



Volume Control Dampers

Incorporating



Series HVC-VCD Aluminium volume control dampers

- Excellent general purpose volume control damper
- Lightweight aluminium construction
- Fully protected linkage system positioned outside of airstream
- Very low torque operation
- Shut-off damper variant available
- Full range of control options



Series HVC-VCD

An excellent general purpose volume control damper, HVC-VCDs are manufactured from extruded aluminium throughout, ensuring an inherently high resistance to corrosion along with minimal weight.

Energy loss through resistance to airflow is extremely low due to a maximum free area of 86% when the damper is set fully open, and the fully protected low torque drive system means even large units can be operated from a single manual handle or actuator.

A range of options are available for HVC-VCDs, including additional blade edge and frame side seals for reduced leakage if required, and a high temperature specification suitable for installation in temperatures of up to 300°C.

A full range of control options including Belimo actuators are also available.



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)
Sizes	Minimum: 100mm x 80mm 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 12
Mass/m² face area	14 kg
Free area	86% maximum

Quality assurance

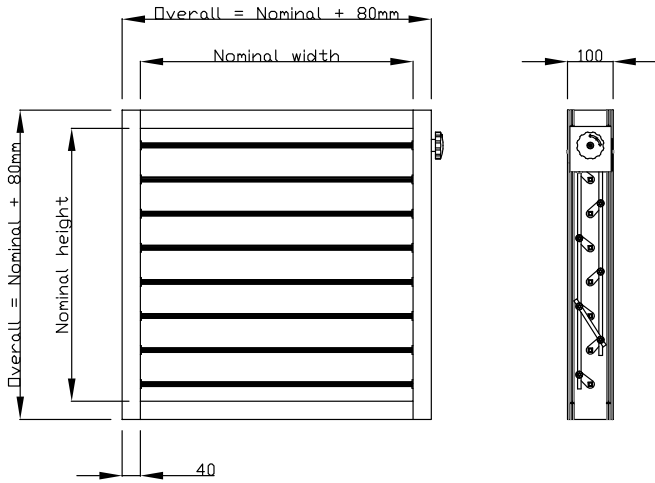
HVC Supplies (Stourbridge) Ltd is an ISO 9001 certified company.



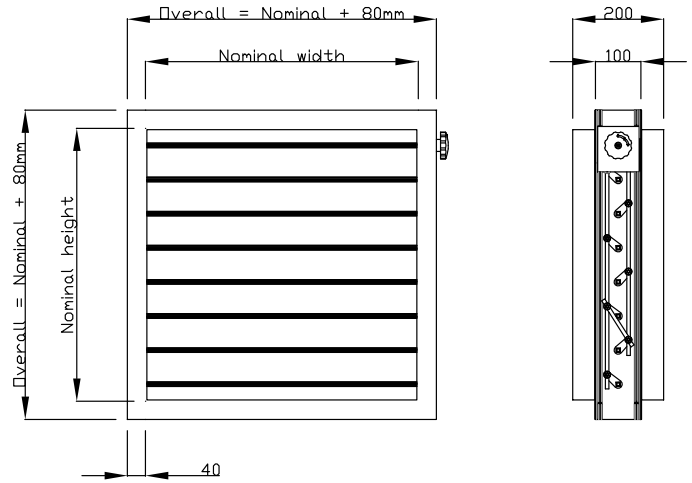
Assessed to ISO 9001
Cert/Ref No. 1186

Technical drawings

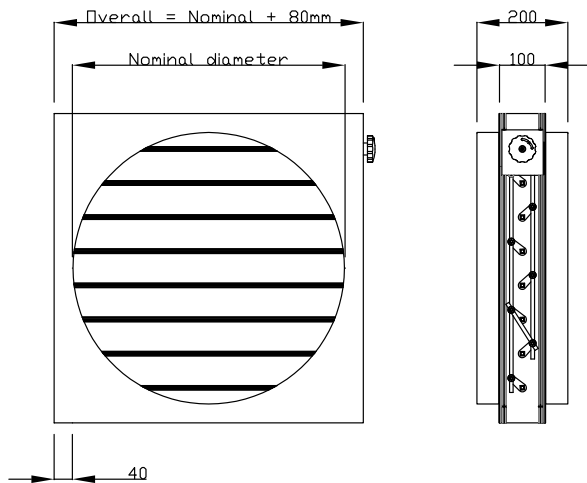
Model A: Square flanged (no case)



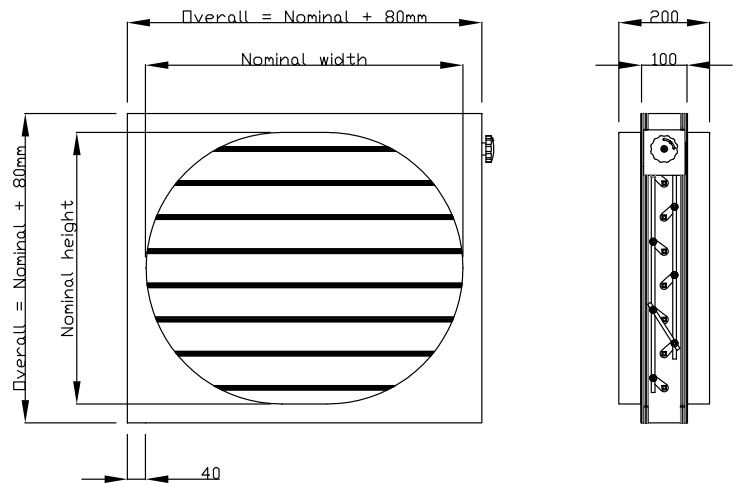
Model B: Square spigotted



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

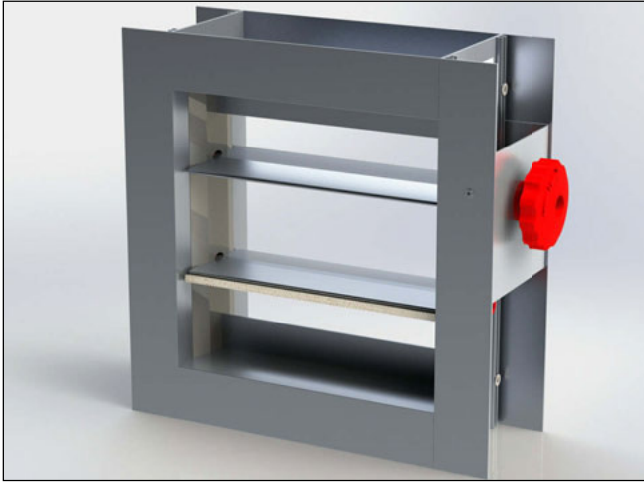
Options

Blade edge and frame side seals - Ordering codes ES and SS

HVC-VCDs as standard are intended for balancing purposes, however if required they can be adapted with additional seals to create a low leakage shut-off damper.

An aerofoil blade with felt blade edge will replace the standard blade, and stainless steel frame side seals can be added, reducing leakage through the damper significantly.

Please note: If high temperature specification is required, blade edge seals cannot be fitted.



High temperature specification - Ordering code HT

Standard HVC-VCDs 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, blade edge seals cannot be fitted.

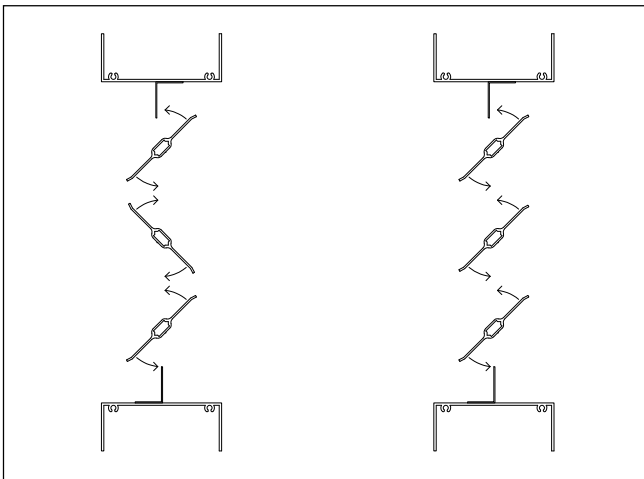


Blade motion

As standard all HVC-VCDs are set up with an opposed motion where adjacent blades contra-rotate during actuation.

Some specifications require a parallel motion where all blades rotate in the same direction during actuation.

If required HVC-VCDs can be set up with a parallel motion as a free of charge option. Arrows below show a damper closing, with opposed motion on the left and parallel on the right.

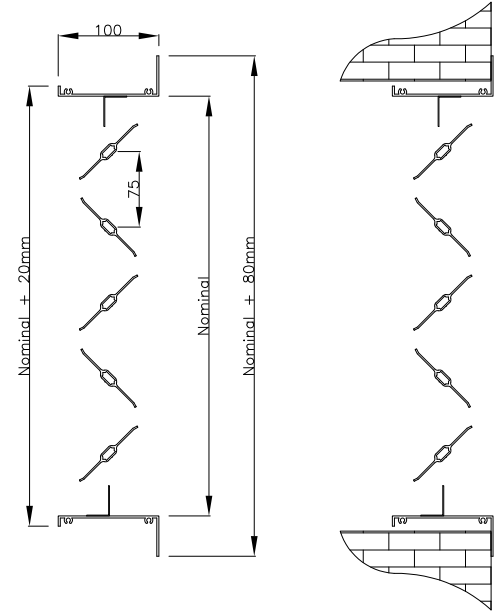


Options

40:10 frame

As standard Series HVC-VCDs 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.

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.

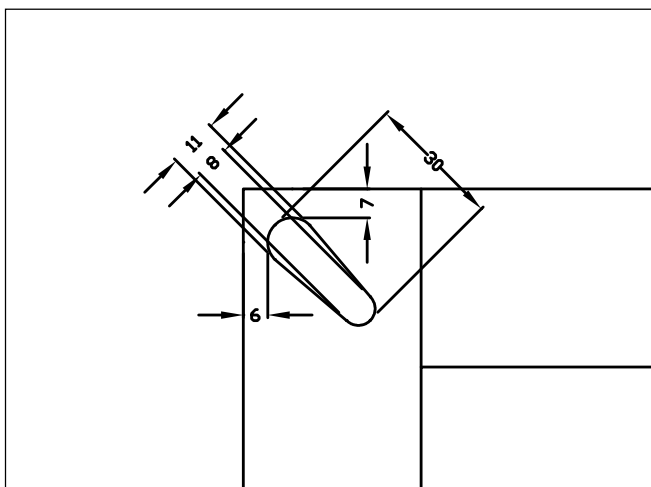


Fixings

Teardrop corner fixing holes

HVC-VCDs 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.



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.

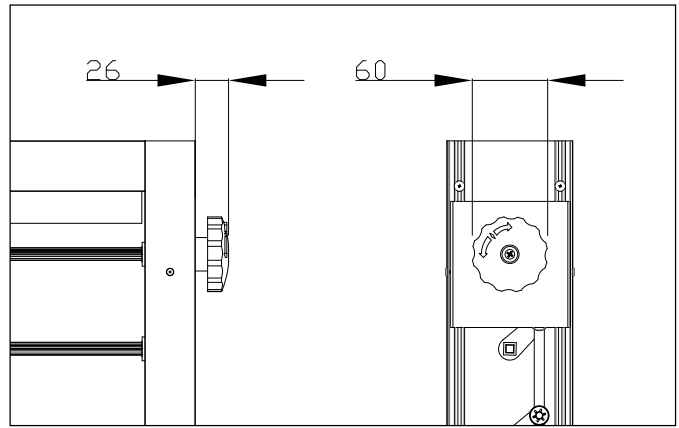
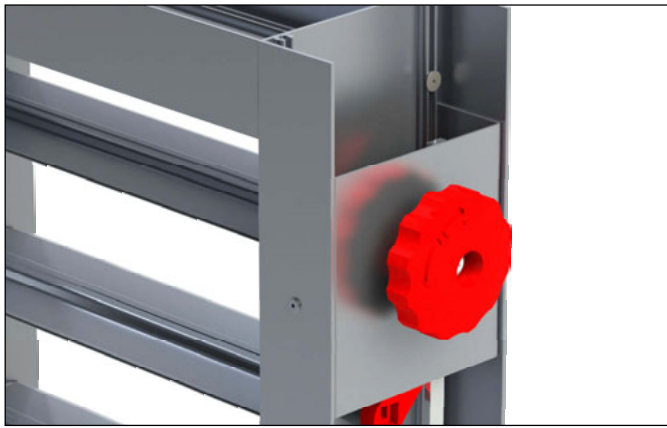
Control options

Manual plastic handles

Standard control method unless damper is high temperature spec.

The red nylon handle is ergonomically designed for ease of use. An embossed arrow on the handle, and a sticker on the handle mounting plate show blade position without needing to look inside the duct.

Lockable with a single pozidrive screw in the handle centre (supplied).

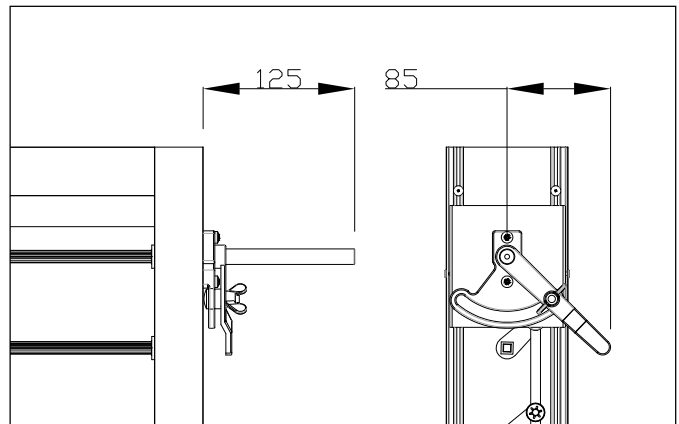
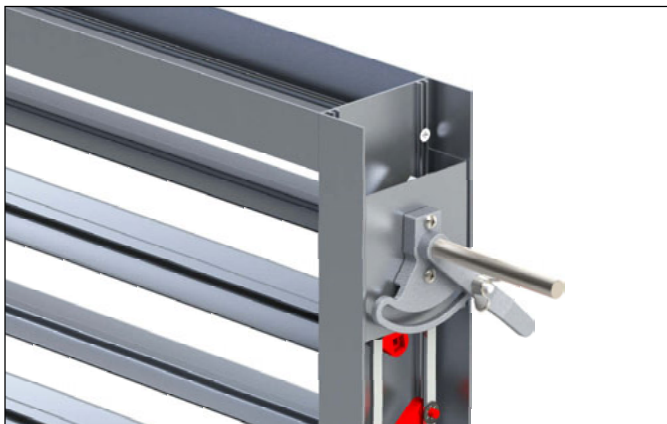


Locking quadrants

Standard control method if damper is high temperature spec.

Cast aluminium locking quadrants can be fitted to enable manual operation of the VCD.

Locking quadrants come with a cast-in position indicator and locking nut.

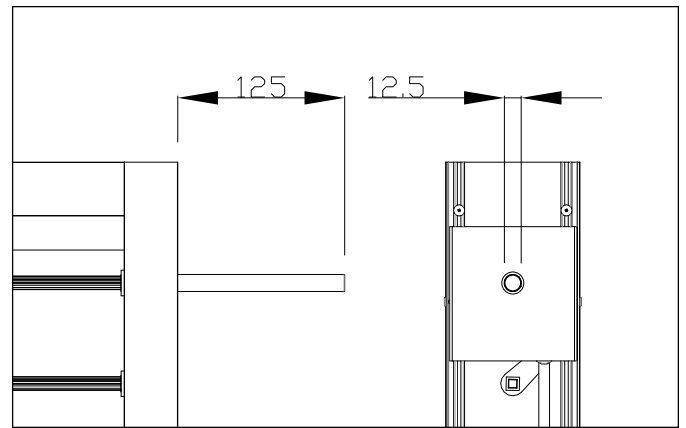


Control options

Extended spindles

Allows fitting of an actuator by others.

- Galvanised steel
- 12.5mm diameter
- Extends 125mm from damper case



Actuators

HVC can supply a range of factory fitted electronic and pneumatic actuators with HVC-VCDs, from manufacturers including:

- **Belimo** - Standard applications
- **Schischek** - Specialist explosion proof actuators
- **Kinetrol** - Pneumatic actuators

Please see pages 8 and 9 for more details on actuators.



Belimo actuators

We recommend the use of Belimo actuators for applications in non-specialist environments.

All actuators are factory fitted and tested to confirm good operation. Other than connection to wiring, no alteration to the actuator is required on site.

Please see the below table to find the series of Belimo actuator you require for your application.



Series	Suitable for HVC-VCDs up to			Voltage		Action			
	0.4m ²	1.0m ²	2.0m ²	24V	230V*	Power open	power close	Spring return	Modulating
LM24A	✓			✓			✓		
LM24A-SR	✓			✓			✓		✓
LM230A	✓				✓		✓		
LM230ASR	✓				✓		✓		✓
NM24A		✓		✓			✓		
NM24A-SR		✓		✓			✓		✓
NM230A		✓			✓		✓		
NM230ASR		✓			✓		✓		✓
SM24A			✓	✓			✓		
SM24A-SR			✓	✓			✓		✓
SM230A			✓		✓		✓		
SM230ASR			✓		✓		✓		✓
LF24	✓			✓				✓	
LF24-SR	✓			✓				✓	✓
LF230	✓				✓			✓	
NF24A		✓		✓				✓	
NF24A-SR		✓		✓				✓	✓
NF230A		✓			✓			✓	
SF24A			✓	✓				✓	
SF24A-SR			✓	✓				✓	✓
SFA			✓	✓	✓			✓	

*Suitable for 240V supply.

Schischek explosion-proof actuators

Schischek produce a range of specialist explosion-proof actuators for use in areas with potentially explosive atmospheres; E.G. petro-chemical plants, whisky distilleries and grain silos.

ATEX approved.

All actuators are factory fitted and tested to confirm good operation. Other than connection to wiring, no alteration to the actuator is required on site.

Please contact us for more information on explosion-proof actuators with HVC aluminium volume control dampers.



Kinetrol pneumatic actuators

We can factory fit HVC aluminium volume control dampers with Kinetrol's compressed air driven pneumatic actuators. A range of additional options including spring return modules can be fitted to enhance functionality.

ATEX approved.

All actuators are factory fitted and tested to confirm good operation. Other than connection to pneumatic lines, no alteration to the actuator is required on site.

Please contact us for more information on pneumatic actuators with HVC aluminium volume control dampers.



Actuator housings

Unless specified, actuators are fitted outside the overall size of the VCD.

It is possible to protect your damper's actuator by specifying an actuator housing.

A modified frame is used, which includes a protected enclosure, and galvanised steel plates fitted either side to cover the space, one of which is left removable. The space is large enough to allow removal of the actuator in the event of failure.

Please note: This will result in a loss of active damper width of 160mm with Belimo LM, NM and SM actuators. Other motor models may require larger enclosures.

Image shows LF uPVC VCD plastic volume control damper which uses the same design.

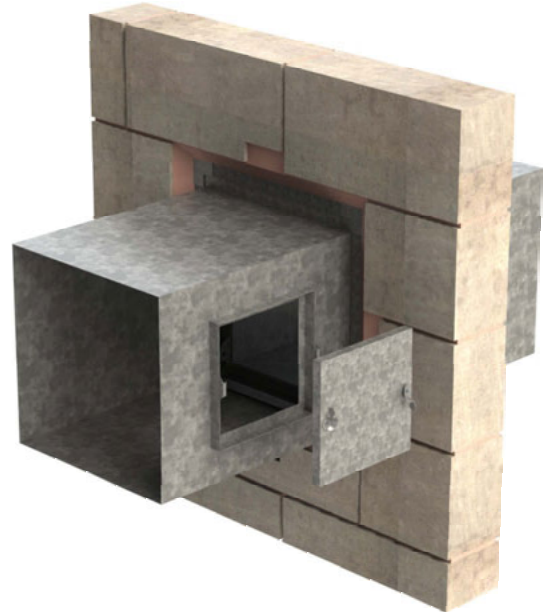


Installation

Series HVC-VCD volume control dampers are mechanical products with moving parts, as such installation should always take into account the requirements of future maintenance, with a view to providing adequate access to dampers.

If being installed into a larger assembly, please ensure provision for access is taken into account, for example through the use of removable access panels.

If being installed into ductwork we are able to supply a full range of access doors to facilitate quick and easy access.



Maintenance

We recommend all HVC-VCD volume control dampers are inspected to ensure good operation at least annually. This may need to be performed more frequently should local conditions dictate it.

An operation and maintenance manual (O & M) for HVC-VCD volume control dampers is available via:

www.h-v-c.com



Notes

Finish

Mill aluminium (standard)

Polyester powder coating to any RAL or BS colour



Ordering codes

Example

1 - 1000 x 1000 - HVC-VCD - ES - SS - Model A - BS - FH - RAL9010 - 1S

Codes

1)	Quantity		
2)	Size (mm)	(Width x height / diameter)	Nominal size
3)	Series	HVC-VCD	Aluminium volume control 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)	Options	ES SS HT	Blade edge seals (both ES and SS can be specified together) Stainless steel frame side seals (both ES and SS can be specified together) High temperature specification (cannot be specified with blade edge seals - ES)
6)	Frame type	*nothing* 40:10	Frame with 40mm flanges both sides (standard) Frame with 40mm flange one side and 10mm wide flange on other (only available with Model A connection type)
7)	Fixing holes	TD *custom layouts*	Teardrop corner fixing holes (only available with Model A connection type) Please describe any custom fixing hole layouts on the order
8)	Debris screens	BM IM	Bird mesh (12mm x 12mm mesh) Insect mesh
9)	Blade motion	*nothing* Parallel	Opposed motion (standard) Parallel motion
10)	Control	*nothing* EX LQ (Actuator)	Lockable plastic handle (standard) Extended spindle Locking quadrant State actuator code When ordering a spring return actuator, please specify whether you require spring open or spring close operation.
11)	Actuator housing	AH	Actuator housing
12)	Finish	Mill RAL... BS...	Mill aluminium (standard) Polyester powder coated to RAL... Polyester powder coated to BS...

Important: Size will be taken to be nominal (damper throat) unless stated otherwise.

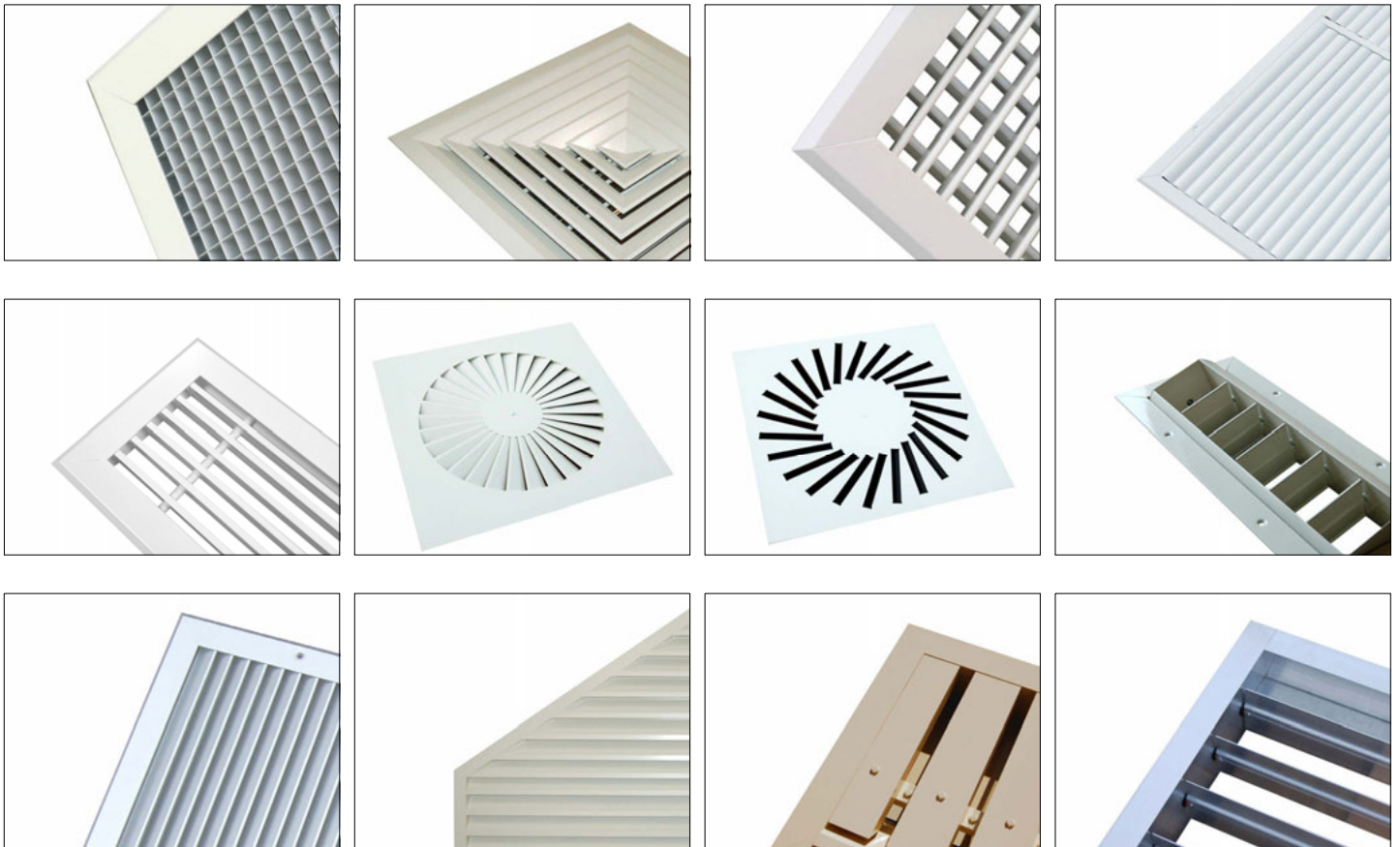
Leave code section blank if no option is required..

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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