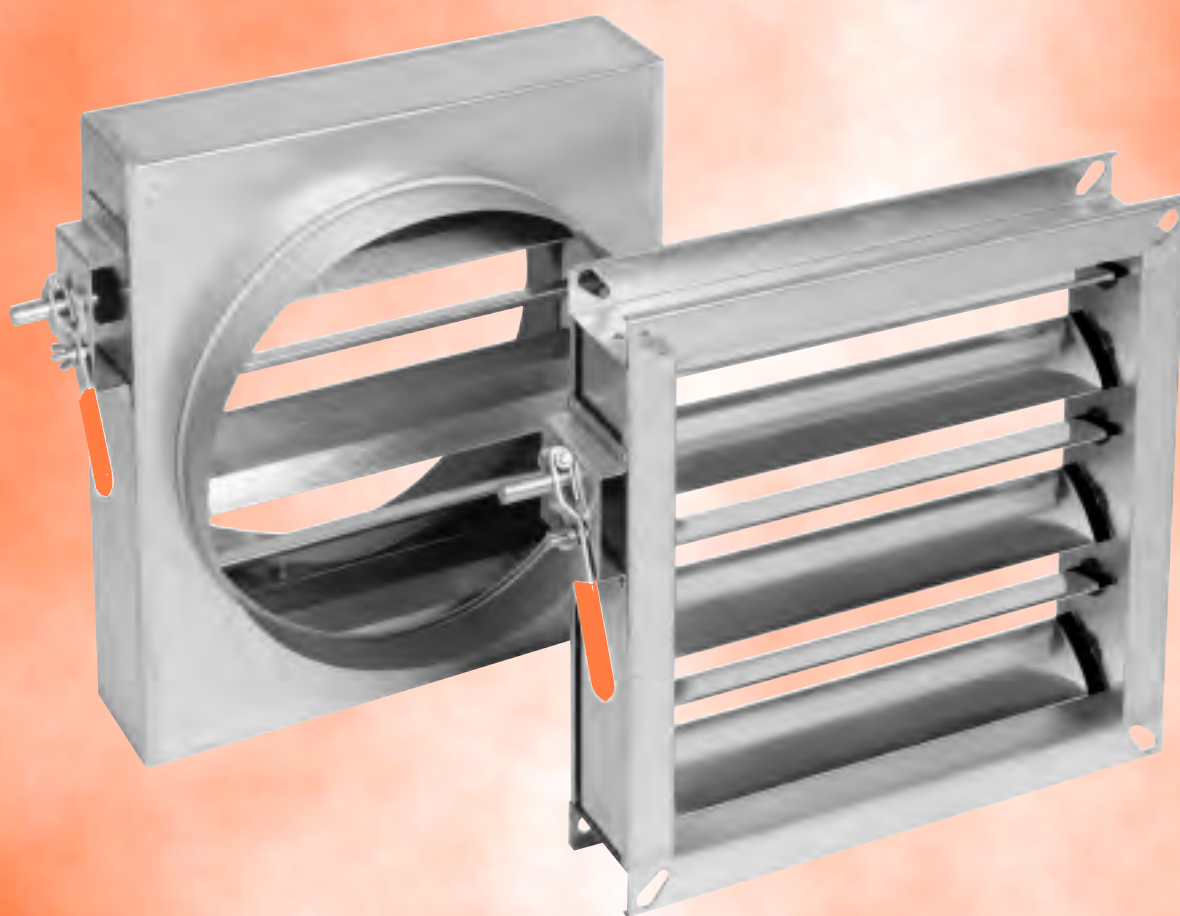


DUCT REGULATING DAMPERS

Mech-Elec®



DD
SERIES

REGULATING DAMPERS

Product Description and Features

Introduction

The DD Series Duct Balancing Damper was designed for duct installations to balance/regulate airflows.

All spindles revolve in low maintenance nylon bushes which are fitted within pressed inserts. Precise blade positioning is achieved via a robust dual-purpose quadrant and spindle assembly, operating the linkage mechanism which is located outside of the airstream.

The quadrant assembly is designed to facilitate simple conversion to motorisation without the need for additional components.

Features

- Q Standard case construction is galvanised mild steel
- Q Two airfoil blade designs
- Q Four casing options
- Q Out of airflow linkage
- Q Easy conversion from manual to motorised or vice versa
- Q Infinite sizing capability from 100mm to 1000mm and from 100mm diameter to 800mm diameter
- Q Variable flange dimensions
- Q Comprehensive control options
- Q Can be supplied with blades and case in Grades 316 and 430 stainless steel
- Q Stainless steel side seals to order

Specifications & Testing

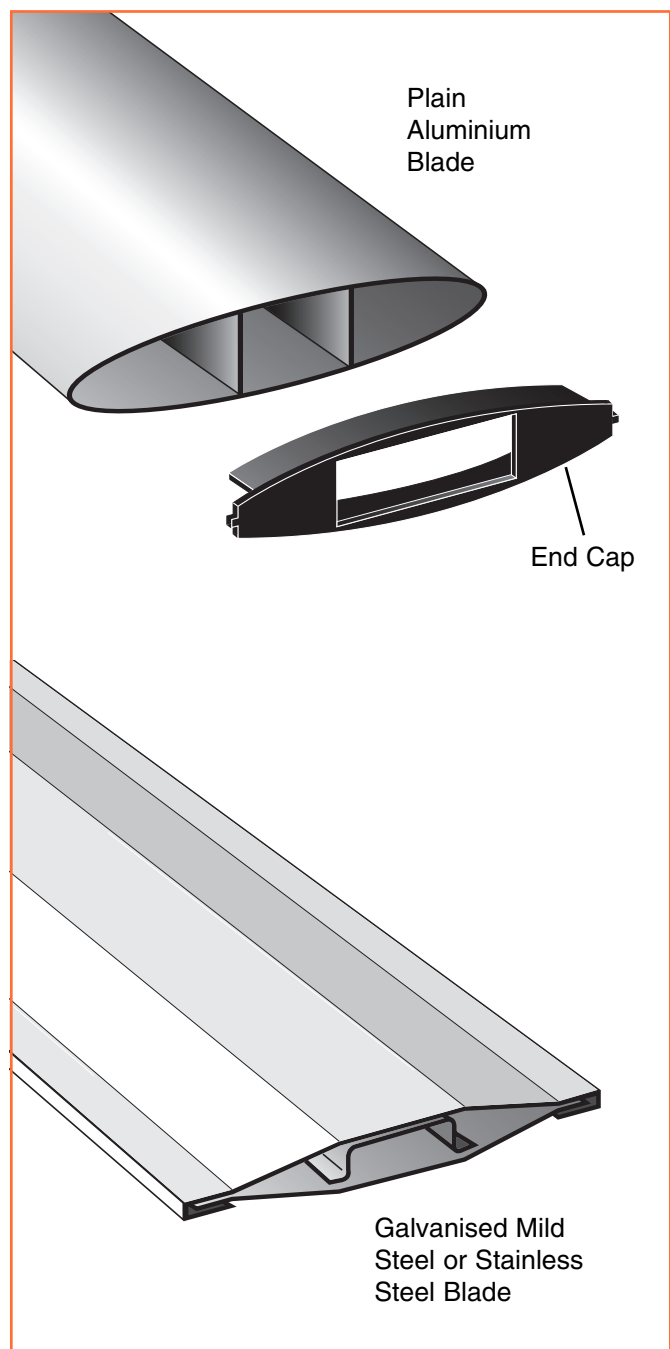
- Q Unless stated otherwise, flange models are suitable for classes A & B of DW144, with spigot models suitable for classes A, B & C of DW144
- Q Conforms to HVCA specification DW144
- Q Conforms to Eurovent 2/2 classes A-C
- Q Independent performance tests for pressure loss, leakage and casing airtightness.
Test reports 143, 145 and 146 refer respectively

Blades

The 63mm wide extruded aluminium airfoil section blades are fitted to 12.5mm diameter spindles, with the option of galvanised mild steel or Grades 316 and 430 stainless steel blades available to order.

All models are available with either opposed or parallel blades (unless specified, opposed blades will be supplied as standard).

Fitted to the ends of the aluminium blades are End Caps to alleviate noise generation.



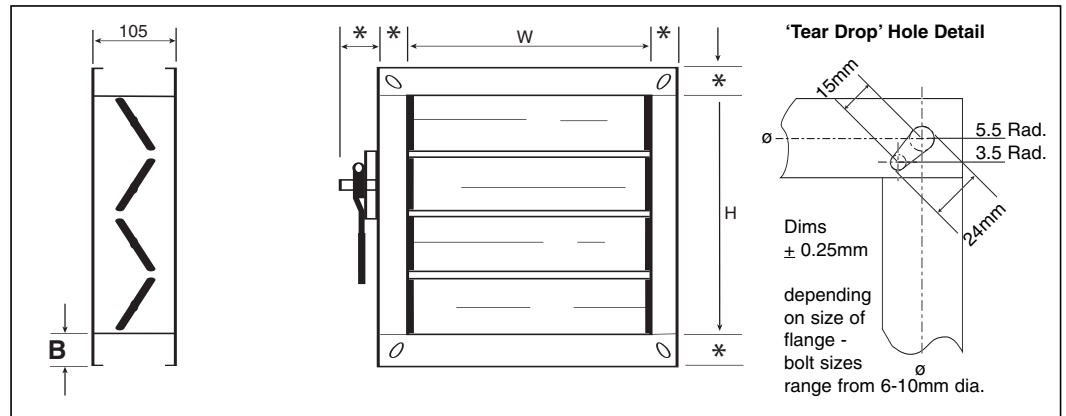
Dimensions

Flangefit

W x H = 100mm to 1000mm square

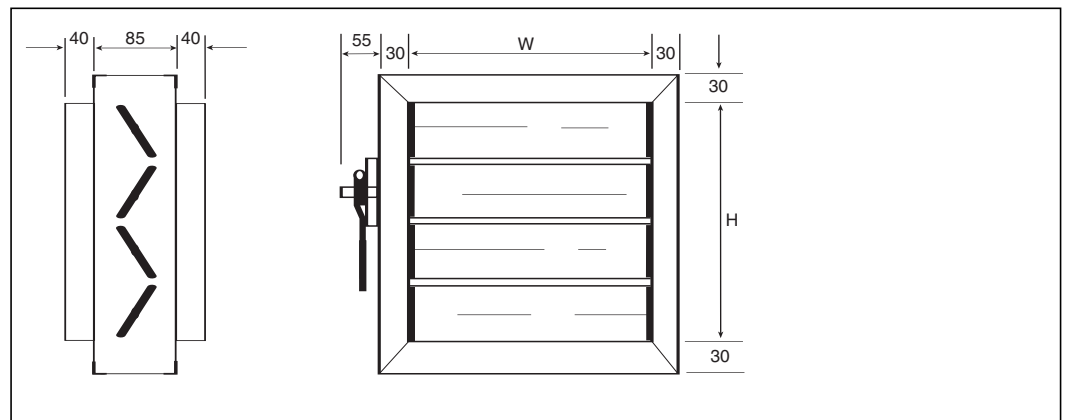
B = 20mm, 25mm and 30mm to order (35mm standard)

* = 35mm flange - 50mm spindle
30mm flange - 55mm spindle



Spigotfit

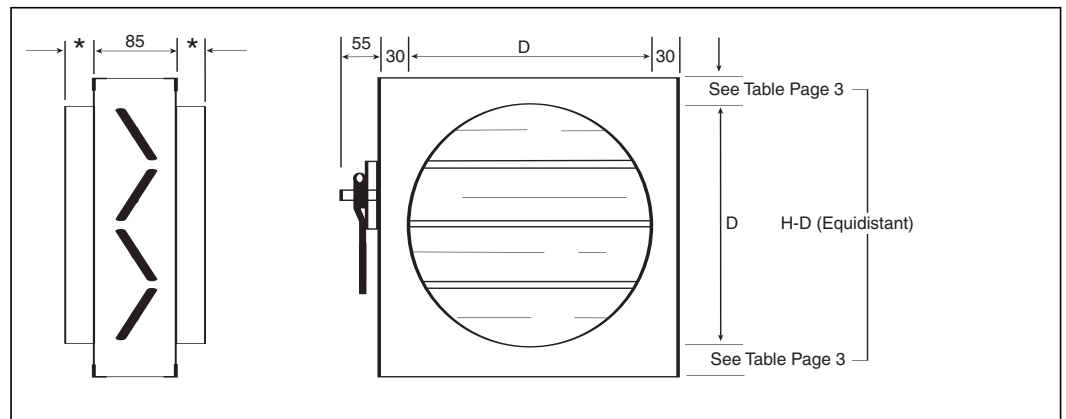
W x H = 100mm to 1000mm square



Circular Spigotfit

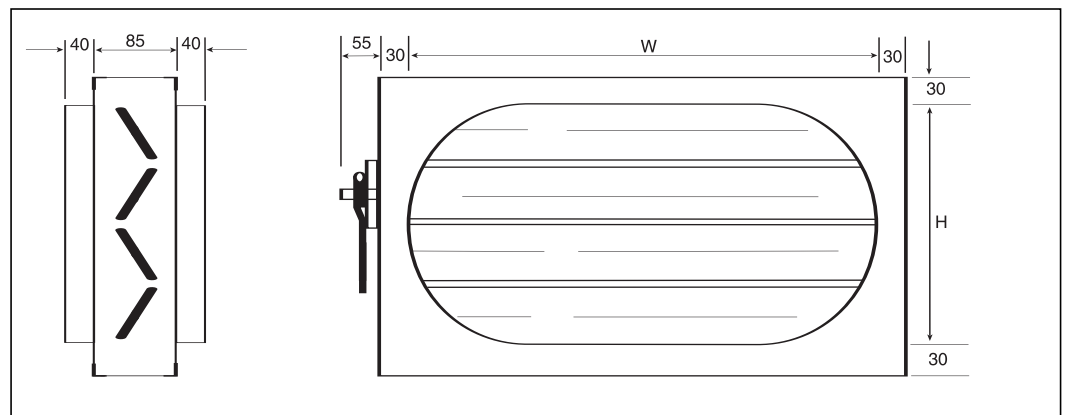
D = 100mm to 800mm diameter

* = 40mm (100-449mm dia.)
55mm (450-800mm dia.)



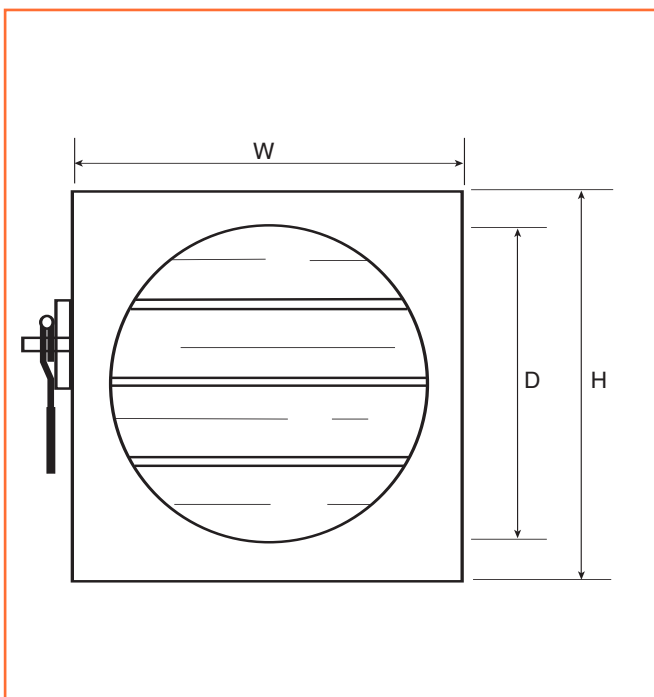
Flat Oval Spigotfit

W x H = 100mm to 1000mm spigots



Circular Spigotfit Dimensions

Depth (D)	Width (W)	Height (H)
100	160	140
125	185	195
150	210	210
200	260	260
250	310	320
300	360	385
315	375	385
350	410	385
400	460	460
450	510	510
500	560	580
550	610	640
600	660	700
650	710	770
700	760	770
750	810	830
800	860	895



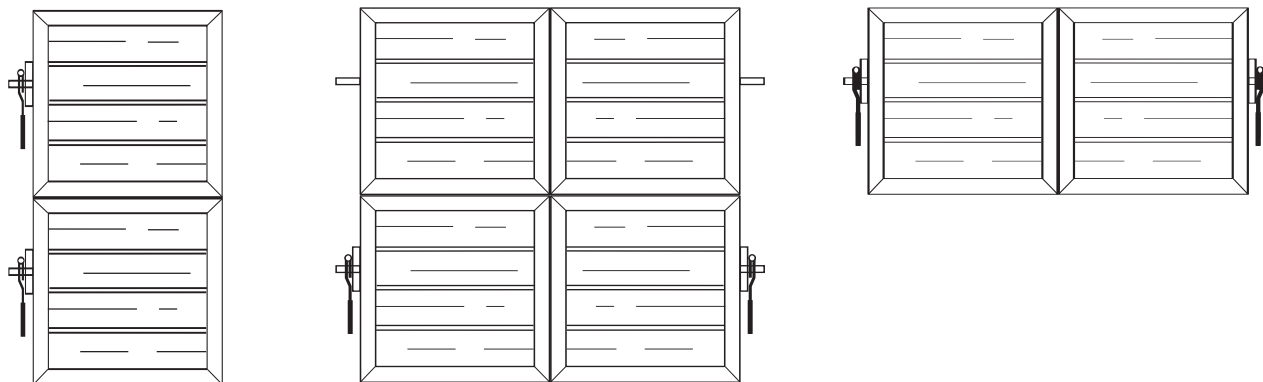
Multiple Assemblies

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

All multiple units are shipped as individual sections for site assembly by others. Unless requested, joining strips would not normally be supplied drilled.

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.

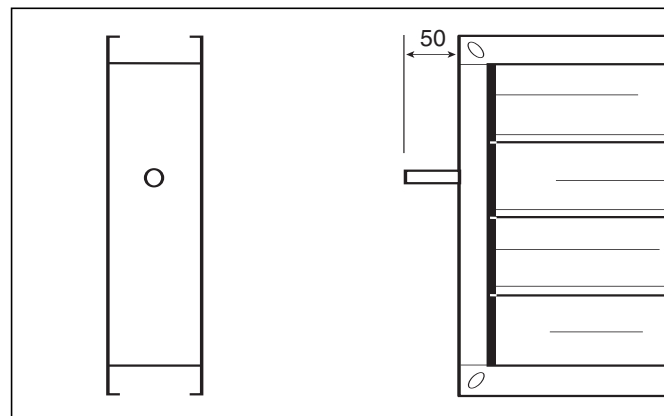
It is recommended that for sizes greater than 1000mm width or height, the HD Series Heavy Duty Damper is used.



Control Options

Option E Extended Spindle

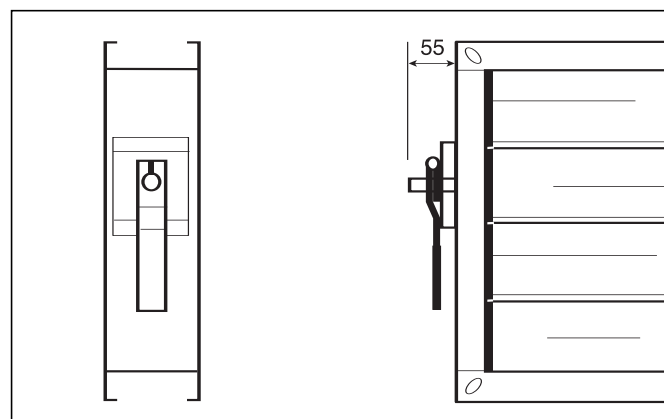
When the specification requires the DD Series Damper to be supplied for motorisation by others, BSB supplies the damper with a 12.5mm diameter spindle, 50mm in length, based on a 35mm flanged damper.



Option H Hand Control

BSB's unique hand lockable quadrant is supplied complete from the factory.

When the specification is amended from Option "E" to Option "H" conversion is easily completed.



Option M Electric Motor

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

Open/Close operation:

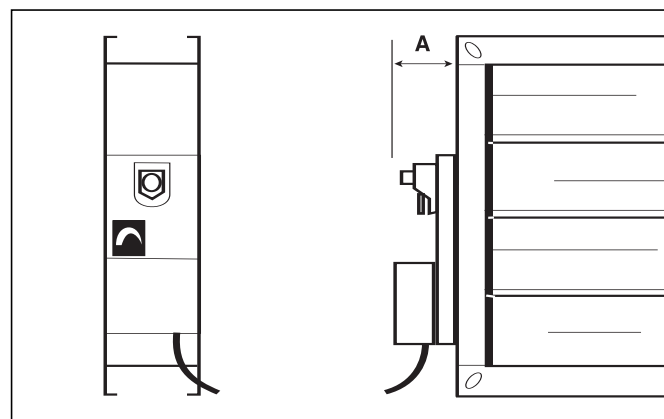
A = 70mm, 15Nm.

A = 80mm, 30Nm.

Spring Return operation:

A = 95mm, 15Nm.

For additional technical details, please contact BSB's sales office for data sheets to Option "M".



Option P Pneumatic Actuator

The model actuator used will be double rack and pinion design with bodies manufactured of cast aluminium alloy.

The pneumatic actuator operates between 30psi/2bar and 120psi/8bar.

The pneumatic actuator is available as a Spring Return or Double Acting model and will comply to PED 97/23/EC.

It is supplied fitted to the damper complete with integral threaded 1/4bsp air-ports to pressurize and vent the actuator. Various accessories are available including Solenoid Valves and Switch Boxes. ATEX rated models available.



Specification Tables

Torque Chart

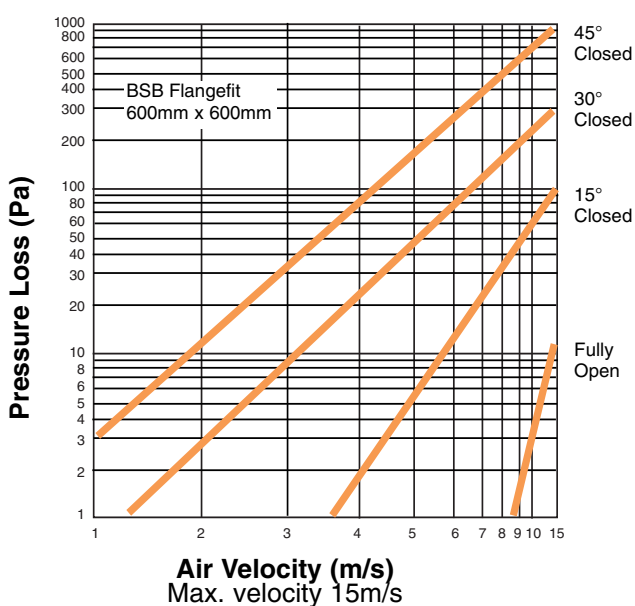
Differential Pressure (Pa)	Damper Size (mm)						These values have been rounded up and down to whole numbers and are illustrated for estimation purposes only.
	200 x 200		500 x 500		1000 x 1000		
	Nm	lb/ins	Nm	lb/ins	Nm	lb/ins	
	500	2.0	18.0	4.0	35.0	7.5	
1000	4.0	35.0	7.0	62.0	10.0	88.0	

Weight Chart (kg) Flangefit and Spigotfit Models - Aluminium Blades

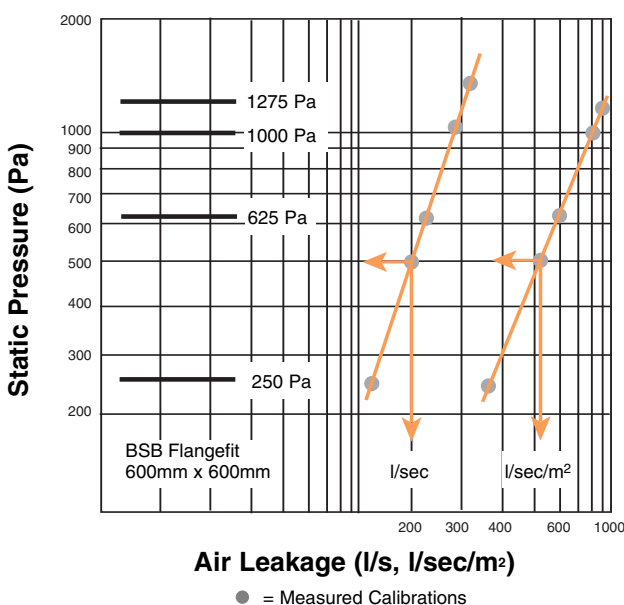
Damper Height (mm)	Damper Width (mm)									These values have been rounded up and down to whole numbers and are illustrated for estimation purposes only.
	200	300	400	500	600	700	800	900	1000	
100	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	
200	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	7.0	
300	3.0	4.0	4.5	5.5	6.0	6.5	7.0	8.0	9.0	
400	4.0	5.0	6.0	6.5	7.5	8.5	9.0	10.0	10.5	
500	4.5	5.5	6.5	7.5	8.5	9.5	10.5	11.0	12.0	
600	5.5	6.5	7.5	9.0	10.0	11.0	12.0	13.0	14.0	
700	6.0	7.5	9.0	10.5	12.0	13.0	14.0	15.0	15.5	
800	7.0	8.5	9.5	11.0	12.5	13.5	15.0	16.5	17.5	
900	7.5	9.0	11.0	12.5	13.5	15.0	15.5	17.0	19.0	
1000	8.0	10.0	12.0	13.5	15.5	17.0	17.5	19.0	21.0	

Performance Characteristics

Pressure Loss (Report Ref. 143)



Leakage (Report Ref. 145)



Product Specifications

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 6mm diameter steel linkage pin pressed in for the linkage bar to connect to.

Drive Spindles

12.5mm (1/2") diameter die-cast Mazak 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 120°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") high temperature Masterbatch, to specification PA6.6 Vyoyne 21SP Compound.

Steel handle available to order.

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 DW144.

Paint

Aluminium primer is applied to all welds and ground surfaces.

Operating Temperature

-10°C to +110°C

Options

Casing

Grades 316 or 430 stainless steel, 1.2mm thick.

Blades

Grades 316 or 430 stainless steel or galvanised coated mild steel, 0.8mm thick.

Locking Quadrant Brackets

Grades 316 or 430 stainless steel, 1.2mm thick.

Oilite Bronze Bushes

Impregnated with mineral oil to ISO VG 100 (SAE 30).

Side Seal Gasket

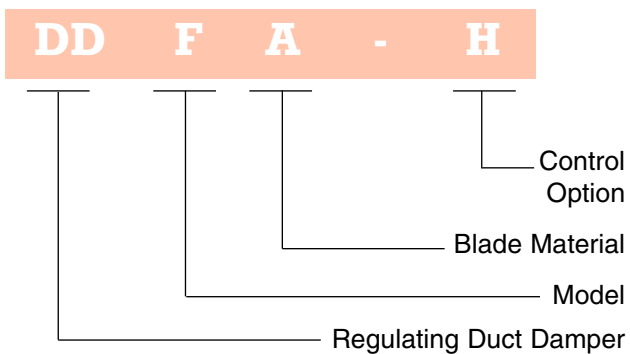
Grades 302 or 316 stainless steel hard rolled to BS 5770 Part 4 1981, 0.345mm (0.010") thick.

Paint

Galvafrond zinc rich paint.

Ordering Codes

Example:



DD Regulating Duct Damper

Model:

- F** Flange-fit
- S** Rectangular/Square Spigot-Fit
- C** Circular Spigot-Fit
- O** Flat Oval Spigot-Fit

Blade Material:

- A** Aluminium Airfoil Blades
- G** Galvanised Steel Airfoil Blades
- S** Stainless Steel Airfoil Blades (state Grade)

Control Options:

- E** Extended Spindle
- H** Hand Control
- M** Electric Motor (state voltage and model)
- P** Pneumatic Actuator Fitted



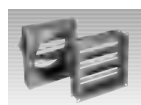
BD Series
Backdraught
Damper



Control Panel
Electro-
Mechanical



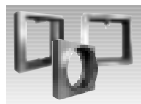
Control Panel
Fully
Addressable



DD Series
Duct
Damper



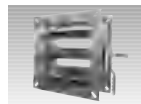
EF Series
Easifit
Damper



FD Series
Fire
Damper



FSD Series
Fire/Smoke
Damper



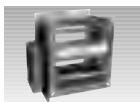
HD Series
Heavy Duty
Control Damper



IF Series
Intumescent
Fire Damper



SB Series
Single Blade
Regulating
Damper



SC Series
Smoke
Control
Damper



SF Series
Slimfit
Regulating
Damper