Incorporating

Dampers

Series BDS

Back draught shutter / Non-return damper

- Specialist damper designed to permit airflow in only one direction
- Lightweight and corrosion resistant aluminium construction
- Optional weighting system allows opening pressure to be adjusted on site

BDS: March 2019

Series BDS

Back draught shutters are designed to permit air to flow in only one direction. This makes them useful for applications where a duct is only used at intervals, and needs to be shut down at other times in order to prevent heat loss or backflow.

Series BDS back draught shutters are manufactured from extruded aluminium throughout, ensuring an inherently high resistance to corrosion along with minimal weight.

Blades are supplied unlinked as standard, allowing them to open and close independently of each other. For larger units or where the application involves higher air velocities, blades can be linked. This has a damping effect, smoothing the blades' motion as they are opened and closed.

If required, blades can also have concealed weights fitted, to allow the damper to be set up on site to open at a specific pressure.

Design features

Material	Frame and blades: Extruded aluminium
	Drive system: Acetyl as standard, brass and zinc if high temperature specification
	Galvanised steel spigot plates (if required)
	Felt blade edge seal (not fitted if high temperature specification is required)
Sizes	Minimum: 100mm x 100mm nominal
	Maximum single unit: 2900mm x 2900mm nominal
	Widths above 1200mm nominal size will use mullions
Frame	40mm wide flange
	100mm overall depth
Finish	Standard: Mill aluminium Optional: See page 6
Mass/m² face area	14 kg
Free area	86% maximum

Important note: This product in its standard configuration is only intended for use in a vertical orientation.

We can supply units suitable for a horizontal application (where normal airflow is upwards) but must be advised at ordering stage.

This product is unsuitable for use horizontally when normal airflow is downwards.

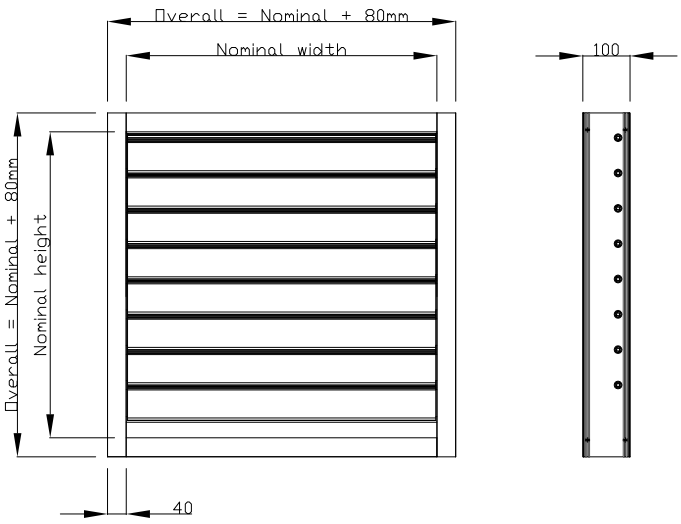
Quality assurance

HVC Supplies (Stourbridge) Ltd is an ISO 9001 certified company.

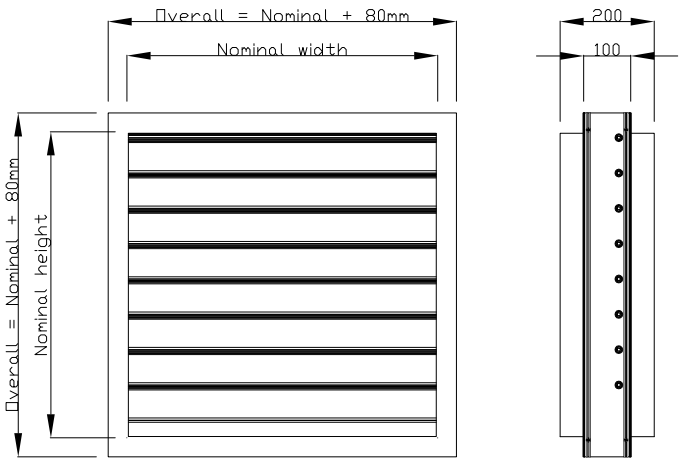
Assessed to ISO 9001
Cert/Ref No. 1186

Technical drawings

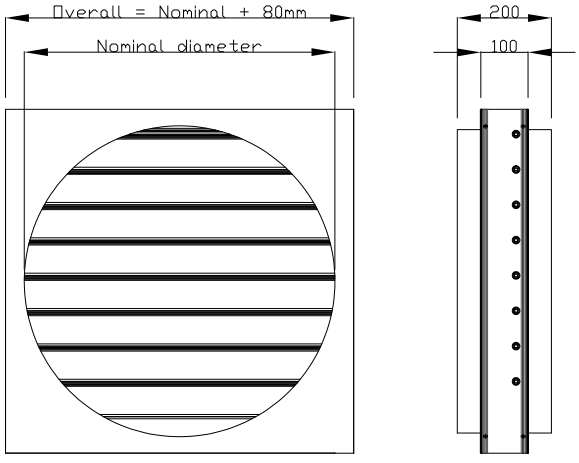
Model A: Square flanged (no case)



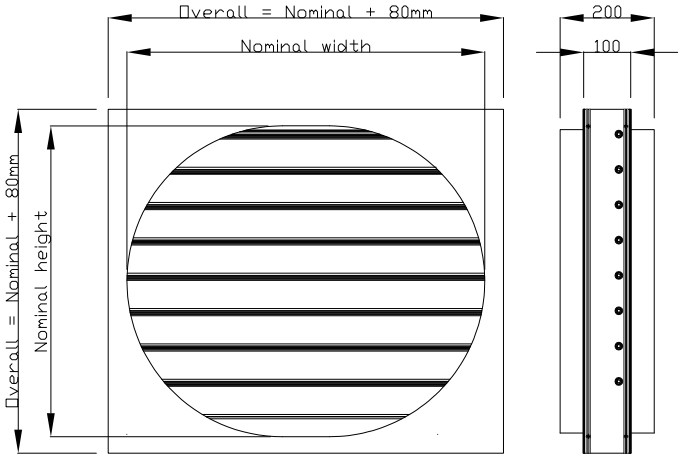
Model B: Square spigotted



Model C: Circular spigotted



Model D: Flat oval spigotted



Spigots: Model B spigots supplied 6mm under nominal size.
Model C and D spigots supplied 3mm under nominal size.

Manufacturing tolerance: + or - 1.5mm

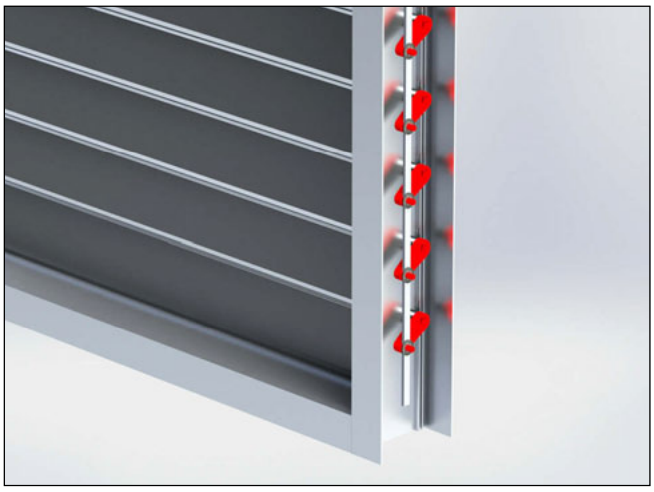
Options

Linked blades - Ordering code LB

Back draught shutters are supplied as standard with unlinked blades. This works well at low air velocities, however can result in blades opening and closing violently at high velocities.

At higher velocities, above 5 m/s for example, we recommend the specification of linked blades.

This involves a concealed linkage being fitted to the blades which has a damping effect, greatly smoothing the motion of the blades as they open and close.



Weighted blades - Ordering code WB

The specification of weighted blades equips back draught shutters with linked blades, but also means removable steel weights will be fitted to the concealed linkage bar.

These weights increase the pressure required to open the damper, and can be removed or added to the linkage bar on site to adjust the point at which the damper opens.

High temperature specification - Ordering code HT

Standard BDS's make use of acetyl drive system components, which are only suitable for use in environments with temperatures up to around 70°C.

HVC can replace these components with brass and cast zinc replacements enabling use in temperatures up to approx 300°C.

Please note: If high temperature specification is required, dampers will be supplied without the standard felt blade edge seals.

Options

40:10 frame

As standard Series BDS back draught shutters are supplied with a 100mm deep frame with 40mm flanges. If required this can be replaced with a flange of the same depth, but with one 40mm flange and one 10mm flange.

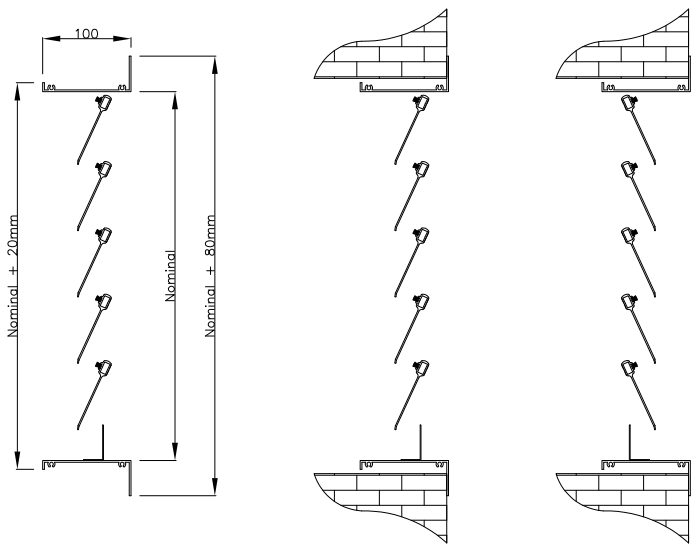
This is useful where a damper is going to be wall mounted.

If this option is selected please specify which airflow configuration is required:

40:10 IN 40 - Air in through 40mm flange side
Airflow in through the 40mm flange side, out of the 10mm flange side.

40:10 IN 10 - Air in through 10mm flange side
Airflow out of the 40mm flange side, in through the 10mm flange side.

Please note: Drive system components protrude a maximum of 25mm past the 10mm flange on the damper sides. No components protrude past the 10mm flange on the top and bottom.



40:10 IN 40 **40:10 IN 10**

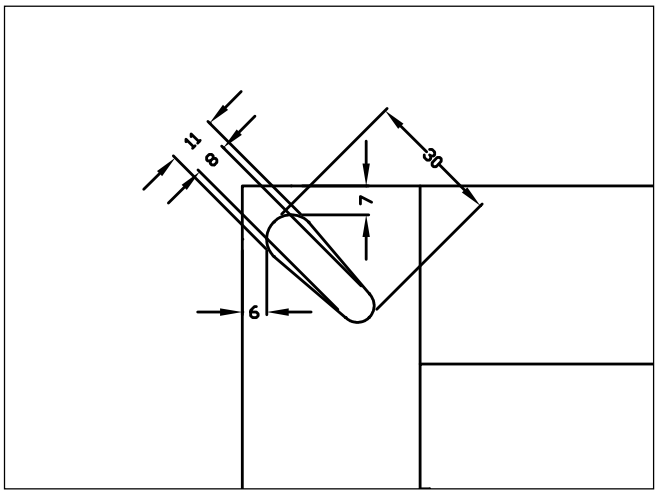
Fixings

Teardrop corner fixing holes - Ordering code TD

BDSs can have teardrop shaped fixing holes prepunched in the corners of the unit to aid fitting into flanged ductwork systems.

Hole dimensions are as shown below.

Only available with a Model A connection type.



Custom fixing holes

Specific layouts of fixing holes can be pre-drilled into one or both of the damper flanges if required to make installation on site quick and easy.

Finish

Mill aluminium (standard)

Polyester powder coating to any RAL or BS colour

Ordering codes

Example

1 - 1000 x 1000 - BDS - Model A - WB - BS - FH - RAL9010 - 1S

Codes

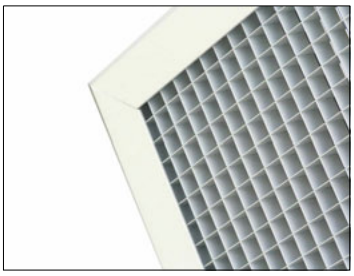
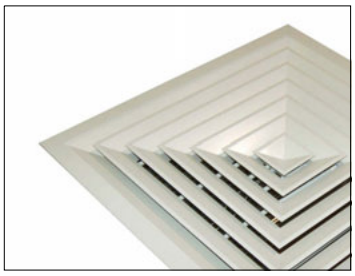
1)	**Quantity**		
2)	**Size (mm)**	(Width x height / diameter)	Nominal size
3)	**Series**	BDS	Back draught shutter / Non-return damper
4)	**Connection**	Model A Model B Model C Model D	Square flanged (standard for square / rectangular sizes) Square spigotted Circular spigotted Flat oval spigotted
5)	**Frame type**	**nothing** 40:10 IN 40 40:10 IN 10	Standard frame with two 40mm flanges Frame with 40mm flange one side and 10mm flange on other Air in through 40mm flange side (only available with Model A connection type) Frame with 40mm flange one side and 10mm flange on other Air in through 10mm flange side (only available with Model A connection type)
6)	**Linked/weighted blades**	LB WB	Linked blades (required if unit is to be mounted horizontally) Linked and weighted blades
7)	**Temperature specification**	**nothing** HT	Standard temperature specification (up to 70°C) High temperature specification (up to 300°C - no blade edge seals)
8)	**Mounting orientation**	**nothing** HORIZONTAL	Unit is to be mounted vertically (standard) Unit is to be mounted horizontally
9)	**Fixing holes**	TD **custom layouts**	Teardrop corner fixing holes (only available with Model A connnection type) Please describe any custom fixing hole layouts on the order
10)	**Debris screens**	BM IM	Bird mesh (12mm x 12mm mesh) Insect mesh
11)	**Finish**	Mill RAL... BS...	Mill aluminium (standard) Polyester powder coated to RAL... Polyester powder coated to BS…
12)	**Sections**	_S	Number of sections required. If left blank this will be confirmed on order acknowledgement

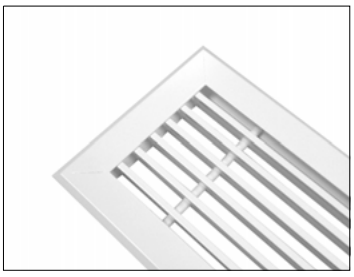
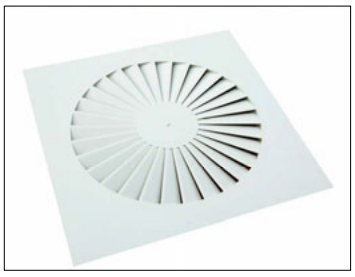
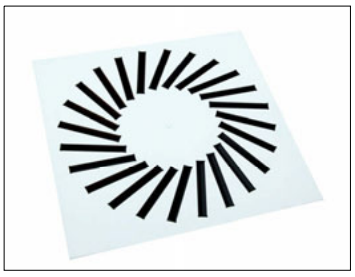
HVC & NCA products

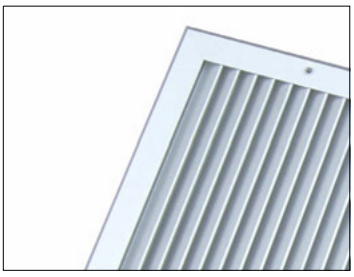
HVC offer the significant advantage of manufacturing both in duct and duct terminal equipment, making us a one stop shop for all your HVAC needs.

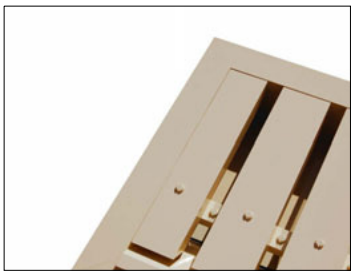
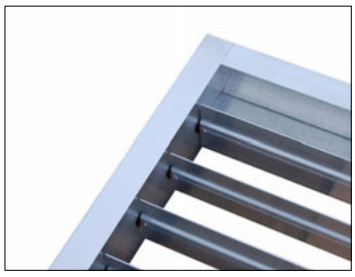
The products shown below are a selection, not an exhaustive list. Go to **www.h-v-c.com** for details on all HVC and NCA products.

HVC: Grilles, Diffusers, Louvres and Volume Control Dampers



NCA: Fire and Volume Control Dampers



Assessed to ISO 9001
Cert/Ref No. 1186

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