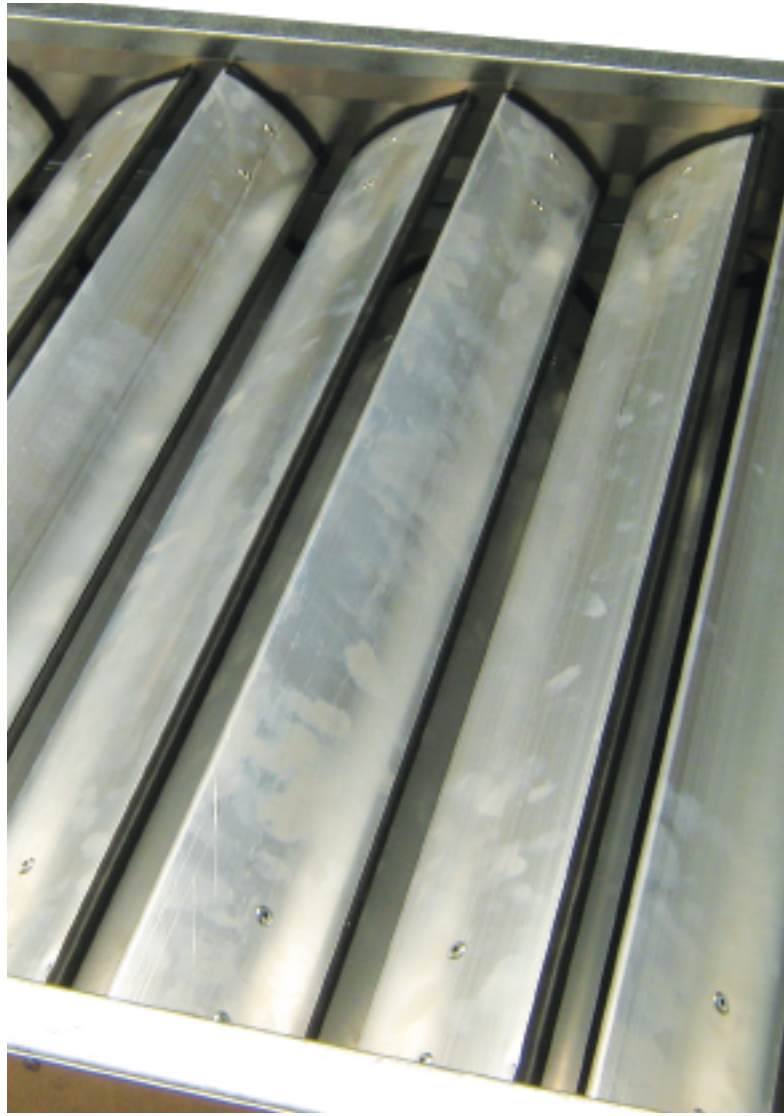

GRILLES | DIFFUSERS | LOUVRES | DAMPERS | SOLAR SHADING | NATURAL VENTILATION

dampers

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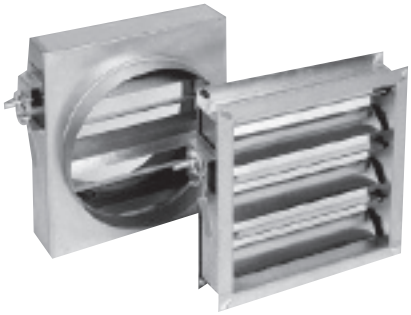
GDL
AIR SYSTEMS LTD

Duct Dampers

Description

For control and balancing of supply and extract air systems. All dampers are fitted with opposed blade action, airfoil blades as standard. The angles of the blades are adjusted via the robust, hand operated, lockable quadrant or with an optional extended spindle suitable for motorisation. The linkage system is enclosed and positioned out of the airstream. Casing leakage conforms to HVCA specification DW144 and Eurovent 2/2 classes A-C.



Construction

The casing is available fully flanged or with square/rectangular, circular or flat oval spigots and is manufactured from 1.2mm galvanised mild steel. Stainless steel casing is optional in grades 304, 316 or 430.The blades are galvanised mild steel with the option of extruded aluminium airfoil section or stainless steel grades 304, 316 or 430. An optional side seal gasket is available.

Size

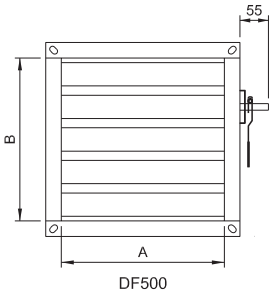
From 100 x 100 to 1000 x 1000 in one module.
Multiple assemblies can be supplied.

How to Specify

STATE QUANTITY, THE PRODUCT CODING AND THE SIZE WIDTH X HEIGHT
e.g. 10 Qty. DF500+0M 300 x 150

Product Type	Connection	Operation	Bearings
DF Flanged Casing	5 35mm Flange	0 Manual Locking Quadrant	0 Nylon
DE Spigotted Casing	3 30mm Flange	1 Extended Drive Shaft	1 Oilite Bronze
DS Flanged 65mm Deep Casing	0 Circular Spigot	3 Electric Motor Fitted	
	1 Rectangular or Square Spigot		

Seals	Finish
0 None	G Galvanised Case Galvanised Blades
1 Stainless Steel Side Seals	M Galvanised Case Aluminium Blades
	W Galvanised Case S/Steel (430) Blades
	S S/Steel (430) Case S/Steel (430) Blades



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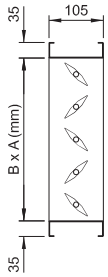
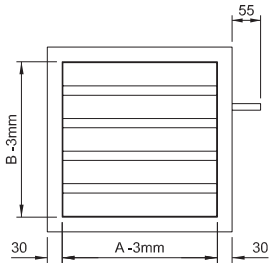
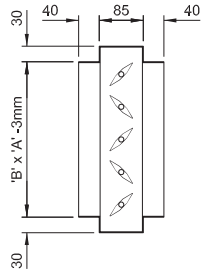
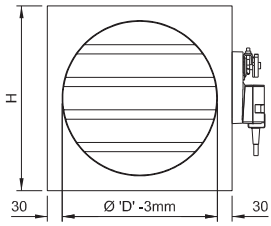




DE110



Ø D	H	Ø D	H
100	140	450	510
125	195	500	580
150	210	550	640
200	260	600	700
250	320	650	770
300	385	700	770
350	385	750	830
400	460	800	895



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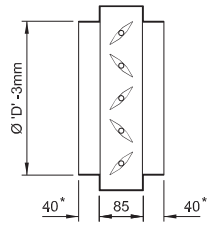
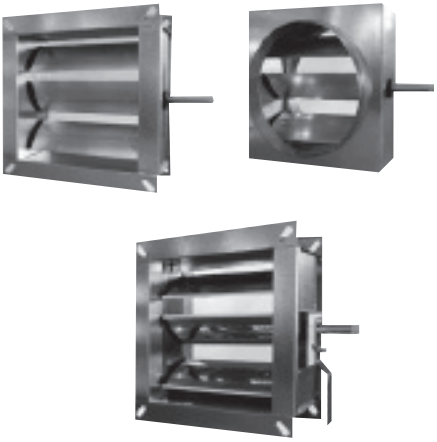


* Dimension = 55mm for sizes Ø450 > Ø800

Heavy Duty Duct Dampers

Description

For control and balancing of supply and extract air systems where high pressures and velocities may be experienced. All dampers are fitted with opposed blade action, airfoil blades as standard. The angles are adjusted via the robust, hand operated, lockable quadrant or with an optional extended spindle suitable for motorisation. The linkage system is enclosed and positioned out of the airstream. Casing leakage conforms to HVCA specification DW144 and Eurovent 2/2 classes A-C.



Construction

The casing is available fully flanged or with square/rectangular, circular or flat oval spigots and is manufactured from 1.2mm galvanised mild steel. Stainless steel casing is optional in grades 304, 316 or 430. The blades are galvanised mild steel with the option of extruded aluminium airfoil section or stainless steel grades 304, 316 or 430. Low leakage model is complete with blade and side seal gasket.

Size

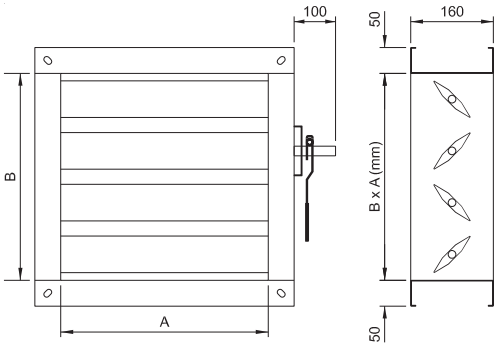
From 100 x 100 to 2500 x 2000 in one module.
Multiple assemblies can be supplied.

How to Specify

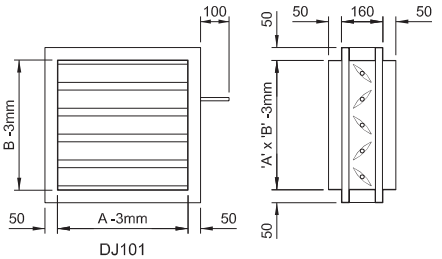
STATE QUANTITY, THE PRODUCT CODING AND THE SIZE WIDTH X HEIGHT
e.g. 10 Qty. DH603+0M 300 x 150.

Product Type	Connection	Operation	Bearings
DH Heavy Duty Flanged Casing	6 50mm Flange	0 Manual Locking Quadrant	3 Punch formed Casing Bushes
DJ Heavy Duty Spigotted Casing	0 Circular Spigot	1 Extended Drive Shaft	0 Nylon
	1 Rectangular or Square Spigot	3 Electric Motor Fitted	1 Oilite Bronze

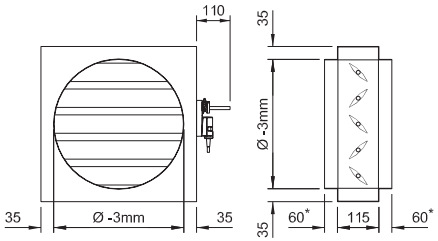
Seals	Finish
0 None	G Galvanised Case Galvanised Blades
1 Stainless Steel Side Seals	M Galvanised Case Aluminium Blades
2 S/Steel Side Seals, Silicone Blade Seals	W Galvanised Case S/Steel (430) Blades
	S S/Steel (430) Case S/Steel (430) Blades



DH603



DJ101



DJ033

* Dimension = 40mm for sizes Ø100 > Ø354

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Fully Sealed Slimline Duct Dampers

Description

For control and balancing of supply and extract air systems. All dampers are fitted with opposed blade action, airfoil blades as standard. The angles of the blades are adjusted via the lockable, manual operator with position indicator or with an optional extended spindle suitable for motorisation. The linkage system is enclosed and positioned out of the airstream. Casing leakage conforms to HVCA specification DW144 and Eurovent 2/2 classes A-C.

Construction

The casing is available fully flanged or with square/rectangular, circular or flat oval spigots and is manufactured from 1.2mm galvanised mild steel. The blades are extruded aluminium airfoil section with pvc seals and stainless steel side seals.

Size

From 100 x 100 to 1000 x 1000 in one module.
Multiple assemblies can be supplied.

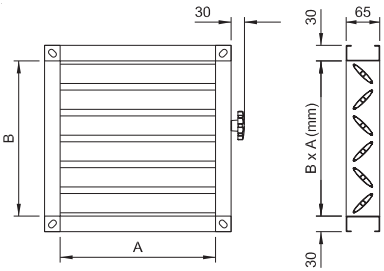
How to Specify

STATE QUANTITY, THE PRODUCT CODING AND THE SIZE WIDTH X HEIGHT
e.g. 10 Qty. D7310+2M 300 x 150.

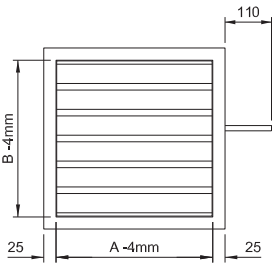
Product Type	Connection	Operation	Bearings
D7 Opposed Blade Damper	3 30mm Flange	0 Manual Locking Wheel	0 Nylon
	5 35mm Flange	1 Extended Drive Shaft	
	0 Circular Spigot	3 Electric Motor Fitted	
	1 Rectangular or Square Spigot		

+

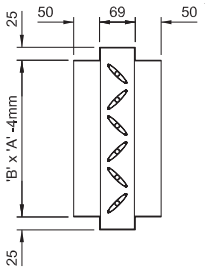
Seals	Finish
2 Side & Blade Seals	M Galvanised Case Aluminium Blades

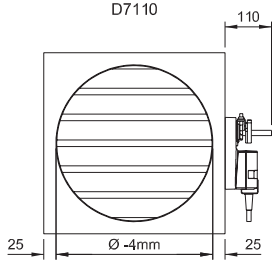


D7300

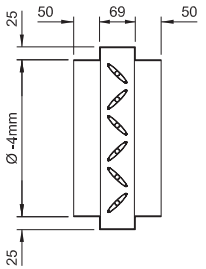


D7110





D7030



Low Leakage Insulated Dampers

Description

For the modulating control of our Intelivent Wall Mounted units, this damper gives a low air leakage rate of below 5m³/hr/m² and an insulation value of 1.8 watts/m²/°c. The linkage is enclosed and positioned outside the air system.

Construction

The casing is available fully flanged and is manufactured from 1.2mm galvanised mild steel. Stainless steel casing is optional in grades 304, 316 or 430. The blades are extruded aluminium airfoil section and insulated with polystyrene sections. This model is complete with blade and side seal gasket.

Size

From 100 x 100 to 1450 x 1400 in one module.
Multiple assemblies can be supplied.

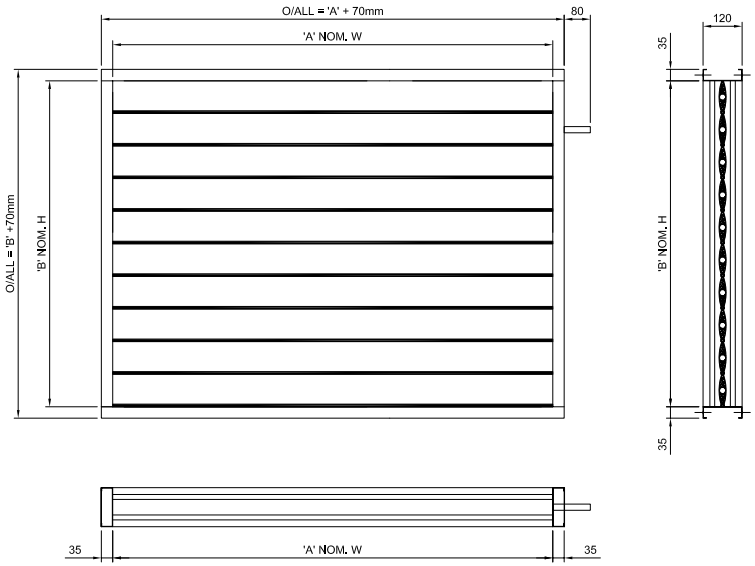
How to Specify

STATE QUANTITY, THE PRODUCT CODING AND THE SIZE WIDTH X HEIGHT
Eg. 10Qty DL533+3M 1000 X 1000

Product Type	Connection	Operation	Bearings
DL Heavy Duty Flanged Casing	5 35mm Flange	1 Extended Drive Shaft	3 Punch Formed Casting Bushes
		3 Electric Motor Fitted	

+

Fixings	Finish
3 Fully Sealed Insulated Blades	M Galvanised Case Aluminium Blades



Standard Flange Fixing Holes

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Technical Data Volume Control Dampers

Seal Effectiveness
The loss of air through the blades of a damper at various duct pressure differentials is given in the table for guidance.

	Blade Leakage Chart l/s - M² (M² = Duct Area)							
Differential Duct Pressure (Pa)	**200**	**300**	**400**	**500**	**600**	**800**	**1000**	**2000**
DF500+0M (Standard)	350	400	450	525	575	700	900	-
D7310+1M (Fully Sealed)	12	17	20	24	28	33	40	-
DH603+2M (Heavy Duty Fully Sealed)	4	6	8	9	12	15	17	29

Pressure Drop
Data for pressure drop is based on both a standard flanged unit and a fully sealed flanged unit of 600 x 600

		Pressure Loss (Total Pa)								
Duct Air Velocity (M/s)		**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
DF500+0M	30° Closed	3	9	22	47	75	110	140	190	220
	15° Closed	-	-	2	6	12	22	32	46	60
	Fully Open	-	-	-	-	-	-	-	2	3
D7310+1M	30° Closed	-	12	21	35	55	75	90	110	150
	15° Closed	-	4	7	11	18	23	30	40	48
	Fully Open	-	-	2	4	5	7	9	11	14
DH603+2M	30° Closed	-	11	33	50	68	95	120	140	200
	15° Closed	-	-	-	-	5	20	32	44	55
	Fully Open	-	-	-	-	-	-	5	12	21

	Weight Chart (Kg)								
	Damper Width								
Damper Height	**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
For Heavy Duty Type Multiply by 1.5									

Weight
These values have been rounded up and down to whole numbers and are illustrated for estimation purposes only.

		Torque Rating (Nm)			
		Damper Size			
Duct Pressure (Pa)	**Damper Type**	**250 x 250**	**500 x 500**	**750 x 750**	**1000 x1000**
250	Sealed	4.4	6.7	11.8	14.0
250	Unsealed	1.6	2.5	4.5	5.4
500	Sealed	5.0	7.3	13.1	16.0
500	Unsealed	1.8	3.1	5.6	7.0
750	Sealed	5.5	7.9	14.5	18.0
750	Unsealed	2.0	3.6	6.7	8.5
1000	Sealed	6.1	8.5	15.6	20.0
1000	Unsealed	2.2	4.1	7.8	10.3

Torque Rating
These values have been rounded up and down to whole numbers and are illustrated for estimation purposes only.

Heavy Duty Back Draught Dampers

Description
For low pressure relief applications, typically 10-50 pa, or as a non-return valve. Used where air velocities of up to 10 m/s may occur.

Construction
Galvanised mild steel casing either flanged or spigotted, extruded aluminium blades with brush seal tips.

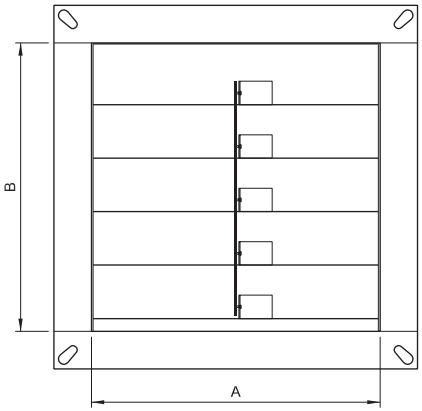
Size
From 200 x 100 to 1000 x 1000 in 25mm increments. For larger sizes multiple assemblies can be supplied.

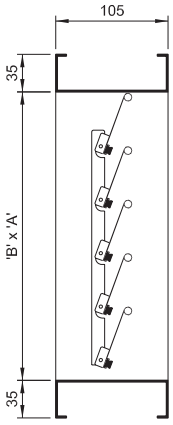
How to Specify
STATE QUANTITY, THE PRODUCT CODING AND THE SIZE WIDTH X HEIGHT
e.g. 10 Qty. DP100+1M 300 x 300.

Product Type	Connection	Options	Accessories
DP Back Draught Damper	1 Flanged Casing	0 Outwards Airflow	0 None
	2 Flanged Frame	1 Inwards Airflow	
	3 Rectangular Spigot		
	4 Circular Spigot		

+

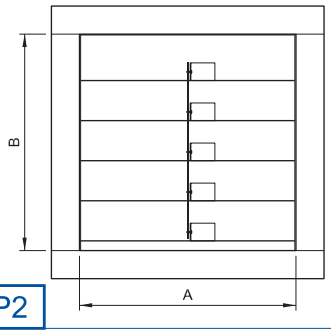
Seals	Finish
0 Blade Edge Brush Seal	M Galvanised Case Aluminium Blades
1 Blade Edge Brush + Aluminium Jamb Seals	

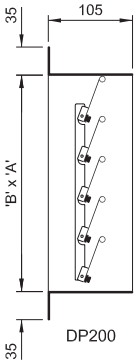


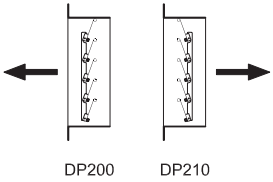


DP100

Heavy Duty Back Draught Dampers

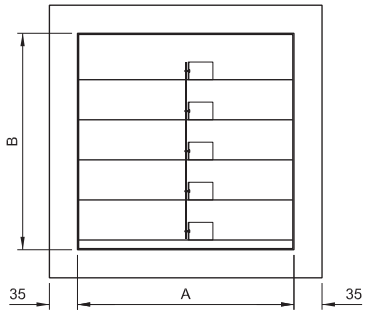


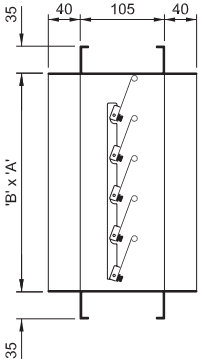




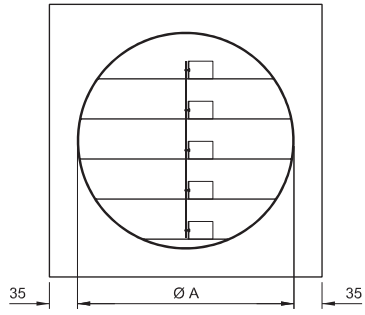
Type DP 200 + DP210 if the neck is to fit within a structural opening, order the damper – 20mm smaller than the opening size.

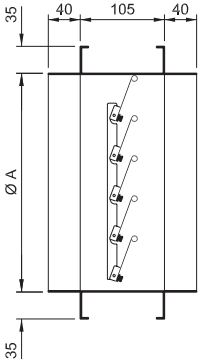
DP2





DP3





DP4

Lightweight Pressure Relief Unit

Description

For low pressure relief applications, typically 5-75 pa. Used for room to room pressure control or a basic non-return valve. Available with optional blade weights for increased pressure differentials.

Construction

From light gauge aluminium blades pivoted in nylon bearings set in 1.6mm thick aluminium frame either flanged for surface mounting or in channel frame for sleeve or duct mounting. Blades are gasket tipped.

Size and Weight

From 150 x 150 to 700 x 1200 in 50mm increments. Larger sizes are available when vertical front mullions are incorporated. Weight approximately 12.5kg/m^2.

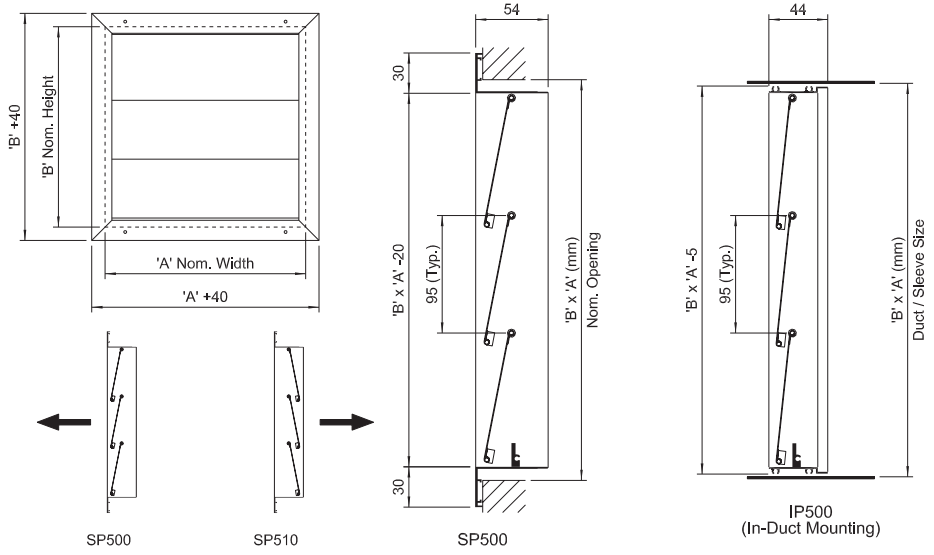
How to Specify

STATE QUANTITY, THE PRODUCT CODING AND THE SIZE WIDTH X HEIGHT
e.g. 10 Qty. SP510+1D 500 x 300.

Frame Style	Product Type	Options	Accessories
S 30mm Flange	P5 Pressure Relief	0 Outwards Airflow	0 None
		1 Inwards Airflow	5 Blade Weights

+

Fixings	Finish
1 Flange Holes	D Mill Finish
2 Neck Fixings	C PPC BS / RAL Colour



Lightweight Pressure Relief Unit

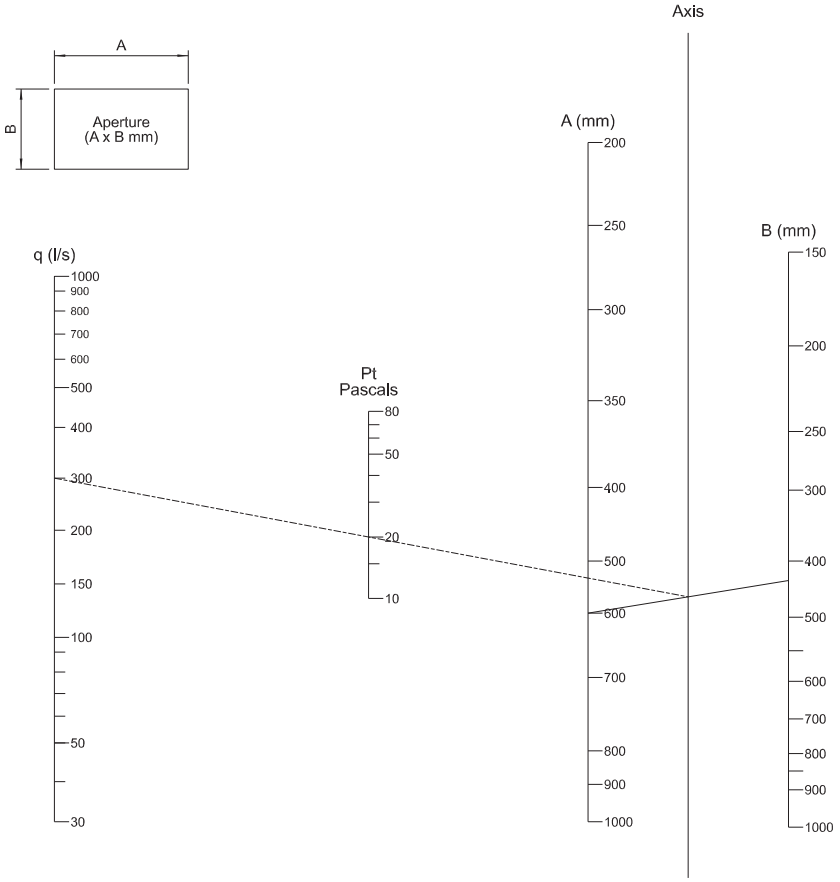
Description

Designed for use as a room to room pressure control or a basic non-return valve. Can be wall or duct mounted. The lightweight aluminium blades pivot and open automatically under negative pressure. A flangeless version is also available for use between air transfer grilles or for 'In-Duct' installation. Not suitable for high pressure applications.

Example:

Size a pressure relief damper to relieve 300l/s against 20 Pascals. Follow the example selection line to the pivot line which gives size 600 'A' x 450 'B'.

The preferred operating pressure range is 10 - 60 Pa. For special requirements the pressure differential and air volume can be increased for any given size with the addition of blade weights.



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Fire Dampers Low - Medium Velocity

Description

Our range of fire dampers are designed to stop the spread of fire through ductwork, walls, floors and ceilings. The slimline range is especially suitable for narrow partitions or in-duct mounting. All fire dampers are fire tested to BS 476 part 20:1987 for four hour duration and are available with optional installation frame.

Construction

The casing is manufactured from 1.2mm galvanised mild steel; whilst blades are rollformed from 0.8mm galvanised mild steel as standard. Grade 430 stainless steel casing and blades are available as an option.

Size

From 100 x 100 to 1525 x 1525 in one module. Multiple assemblies can be supplied.

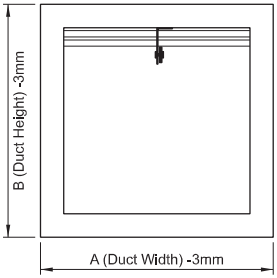
How to Specify

STATE QUANTITY, THE PRODUCT CODING AND THE SIZE WIDTH X HEIGHT
e.g. 10 Qty. D18G0+00 300 x 150.

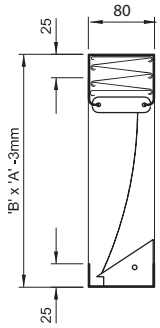
Product Type		Construction		Options	
D18	Slimline In-Duct Casing Blades Partially in the Airstream	G	Galvanised Steel	0	None
				F	HEVAC Installation Frame

+

Control		Options	
0	72° Fusible Link	0	None
1	Easy Maintenance Link	V	Visual Blade Position Indicator
2	Solenoid (AC Voltage)	1	Single Pole Microswitch
3	Electro-Magnet (AC & DC)	2	Double Pole Microswitch

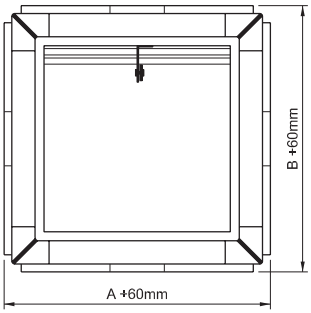


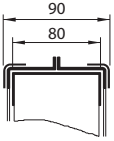
D18G0



D18G0

D18GF
HEVAC Installation Frame Detail





HEVAC / HVCA Installation Frame

Fire Dampers Low - Medium Velocity

Description

Our range of fire dampers are designed to stop the spread of fire through ductwork, walls, floors and ceilings. All fire dampers are fire tested to BS 476 part 20:1987 for four hour duration and are available with optional installation frame. The fire damper is suitable for low-medium velocity systems as the blades remain partially within the airstream.

Construction

The casing is manufactured from 1.6mm galvanised mild steel whilst blades are rollformed from 0.8mm galvanised mild steel as standard. Grade 430, 304 and 316 stainless steel casing and blades are available as an option.

Size

From 100 x 100 to 1000 x 1000 in one module. Multiple assemblies can be supplied.

How to Specify

STATE QUANTITY, THE PRODUCT CODING AND THE SIZE WIDTH X HEIGHT
e.g. 10 Qty. DA8G0+00 300 x 150.

Specifications & Testing

Fire Tested
European Standard EN 1366 - 2:1999
International Standard ISO 10294 - 1:1996(E)
Horizontal Test Report for 4 Hour Duration TE 201814
Vertical Test Report for 4 Hour Duration TE 201633

Fire Tested to BS 476 Part 20:1987 for a 4 Hour Duration
Warrington Report WFRC C43264
(Stainless Steel Blades)
Warrington Report WFRC C43265
(Galvanised Blades)

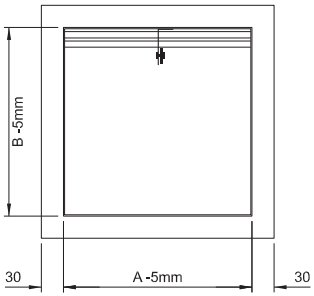
28 Day Salt Corrosion Test
Chatfield Reports C7217 and C7218 refer

Conformance to DW144 and Eurovent 2/2 as Relevant

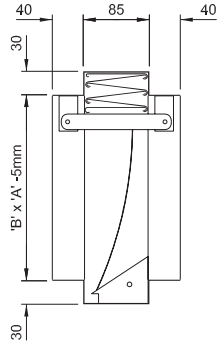
Product Type	Construction	Options
DA8 Square / Rectangular Spigot Blades Partially in the Airstream	G Galvanised Steel	0 None
	M Galv. Casing S/Steel Blades	F HEVAC Installation Frame
	S S/Steel Casing S/Steel Blades	

+

Control	Options
0 72° Fusible Link	0 None
1 Gate Latch Release	V Visual Blade Position Indicator
2 Solenoid (AC Voltage)	1 Single Pole Microswitch
3 Electro-Magnet (AC & DC)	2 Double Pole Microswitch

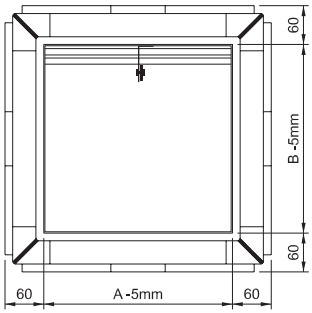


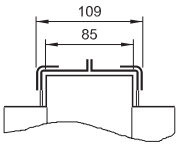
DA8G0



DA8G0

DA8GF
HEVAC Installation Frame Detail





HEVAC / HVCA Installation Frame

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Fire Dampers Medium - High Velocity

Description

Our range of fire dampers are designed to stop the spread of fire through ductwork, walls, floors and ceilings. All fire dampers are fire tested to BS 476 part 20:1987 for four hour duration and are available with optional installation frame. The fire damper is suitable for medium to high velocity systems as the blades are held out of the airstream.

Construction

The casing is manufactured from 1.6mm galvanised mild steel whilst blades are rollformed from 0.8mm galvanised mild steel as standard. Grade 430, 304 & 316 stainless steel casing and blades are available as an option.

Size

From 100 x 100 to 1000 x 1000 in one module. Multiple assemblies can be supplied.

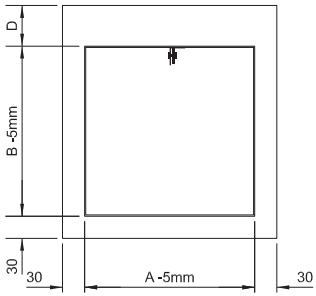
How to Specify

STATE QUANTITY, THE PRODUCT CODING AND THE SIZE WIDTH X HEIGHT
e.g. 10 Qty. DB8G0+00 300 x 150.

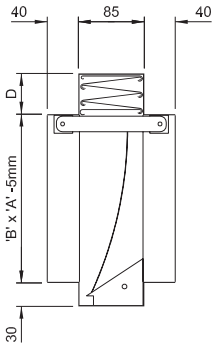
Product Type	Construction	Options
DB8 Square / Rectangular Spigot Blades Out Of Airstream	G Galvanised Steel	0 None
	M Galv. Casing S/Steel Blades	F HEVAC Installation Frame
	S S/Steel Casing S/Steel Blades	

+

Control	Options
0 72° Fusible Link	0 None
1 Gate Latch Release	V Visual Blade Position Indicator
2 Solenoid (AC Voltage)	1 Single Pole Microswitch
3 Electro-Magnet (AC & DC)	2 Double Pole Microswitch

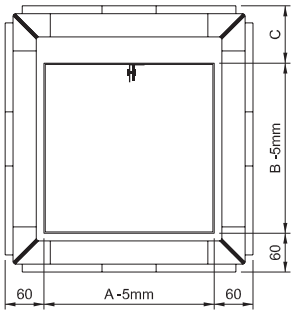


DB8G0

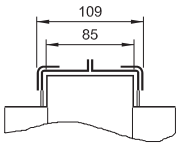


DB8G0

DB8GF
HEVAC Installation Frame Detail



Duct H (B)	Dimensions (mm)	
	'D'	'C'
100 - 300	30	60
301 - 500	55	85
501 - 750	75	105
751 - 1000	95	125

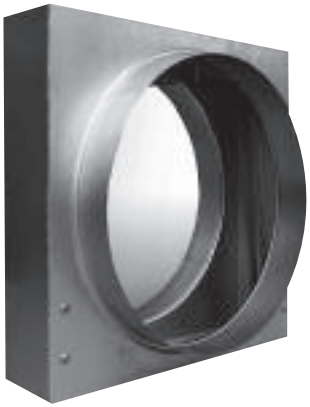


HEVAC / HVCA Installation Frame

Fire Dampers Medium - High Velocity

Description

Our range of fire dampers are designed to stop the spread of fire through ductwork, walls, floors and ceilings. All fire dampers are fire tested to BS 476 part 20:1987 for four hour duration and are available with optional installation frame. The fire damper is suitable for medium to high velocity systems as the blades are held out of the airstream.



Construction

The casing is manufactured from 1.6mm galvanised mild steel whilst blades are rollformed from 0.8mm galvanised mild steel as standard. Grade 430, 304 & 316 stainless steel casing and blades are available as an option.

Size

From 100 to 1000 diameter in one module for circular spigots.
From 100 x 100 to 1200 x 1000 in one module for flat oval spigots.
Multiple assemblies can be supplied.

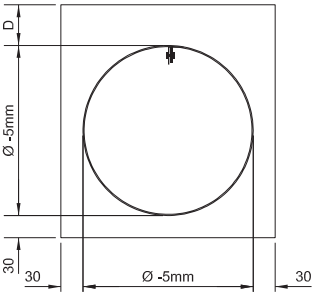
How to Specify

STATE QUANTITY, THE PRODUCT CODING AND THE SIZE WIDTH X HEIGHT
e.g. 10 Qty. DC8G0+00 300 diameter.

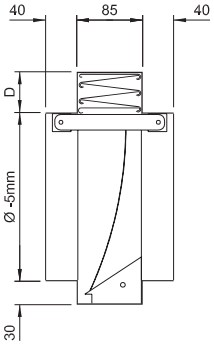
Product Type		Construction		Options	
DC8	Circular Spigot Blades Out Of Airstream	G	Galvanised Steel	0	None
DD8	Flat Oval Spigot Blades Out Of Airstream	M	Galv. Casing S/Steel Blades	F	HEVAC Installation Frame
		S	S/Steel Casing S/Steel Blades		

+

Control		Options	
0	72° Fusible Link	0	None
1	Gate Latch Release	V	Visual Blade Position Indicator
2	Solenoid (AC Voltage)	1	Single Pole Microswitch
3	Electro-Magnet (AC & DC)	2	Double Pole Microswitch

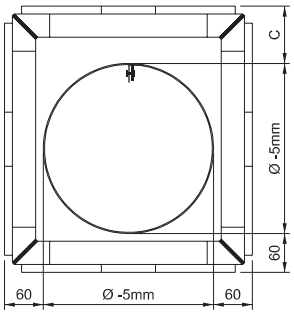


DC8G0

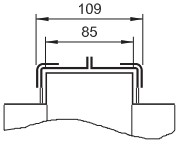


DC8G0

DC8GF
HEVAC Installation Frame Detail



Duct Dia (Ø)	Dimensions (mm)	
	'D'	'C'
100 - 300	30	60
301 - 500	55	85
501 - 750	75	105
751 - 1000	95	125



HEVAC / HVCA Installation Frame

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Technical Data Fire Dampers

Fusible Link (Code '+0')

Blades are held in the open position by a straight bar link (fitted as standard) rated at 72°C (180°F).
The fusing alloy is to BS 219. The brass is to BS 2870 and is electro-tinned following this process.
Alternative high temperature ratings available: 95°C, 124°C, 145°C, 182°C.

Gate Latch Release (Code '+1')

Optional mechanism for electrical release when required. Rated 72°C (180°F).
Alternative ratings available as per standard fusible link.

Mechanical Visual Indicator (Code 'V')

To provide local indication of the blade status.
When the indicator appears in the bulb, this shows that the blades have closed.

Single Pole Microswitch (Code '1')

To provide remote indication of the blade status. As the leading blade travels to the locking ramp, it contacts the arm and operates the switch. Factory fitted.

Double Pole Microswitch (Code '2')

Operates as above but with two switches for double pole operation. Can also provide a signal to a control panel enabling isolation of plant in case of fire. Factory fitted.

Solenoid (De-Energised) 240 volt (Code '+2')

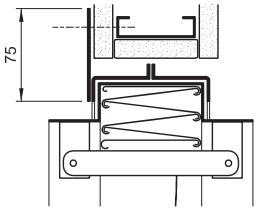
The remote mounted solenoid is designed for use with 'normally de-energised' systems and releases when a 240 volt AC detector signal is applied. **To suit damper sizes: 150 x 150 - 1200 x 1000 and 150 - 1000 diameter.**

Electro-Magnet (Energised) 24 volt (Code '+3')

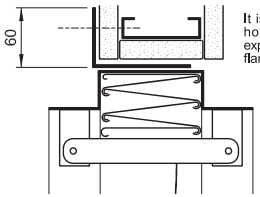
The remote mounted Electo-Magnet option is designed for use with 'normally energised' systems and releases upon interruption of the power supply. **To suit damper sizes: 150 x 150 - 1200 x 1000 and 150 - 1000 diameter.**

Dry Lining Partition Walls

Note: The methods detailed below 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.



HEVAC Frame with Dry Liner Plate



It is recommended that slotted holes are inserted for linear expansion within this angle frame flange.

Angle Frame Method

Duct Velocity (M/s)		Pressure Loss (Total Pa)										
		1	2	3	4	5	6	7	8	9	10	15
Low - Medium	150 x 150	1	3	6	10	15	20	28	33	39	44	60
91 - 95% Free Area	1000 x 1000	-	-	2	3	4	5	6	8	9	10	15

Duct Velocity (M/s)		3	4	6	8	10	20	30	40	50		
Medium - High	150 x 150	2	4	8	16	23	70	200	-	-		
100% Free Area	1000 x 1000	-	-	3	5	6	20	50	100	180		

	Weight Chart (Kg)									
	Damper Width (mm)									
Damper Height (mm)	100	200	300	400	500	600	700	800	900	1000
100	2.0	3.0	4.0	5.0	6.5	7.0	8.0	9.0	9.5	10.0
200	3.0	3.5	4.0	5.0	7.0	8.0	9.0	10.0	11.0	12.0
300	3.5	4.0	4.5	5.5	7.0	9.0	9.5	10.5	12.0	13.0
400	4.0	5.0	5.5	6.0	7.5	10.0	11.0	12.0	13.0	14.0
500	5.0	6.0	7.0	7.5	8.5	11.0	12.0	13.0	15.0	16.0
600	6.0	7.0	8.0	8.0	9.5	12.0	13.0	14.0	16.0	17.0
700	7.0	8.0	9.0	9.5	10.5	13.0	14.0	15.0	17.0	18.0
800	8.0	9.0	10.0	10.0	12.0	14.0	15.0	16.0	18.0	19.0
900	9.0	10.0	11.5	12.0	14.0	15.0	15.5	17.0	18.0	20.0
1000	10.0	12.0	13.0	14.0	15.0	16.0	17.0	18.0	20.0	22.0

For dampers with installation frames - Multiply by 1.25.

For circular and flat/oval dampers - Multiply by 1.25.

For circular and flat/oval dampers with installation frames - Multiply by 1.50.

Intumescent Fire Block

Description

Our range of intumescent fire blocks are designed to stop the spread of fire through doors, ductwork and walls. They provide fire resistance for up to 60 minutes when activated at 72ºC and are tested in accordance with BS476:parts 20 and 22.

Construction

From Intumescent material formed in slat construction, encapsulated in PVC extrusions with cross sectional dimensions of 40mm x 6mm.

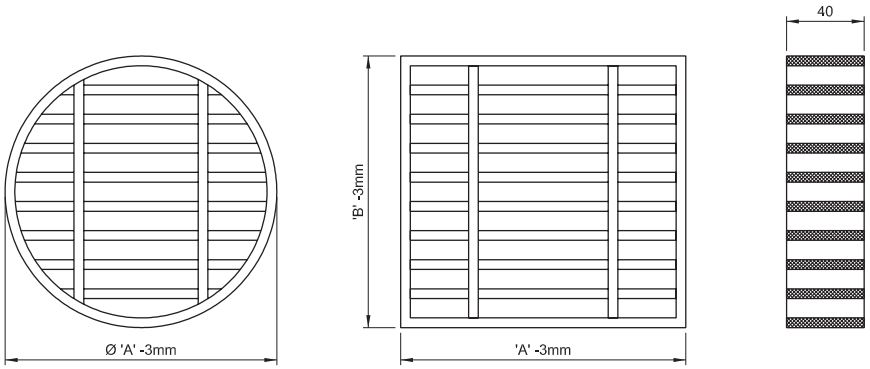
Size

Available from 150 x 150mm, to 600 x 600mm and 150mm to 600mm diameter.
Free Area 60%

How to Specify

STATE QUANTITY, THE PRODUCT CODING AND THE SIZE WIDTH X HEIGHT
e.g. 10 Qty. F60 300 x 300.

Product Type		Fire Rating	
F	Intumescent Fire Block	60	60 Minutes



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Fire / Smoke Control Dampers

Description

Our range of fire and smoke dampers are designed to stop the spread of both fire and smoke thorough ductwork, walls, floors and ceilings. All fire/smoke dampers are tested and conform to the standards listed on page 164. All are suitable to work in conjuction with the BMS system and suitable damper control panel.

Function

The fire and smoke damper will be held in the fully open position for as long as the power supply is maintained to the unit. In the event of a fire, the built in thermal fuse will trip and cut off the electrical supply to the motor, causing the built in return spring to drive the damper closed.

The thermal fuse consists of a duct mounted probe with a replaceable fuse to detect internal duct temperature, and a non replaceable fuse element which detects ambient room temperature. Both fuses are rated at 72ºc. A test button is included in the fuse unit for local testing of the damper operation.

Please note that where the dampers are for smoke evacuation purposes and are required to fail open, they wil not be fitted with thermal fuses.

Construction

The casing is manufactured from 1.2mm galvanised mild steel whilst the blades are double skin airfoil sections from 0.7mm galvanised mild steel or from 0.7mm stainless steel grade 430 or 316 optional.

Size

From 100 x 100 to 1000 x 1000 and from 100mm to 1000mm Ø.

How to specify

STATE THE QUANTITY, THE PRODUCT CODING AND THE SIZE X WIDTH X HEIGHT
e.g. 10 Qty. E3GHF+10+600x600

Product Type	Construction	Mounting	Options
EB Square or Rectangular Spigot	G Galvanised Steel	H Horizontal or Vertical	0 None
EC Circular Spigot	M Galv. Casing S/Steel Blades Grade 430		F HEVAC Installation Frame
ED Flat Oval Spigot	S S/Steel Casing S/Steel Blades Grade 430		
	T S Steel Casing S Steel Blades Grade 3161		

+

Control Mode	Seals
1-6 See table for control option code	0 S/Steel Side Seals Interlocking Blades

Options And Weight Charts Fire / Smoke Dampers Control

Reset Method	Failsafe Position	Control Mode	Control Option Code	Application & Operation Principle	Supply/Control Voltage	Motor end switches
Motorised remote	Closed	**Option 5a**	**1**	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**	**2**	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**	**3**	Fully open to fully closed, automatic electronic BF-24 motor drive fitted with a failsafe spring return mechanism (without thermal fuse).	24V AC/DC	Yes
Motorised remote	Open	**Option 6b**	**4**	Fully open to fully closed, automatic electronic BF230 motor drive fitted with failsafe spring return mechanism (without thermal fuse).	240V AC	Yes
Pneumatic	Closed	**Option 8a**	**5**	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	**6**	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	

Weight Chart (kg). Model EBGH0+0

1) The reference values below are for Model EBGH0+0
2) For Models ECGH0 and EDGH0, apply the following respective multiplier: 1.1
3) To include a HEVAC / HVCA installation frame, apply the following respective multiplier: 20%

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

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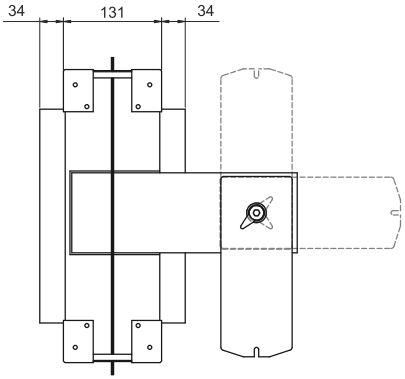
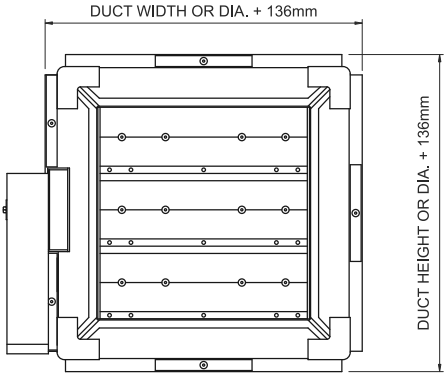
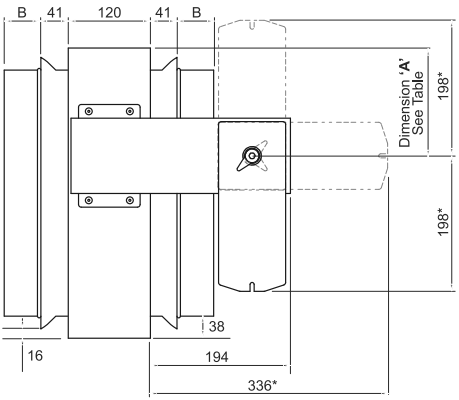
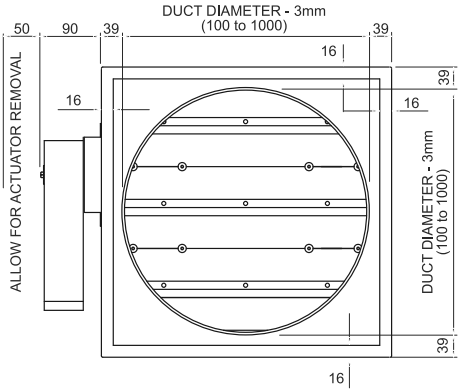
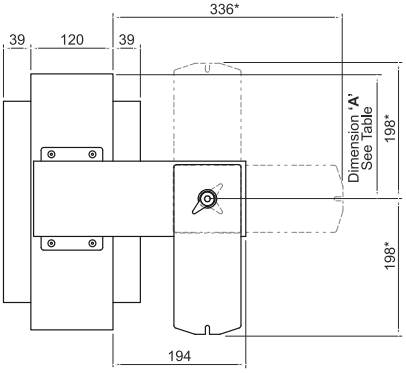
Technical Measurements Fire / Smoke Control Dampers



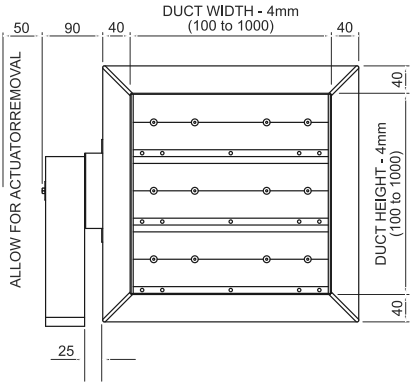








VARYING LENGTHS OF OPTIONAL STUB DUCT AVAILABLE
210MM TO 450MM. PLEASE REFER TO SALES OFFICE



Testing & Conformities

Tested to EN1366-2
Tested/Assessed & Achieved Equivalent Classification to:

ES Classification (BS EN 1366-2/BS EN 13501-3)
- BSB FSD-TD-HF fitted with HEVAC Frame
  ES240 (E240S) - Blockwork/Masonry wall
  ES240 (E240S) - Concrete floor
- BSB FSD-TD-SA fitted with Sleeve & Angle Frame
  ES120 (E120S) - Dry Partition wall
  ES120 (E120S) - Blockwork/Masonry wall
- BSB FSD-TD-BF fitted with Batt Frame
  ES120 (E1120S) - fitted with Firetherm Intubatt
- BSB FSD-TD-CL fitted with Cleats
  ES120 (E20S) - Dry Partition wall
- BSB FSD-TD-AF fitted with Angle Frame
  ES120 (E120S) - Dry Partition wall

ES Classification (BS ISO 10294-1/2)
- As BS EN 1366-2/BS EN 13501-3 above

Integrity Only (BS 476-20/22 - ADB - fan off)
- BSB FSD-TD fitted with HEVAC Frame
  240 mins - Blockwork/Masonry wall
  240 mins - Concrete floor
- BSB FSD-TD fitted with Sleeve & Angle Frame
  120 mins - Dry Partition wall
  120 mins - Blockwork/Masonry wall
- BSB FSD-TD fitted with Cleats
  120 mins - Dry Partition wall
  120 mins - Blockwork/Masonry wall
  120 mins - away from wall associated with fire resisting ductwork
- BSB FSD-TD fitted with Z2000 Frame
  240 mins - Concrete floor
  240 mins - Blockwork/Masonry wall

Corrosion Testing (ASTM B117)
- Tested and satisfies LPS 1162

FSD-TD Blade Leakage (BS EN 1751)
- Class 2

Casing Leakage (BS EN 1751)
- Class C

Aerodynamic Testing (BS EN 1751)
- Tested

Regulations and Standards
Approved Document B: Fire safety (ADB)
ADB is the UK government's guide to fulfilling the Building Regulations in terms of fire safety. It is available as a free download from the planning portal website.

It gives clear guidance on where fire dampers are to be used and what their performance or classification shall be. The GDL Unit fulfils the ES classification and reference should be made to the model section to confirm exact time periods. These will generally be 120 minutes, but may be up to 240 minutes.

Health Technical Memo 05/02 (HTM05/02)
HTM05/02 is the Department of Health Firecode - fire safety in the NHS: Guidance in support of functional provisions for healthcare premises.

It basically underlines the requirements stated in ADB, requiring fire damper testing to BS EN 1366-2 and classification to BS EN 13501-3 - ES for escape routes etc).

It supersedes HTM81 and should be read in conjunction with HTM2025: Ventilation in healthcare premises, as it gives guidance on maintenance and testing.

Building Bulletin 100
BB100 is the Department for Children, Schools and Families document on Fire safety in schools.

It basically underlines the requirements stated in ADB, requiring fire damper testing to BS EN 1366-2 and classification to BS EN 13501-3 - ES for escape routes etc).

It also states: 'For property protection, fire dampers should also satisfy LPS 1162'.

Regulatory Reform (Fire safety) Order (RRFSO)
This is the regulatory requirement that allows people to self fire certificate their buildings. There are requirements for keeping testing and maintenance records for all passive fire protection equipment, which includes fire dampers.

BS EN 1366-2
The fire resistance test standard for fire dampers.

BS EN13501-3
The fire resistance classification standard that includes fire dampers.

BS EN 1751
The standard for aerodynamically testing dampers. This includes both casing leakage (as DW 144 requirements), blade leakage, torque and heat transfer.

Other Publications

DW 144 (HVCA)
This states the general requirements for HVAC ductwork, including the use of fire dampers. It also states ductwork leakage limits. The GDL Unit fulfils the requirements of classes A, B & C.

DW 145 (HVCA)
This document will give guidance on the whole process of the selection and installation of fire dampers, with responsibilities and project planning and guidance.

The Grey Book (ASFP)
This gives further guidance on the application and installation of fire dampers.

Scotland
These are technical standards (AMD's). They give similar guidance to ADB.

They already include direct references to the application of European standards. They are obtainable as a free download from the Scottish Executive website.

Elevated Temperature / Smoke Control Dampers

Description

Our range of smoke control dampers are suitable for installing into low to medium velocity ductwork to perform as a volume control damper, and in the event of a fire, to prevent the spread of hot or cold smoke through the ventilation system. They can also be adapted for use in smoke ventilation shafts in both 1.0m2 and 1.5m2 free area sizes with matching grilles to suit. The damper has been high temperature tested to 800 ºC for 120 mins.

Construction

The case is manufactured from 1.2mm galvanised mild steel, whilst the blades are double skin aerofoil section with a fish tail interlocking design from 0.7mm galvanised mild steel. Stainless steel blades in grade 430 or grade 316 are optional.

Size

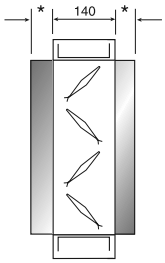
Square and Rectangular sizes from 100mm x 100mm to 1200mm x 1200mm in infinite increments. Round and Flat Oval sizes from 100mm dia to 1200mm dia.

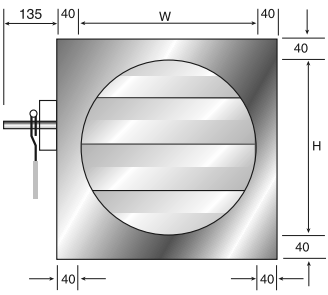
For larger sizes than those listed above the dampers will be supplied in multiple sections.

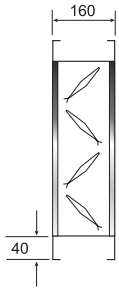
Product Type	Connection	Operation	Bearings
SC Flanged Case	4 40mm Flange	0 Manual Locking Quadrant	3 Punch Formed Casing Bushes
SD Spigotted Case	0 Circular Spigot	1 Extended Drive Shaft	
	1 Square or Rectangular Spigot	3 Electric Motor Fitted	
	2 Flat Oval Spigot		

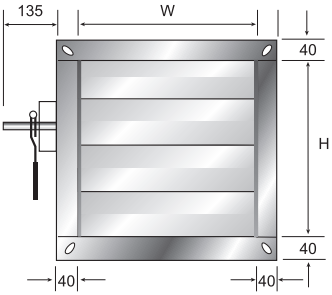
Seals	Finish
0 S/Steel Side Seals With Interlocking Blades	G Galvanised Case And Blades
	W Galvanised Case, S/Steel (430)Blades
	S Galvanised Case, S/Steel (316) Blades

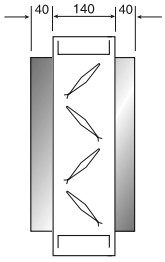
Elevated Temperature / Smoke Control Dampers

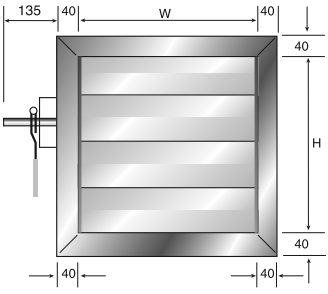


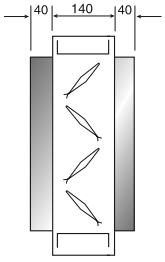


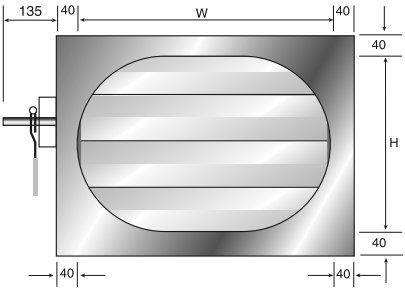












T. 01457 861 538 F. 01457 866 010 ✉ sales@grille.co.uk

Combined Fire Damper / Plenum Box

Description

For supply or extract air, the combined fire damper/plenum box is mainly used when a grille or diffuser is situated within a fire rated ceiling. Most GDL grilles or diffusers can be incorporated providing they have a hinged or removable core.

Construction

The plenum box is manufactured from heavy duty 18 gauge galvanised steel and incorporates a D15G0+00 Fire Damper.

Size

From 200 x 200 to 1200 x 1200 in 25mm increments.

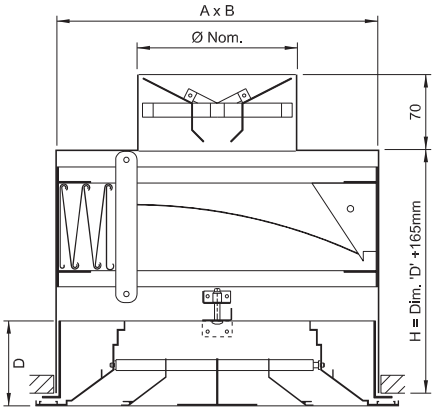
How to Specify

STATE QUANTITY, THE PRODUCT CODING AND THE SIZE WIDTH X HEIGHT
e.g. 10 Qty. G5100+10 500 x 300 - 200 Diameter.

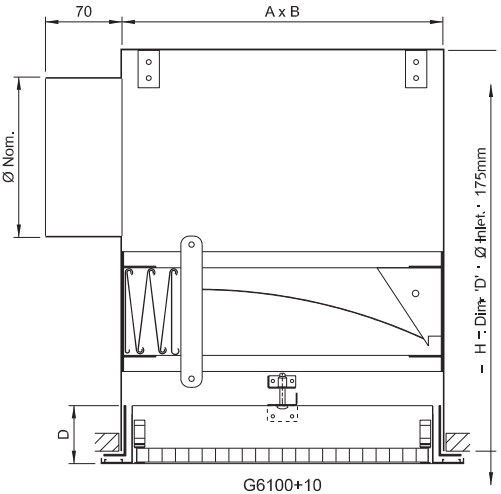
Product Type	Fire Protection	Options	Accessories
G5 Heavy Gauge Top Inlet Plenum Box	1 60 Min. Curtain Fire Damper	0 None	0 None
G6 Heavy Gauge Side Inlet Plenum Box	2 60 Min. Intumescent Fire Block		R Twin Blade Damper
			F Flat Plate Damper

Fixings	Finish
1 Drop Rod Supported	0 Galvanised M/steel
2 Ceiling Construction Supported	

Where a G5 / G6 plenum box is used with a S4400 Multi-Cone diffuser,
'A' x 'B' = Diffuser Nom. neck size +108mm



G510R+10

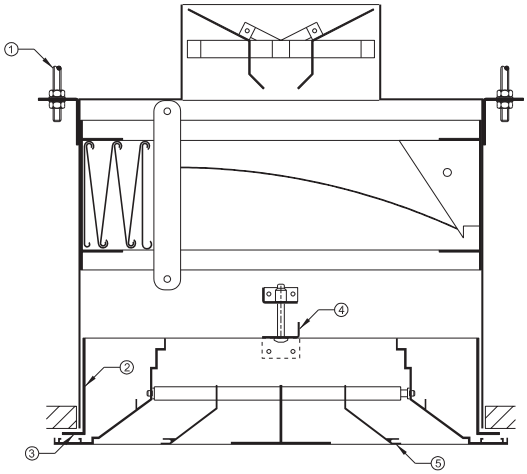


G6100+10

Dim. 'D' = Total height of grille / diffuser including damper if fitted

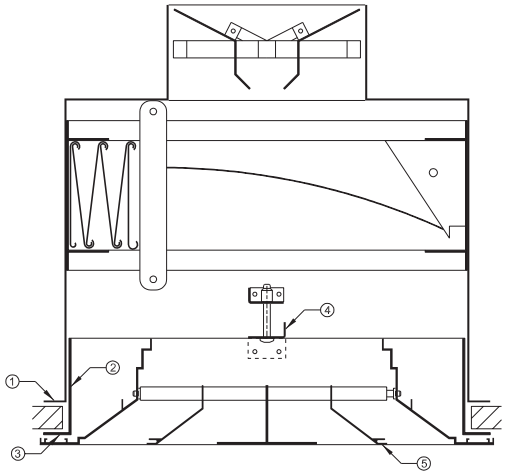
Combined Fire Damper / Plenum Box

Fixing Style +1
Drop Rod Supported



(1) Plenums should be positioned within the ceiling void space temporarily prior to the tiles around the diffuser opening being fitted. When ready for installation position the plenum within the opening and secure via 8mm drop rods. (2) Offer up loose flanged slip-joint with an appropriate fire sealant at (3) and secure via the inside at regular intervals. (4) Offer up the diffuser frame and secure via factory mounted brackets and screws. (5) Finally insert quick release core.

Fixing Style +2
Ceiling Construction Supported



(1) Plenums should be positioned within the ceiling void space temporarily prior to the tiles around the diffuser opening being fitted. When ready for installation position the plenum as illustrated and seal as appropriate. (2) Offer up loose flanged slip-joint with an appropriate fire sealant at (3) and secure via the inside at regular intervals. (4) Offer up the diffuser frame and secure via factory mounted brackets and screws. (5) Finally insert quick release core.

Note: The Relevant fire officer, local authority and/or ceiling contractor should be consulted for approval of this or other installation methods.