



## Louvre systems

### Series AL Acoustic louvres

*Incorporating*



- Fully tested to BS EN ISO 10140-2:2010 (acoustic attenuation) and BS EN 13030:2001 (weather resistance)
- $R_w$  figure up to 25 dB with AL600
- Designed to suppress noise transmission from areas like plant rooms, car parks etc
- Polyester powder coating to any RAL or BS colour available



## Series AL

Recently redesigned, Series AL acoustic louvres offer proven levels of noise attenuation, along with rain rejection and low resistance to airflow, all in one great looking unit.

Manufactured to order from laser cut galvanised steel, Series AL louvres are completely bespoke, enabling us to manufacture to almost any size.

Available in three depths; 150mm, 300mm and 600mm, with noise attenuation levels of up to 25 dB ( $R_w$ ), there is an appropriate acoustic louvre for any installation.

Care has also been taken to ensure that whichever depth is required, all series have the same appearance from the front, meaning different depths of louvre can be used on the same installation with no difference of appearance.

Our in house powder coating facility also means that we can supply acoustic louvres with a durable polyester powder coated finish in any RAL or BS colour.



## Design features

<b>Material</b>	Galvanised steel sheet and perforated plate Rockwool RW3 mineral wool insulation BZP steel pop-rivets - Please note rivet heads are left unpainted and are visible on the sides of the unit
<b>Sizes</b>	Minimum height: AL150: 250mm nominal (260mm if a 50mm outer frame is required) AL300 and AL600: 450mm nominal (460mm if a 50mm outer frame is required)  If a 300mm or 600mm deep unit is required but the height is between 250mm and 450mm, either two or four AL150 units will be supplied for installation back-to-back respectively.
<b>Core</b>	Non-removable
<b>Finish</b>	Standard: Galvanised steel Optional: See page 8
<b>Mass/m<sup>2</sup> face area (approx.)</b>	AL150 - 35kg AL150DBL - 70kg AL300 - 50kg AL600 - 100kg
<b>Free area</b>	Varies - Please see page 6 for more information

## Quality assurance

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



Assessed to ISO 9001  
Cert/Ref No. 1186

## Product testing

### Acoustic testing

Series AL acoustic louvres have been tested against:

**BS EN ISO 10140-2:2010**

Acoustics - Laboratory measurement of sound insulation of building elements - Measurement of airborne sound insulation

The testing was carried out in November 2017 by Exova in High Wycombe, Buckinghamshire, England.

The units tested were of nominal size 1000mm x 1100mm.

Copies of the test report are available on request.



Model	Sound reduction figures		
	R <sub>w</sub> (dB)	R <sub>w</sub> +C (dB)	R <sub>w</sub> +C <sub>tr</sub> (dB)
AL150	11	11	9
AL150 double layer	20	19	15
AL300	18	17	14
AL600 (Two AL300 back-to-back)	25	24	19

### Weather resistance testing

Series AL acoustic louvres have been tested against:

**BS EN 13030:2001**

The testing was carried out in March/April 2018 by BSRIA in Bracknell, Berkshire, England.

The test unit was a model AL300 and of nominal size 1000mm x 1100mm.

Copies of the test report are available on request.



Louvres are subjected to simulated rainfall of 75mm per hour, with a wind speed of 13m/s (29mph).

Rain ingress is then measured at various draw speeds through the louvre, this is in addition to the constant 13m/s simulated wind speed.

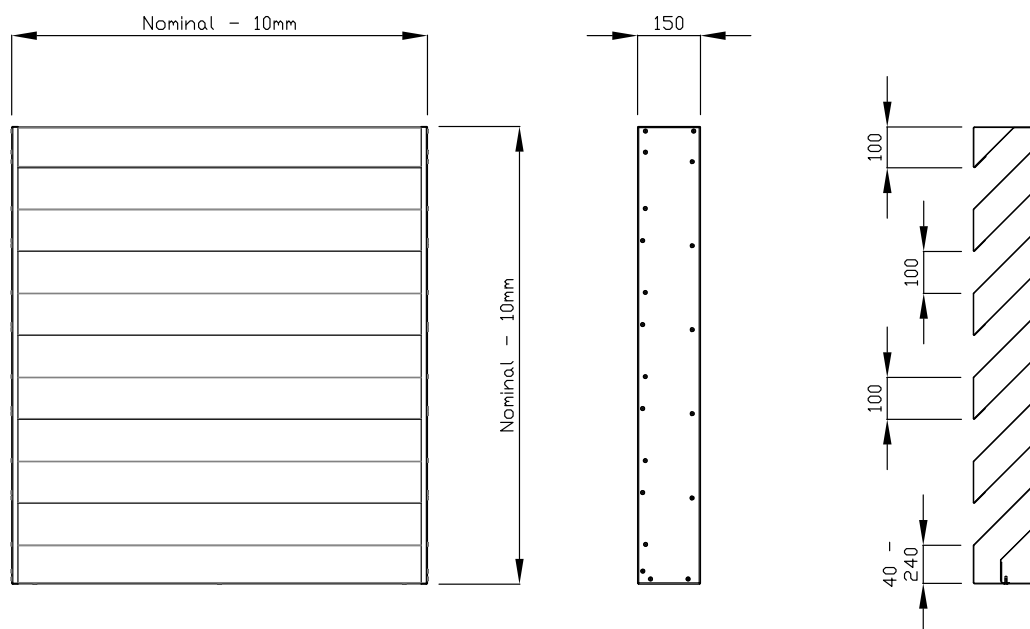
**Mean airflow coefficient:** 0.178 (Class 4)

**Rain rejection:** See table

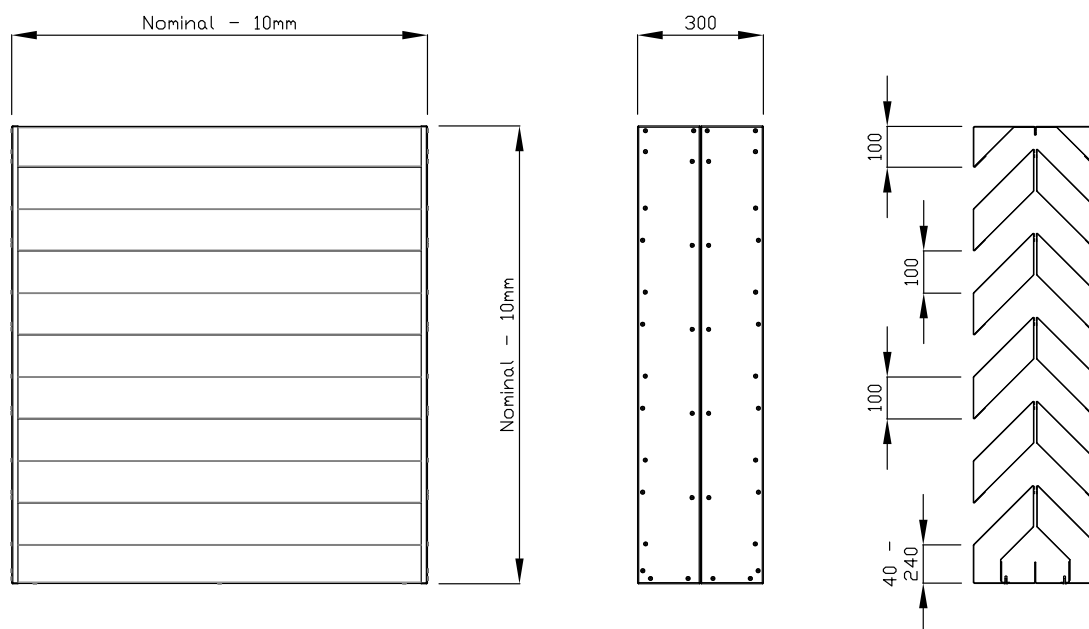
Draw velocity (m/s)	Effectiveness	Class
0.00	98.5%	B
0.50	94.4%	C
1.00	84.3%	C
1.50	75.8%	D
2.00	68.5%	D
2.50	57.6%	D
3.00	39.3%	D
3.50	31.6%	D

## Technical drawings

### AL150: 150mm deep single layer - $R_w$ 11 dB



### AL150DBL: 150mm deep double layer - $R_w$ 20 dB



**Please note:**

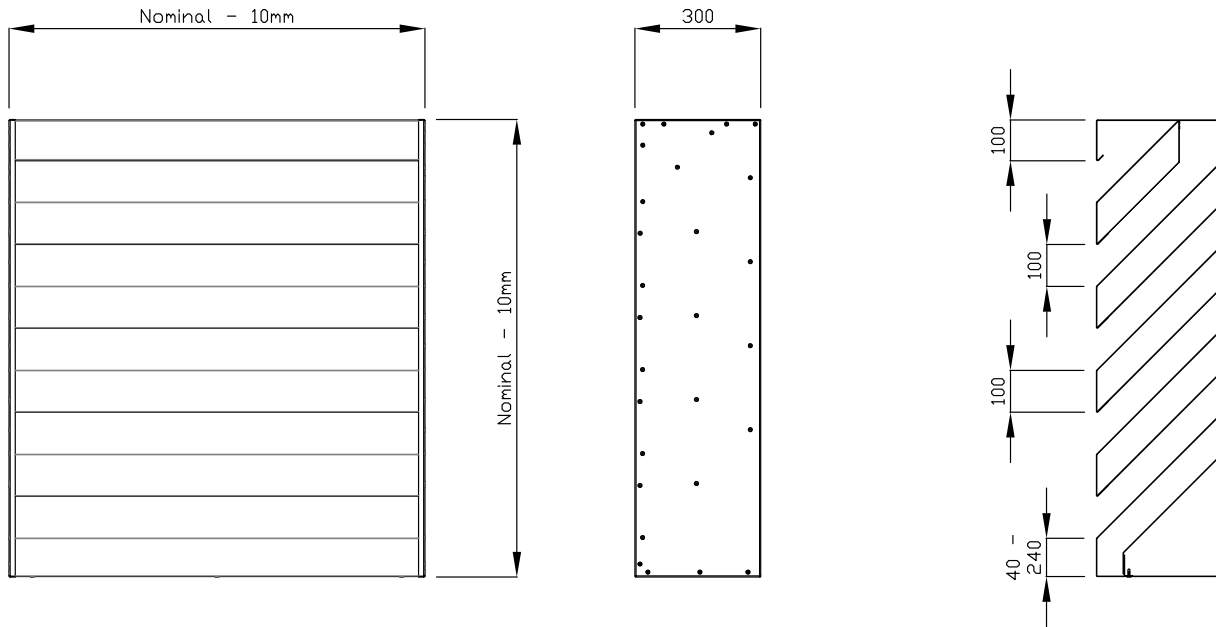
AL150DBL double layer units are required where a 300mm deep unit is required with a height of 250mm - 450mm.

AL150DBL units are supplied as two separate AL150 150mm deep louvres designed to be fixed in position independently - There are no pre-cut fixing holes for joining units to each other.

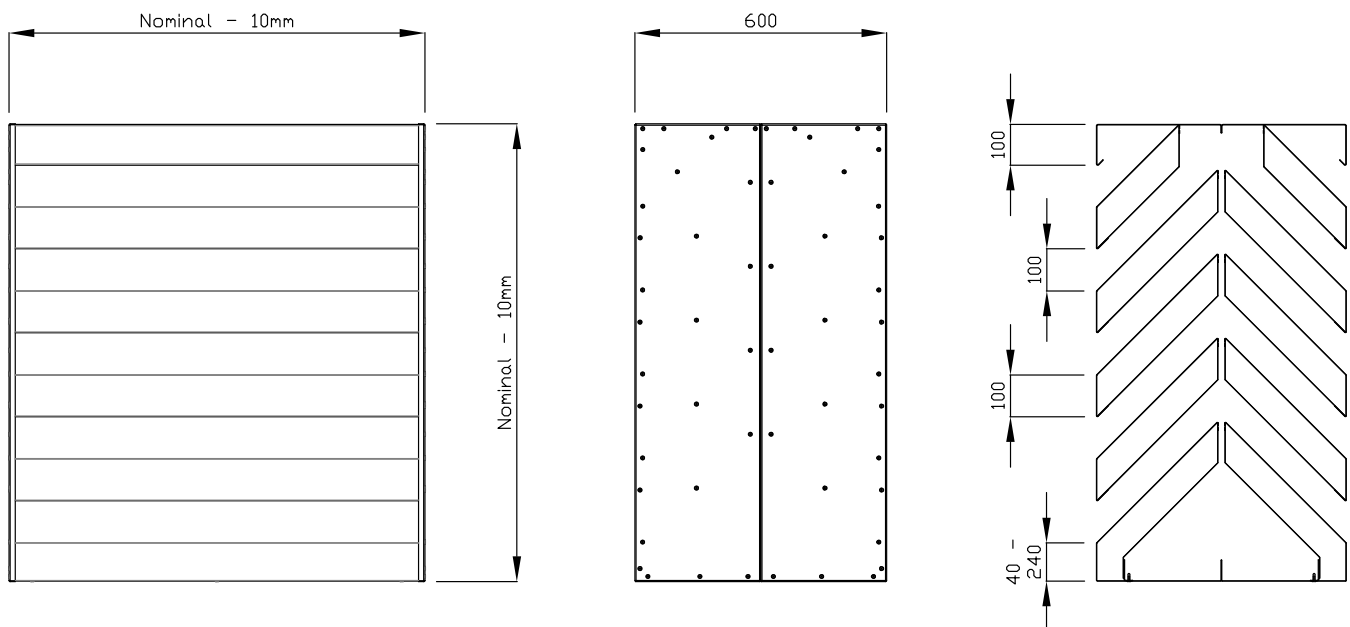
If an outer frame is required, units will be produced with an additional 10mm of tolerance (overall = nominal - 20mm), please see page 7 for more information.

## Technical drawings

### AL300: 300mm deep single layer - $R_w$ 18 dB



### AL600: 300mm deep double layer - $R_w$ 25 dB



**Please note:**

AL600 units are supplied as two separate AL300 300mm deep louvres designed to be fixed in position independently

There are no precut fixing holes for joining units to each other.

If an outer frame is required, units will be produced with an additional 10mm of tolerance (overall = nominal - 20mm), please see page 7 for more information.

## Further information - Large units

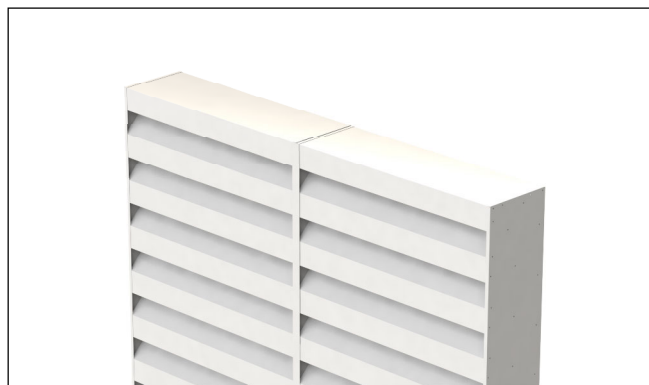
Where sufficiently large and/or heavy, acoustic louvres will be supplied in sections for assembly on site.

If units are to be supplied in sections, HVC's design team will liaise with you to confirm the design prior to the units being manufactured.

### Side-by-side sections

Side-by-side sections will be produced as regular single section louvres for positioning adjacent to each other, with joining holes precut to allow fixing together.

A tolerance will be taken into account for rivet heads which protrude slightly from the side of each unit, and a length of aluminium 'T' section (in the same finish as the louvre if powder coated) will be supplied to cover the gap between the units which this produces.

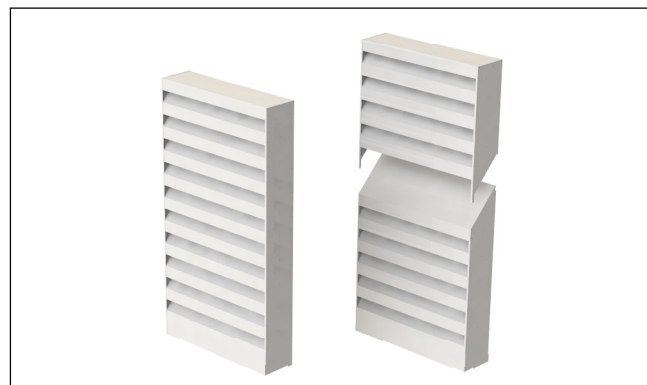


### Stacked sections

Stackable sections are designed to be assembled on site.

Precut holes in the frame sides line up with matching holes in an enlarged blade. Assembly is then quick and simple using 4.8mm pop-rivets (supplied by HVC, suitable rivet gun required by installers).

The outer frames are laser cut to provide a seamless appearance when stacked.



## Important note - Free areas

Due to the large blade design required by the necessity to absorb sound, the free areas of some sizes of acoustic louvre can be smaller than may be expected.

Please see the table adjacent for approximate free area percentages based on nominal height.

Values are calculated using the sum of the height of passages between blades in the vertical plane divided by the stated nominal height.

Please note that this table is intended to be a guide only, and that the free area of an actual louvre may vary slightly from these values due to fitting tolerances etc.

Free area percentages and number of blade passages				
Nominal height (mm)	AL150		AL300	
	Free area	No. of blade passages	Free area	No. of blade passages
250	15%	1	N/A	N/A
300	12%	1	N/A	N/A
350	11%	1	N/A	N/A
400	9%	1	N/A	N/A
450	30%	2	20%	1
500	27%	2	18%	1
550	25%	2	16%	1
600	23%	2	15%	1
650	36%	3	29%	2
700	34%	3	27%	2
750	31%	3	25%	2
800	29%	3	23%	2
850	39%	4	34%	3
900	37%	4	32%	3
950	35%	4	30%	3
1000	34%	4	29%	3

## Options

### 50mm frame

For a more conventional appearance, and also serving to conceal the edge of a builderswork opening, a 50mm outer frame with 19mm internal overlap can be supplied.

Supplied loose, louvres should first be positioned centrally within their aperture and fixed into place; the outer frame can then be fitted, giving a seamless appearance.

Outer frames are intended to be for appearance purposes only, and should not be relied upon to support acoustic louvres.

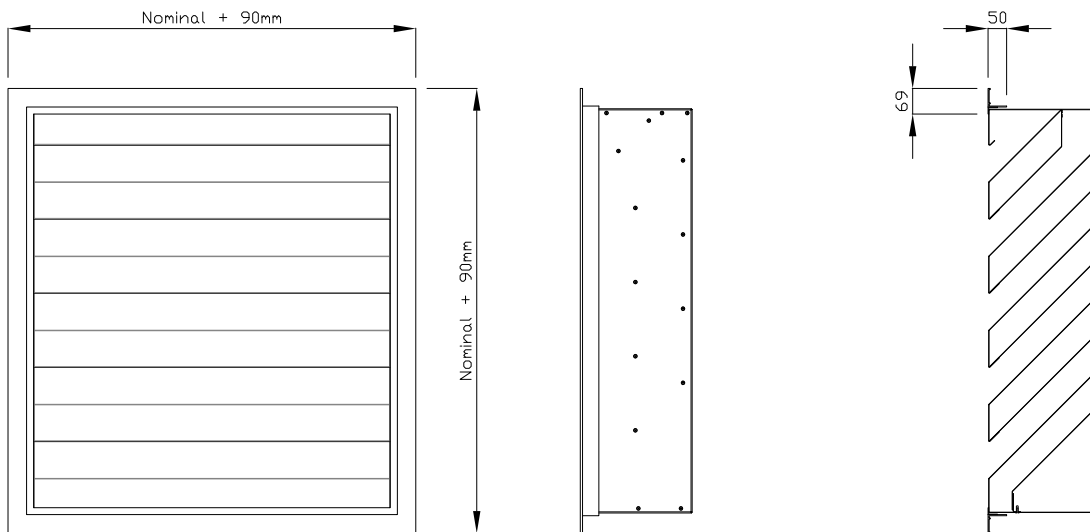
Frame sizes other than 50mm can be supplied if required, please contact HVC for more information.

**Please note:**

Acoustic louvres specified with outer frames are manufactured with an increased tolerance of 20mm to provide clearance for the neck of the frame.

If it is decided a frame is required after a louvre has been manufactured, the builderswork aperture size will need to be enlarged by 10mm all-round to accommodate the frame.

Minimum nominal heights are affected by specification of a 50mm frame, see page 2 for information.



### Doors

Acoustic louvre doors can be manufactured if required.

Comprising an acoustic louvre panel mounted into a fully welded steel box section inner frame, with either a steel frame or stanchions serving as the outer frame, acoustic louvre doors enable access to be maintained to areas requiring noise attenuation.

Acoustic louvres doors can be provided as standalone units or as part of a larger bank of acoustic louvres.

Please discuss any requirements for acoustic louvre doors with HVC.

## Finish

Galvanised steel (standard)

Polyester powder coating to any RAL or BS colour



## Ordering codes

### Example

1 - 1000 x 1000 - AL300 - BM - 50FS - FH - RAL9010 - 1S

### Codes

1)	<b>Quantity</b>		
2)	<b>Size (mm)</b>	(Width x height)	
3)	<b>Series</b>	AL150 AL150DBL AL300 AL600	150mm deep acoustic louvre 300mm deep acoustic louvre (made up of two AL150 louvres supplied separately) 300mm deep acoustic louvre 600mm deep acoustic louvre (made up of two AL300 louvres supplied separately)
4)	<b>Debris screens</b>	BM IM VM	Bird mesh (12.7mm x 12.7mm weave, galvanised steel) Insect mesh (1.6mm x 1.6mm weave, G304 stainless steel) Vermin mesh (6mm x 6mm weave, G304 stainless steel)
5)	<b>Outer frame</b>	<i>*nothing*</i> 50FS	Recessed design (standard, no outer frame) 50mm frame with concealing angle (optional, supplied loose and for aesthetic purposes only - not to be used for support)
6)	<b>Fixings</b>	FH	Pre-punched face fixing holes in optional outer frame
7)	<b>Finish</b>	Galv RAL... BS...	Galvanised steel (standard) Polyester powder coated to RAL... Polyester powder coated to BS...
8)	<b>Sections</b>	_S	Number of sections required. If left blank this will be confirmed on order acknowledgement

**Important:** Size will be taken to be nominal (hole internal) unless stated otherwise.

Leave code section blank if no option is required.

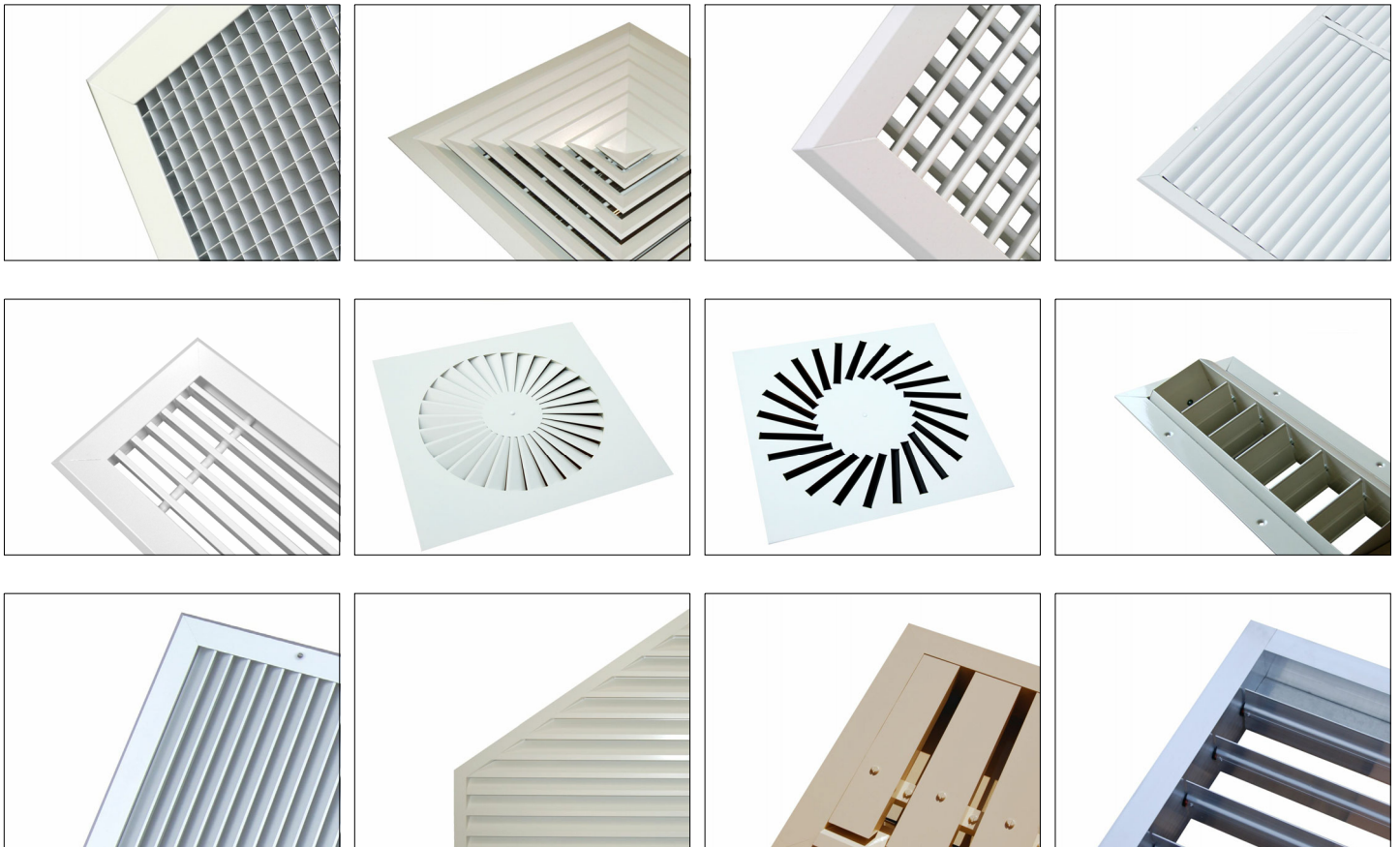


## HVC & NCA products

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](http://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

HVC Supplies (Stourbridge) Ltd  
Jason House  
Amblecote  
West Midlands  
DY8 4EY  
United Kingdom

Tel: +44 (0)1384 376555  
Fax: +44 (0)1384 392555

sales@h-v-c.com

[www.h-v-c.com](http://www.h-v-c.com)

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