



Incorporating



Volume Control Dampers

Series LF uPVC-VCD

High performance plastic volume control dampers

- 2.76 m³/hr/m² leakage at 50 Pa, over 70% better than required by Part L of Building Regulations
- Corrosion resistant, perfect for chlorinated atmospheres or coastal areas
- Low U value of 1.2 W/m²K
- Low torque design
- Full range of actuators
- Available painted to any RAL or BS colour
- Now tested for acoustic performance against BS EN ISO 10140-2:2010



Series LF uPVC-VCD

The Series LF uPVC-VCD is an exceptionally low leakage volume control damper, designed for use in highly energy efficient buildings and proven in independent tests to have a leakage over 70% below that currently required by Part L of Building Regulations.

The plastic construction:

- Serves to make the whole damper a thermal break, as opposed to some rival products which attempt to modify an existing metal VCD design using thermal breaks.
- Is corrosion resistant. Perfect for coastal areas, chlorinated atmospheres such as swimming baths, and anywhere dampers may be exposed to elevated moisture levels.

As with all HVC volume control dampers, the drive system is fully protected by being enclosed within the frame. This avoids it coming into contact with dust and debris which would adversely affect performance and warrant more frequent maintenance.



Design features

Material	Extruded rigid uPVC frame and blades Aluminium blade cores Stainless steel seals and fixings
Sizes	Minimum: 100mm x 105mm nominal Maximum single unit: 1500mm width, 1005mm height or 1005mm diameter. Above any of these, units would be made in sections or with mullions.
Frame	40mm flanges 130mm overall depth
Finish	Standard: White uPVC Optional: Painted to any RAL or BS colour
Operation	Opposed blade, gear driven
Controls	Standard: Extended spindle for motorisation by others Optional: Locking quadrant Factory fitted electronic, pneumatic or ATEX rated actuators Please see pages 5 - 7 for more information on controls
Mass/m² face area	17.5 kg
Free area	75% maximum

Quality assurance

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



Assessed to ISO 9001
Cert/Ref No. 1186

Product testing

Leakage testing

Series LF uPVC VCDs have been tested for air-tightness when fully closed.

Part L of Building Regulations defines the maximum air permeability of a building as 10 m³/hr/m² when measured at 50 Pa.

LF uPVC-VCDs have a leakage of 2.76 m³/hr/m² at 50 Pa, exceeding the Part L requirement by over 70%.

The test damper was of nominal size 1000mm x 1005mm.



Testing & Inspection

Test report number G2619/7610

The testing was carried out in July 2015 by Building Testing Ltd in Surrey, England.

Copies of the test report are available on request.

Static pressure (Pa)	Air leakage	
	Low pressure specification	
	l/s	m ³ /hr/m ²
25	0.40	1.43
50	0.77	2.76
75	1.00	3.58
100	1.17	4.19
150	1.57	5.62
200	1.96	7.03
250	2.09	7.48
500	3.48	12.47
750	5.32	19.05
1000	6.98	25.00
1250	9.29	33.27
1500	11.97	42.88
1750	14.18	50.80
2000	17.71	63.44

Product testing continued

Acoustic attenuation testing

Series LF uPVC-VCD high performance plastic volume control dampers 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 June 2017 by Exova in High Wycombe, Buckinghamshire, England.

The unit tested was of nominal size 1000mm x 1005mm.

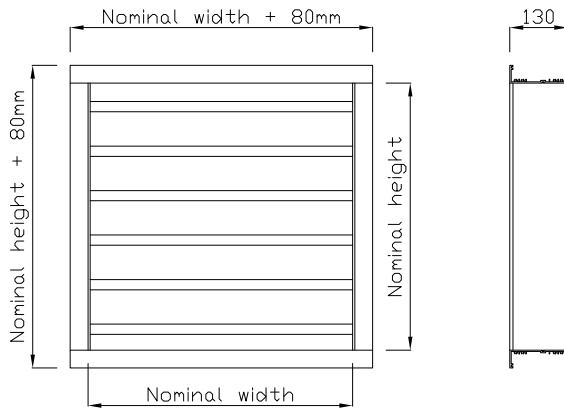
Copies of the test report are available on request.



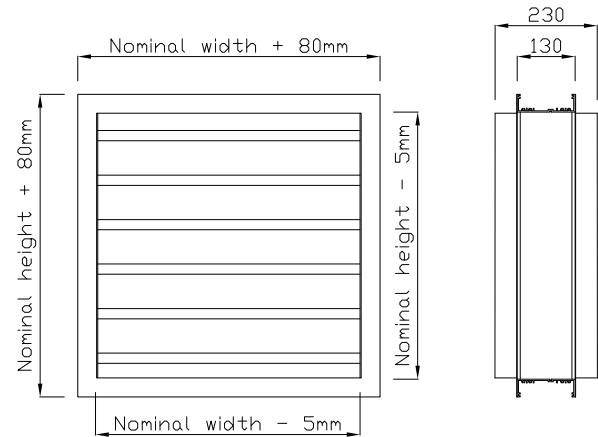
Blade setting	Sound reduction figures		
	R_w (dB)	R_w+C (dB)	R_w+C_{tr} (dB)
Fully open	2	2	2
Half open	3	3	3
Fully closed	20	20	19

Technical drawings

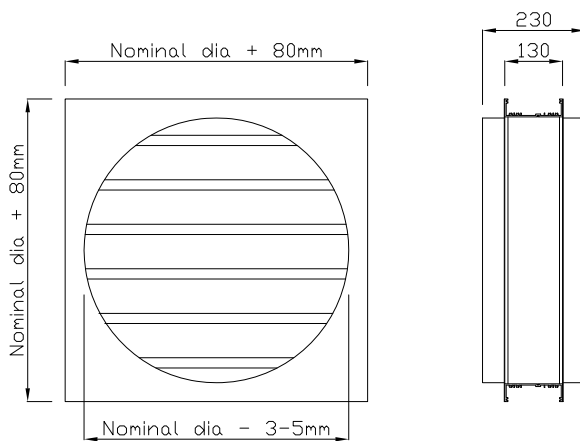
Model A: Square flanged



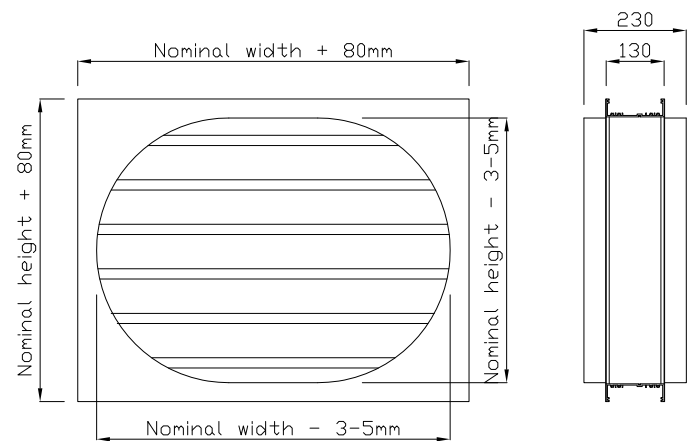
Model B: Square spigotted



Model C: Circular spigotted



Model D: Flat oval spigotted



If nominal size exceeds 1500mm wide, 1005mm high, or 1005mm diameter, units will either be manufactured in sections, or have mullions to divide the blade pack.

Spigots are manufactured from galvanised steel, polyester powder coated white.

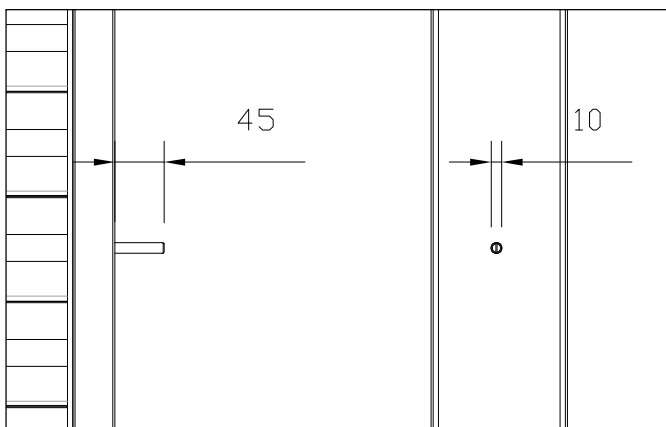
Manufacturing tolerance: + or - 1mm

Controls

Extended spindle (standard control method unless stated)

Allows fitting of an actuator by others.

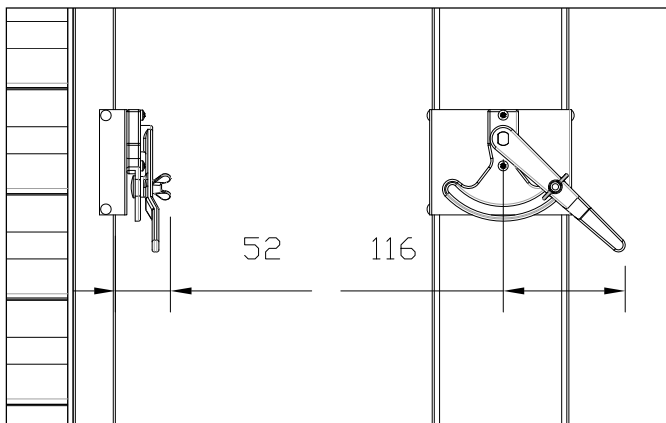
- Stainless steel
- 10mm diameter
- Extends 45mm from gear cover plate



Locking quadrant

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.



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 LF uPVC-VCDs up to			Voltage		Power open power close		Action	
	0.4m ²	1.0m ²	2.0m ²	24V	230V*			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		✓		✓				✓	✓
NFA		✓		✓	✓			✓	
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 LF uPVC-VCDs.



Kinetrol pneumatic actuators

We can factory fit LF uPVC VCDs 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 LF uPVC-VCDs.



Motor housings

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

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

A modified frame is used, which includes a protected enclosure, and uPVC 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.

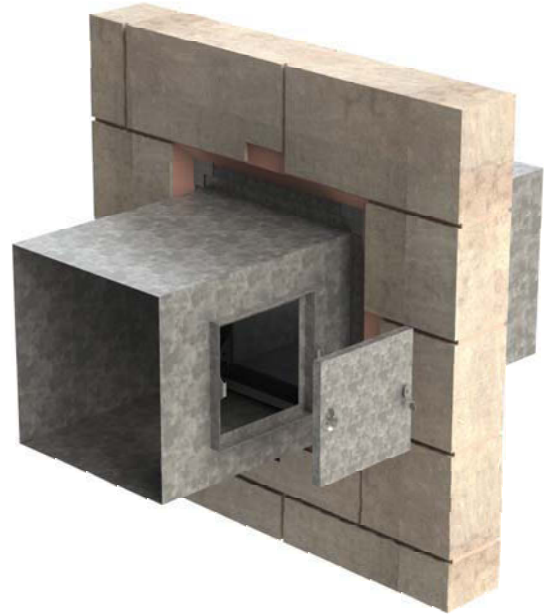


Installation

LF uPVC 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

Maintenance is essential to ensure LF uPVC VCDs operate satisfactorily throughout their working life.

For this reason we recommend that all LF uPVC VCD volume control dampers are inspected and maintained if necessary 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 Series LF uPVC VCDs is available via:

www.h-v-c.com/oandm

Finish

White uPVC as standard

Painted to any RAL or BS colour

Please note: Blade end caps, blade tip and blade side seals will remain in natural finish should you require your damper to be painted.



Ordering codes

Example

1 - 1000 x 1005 - LF uPVC-VCD - Model A - Belimo NM24A-SR - MH - RAL7012

Codes

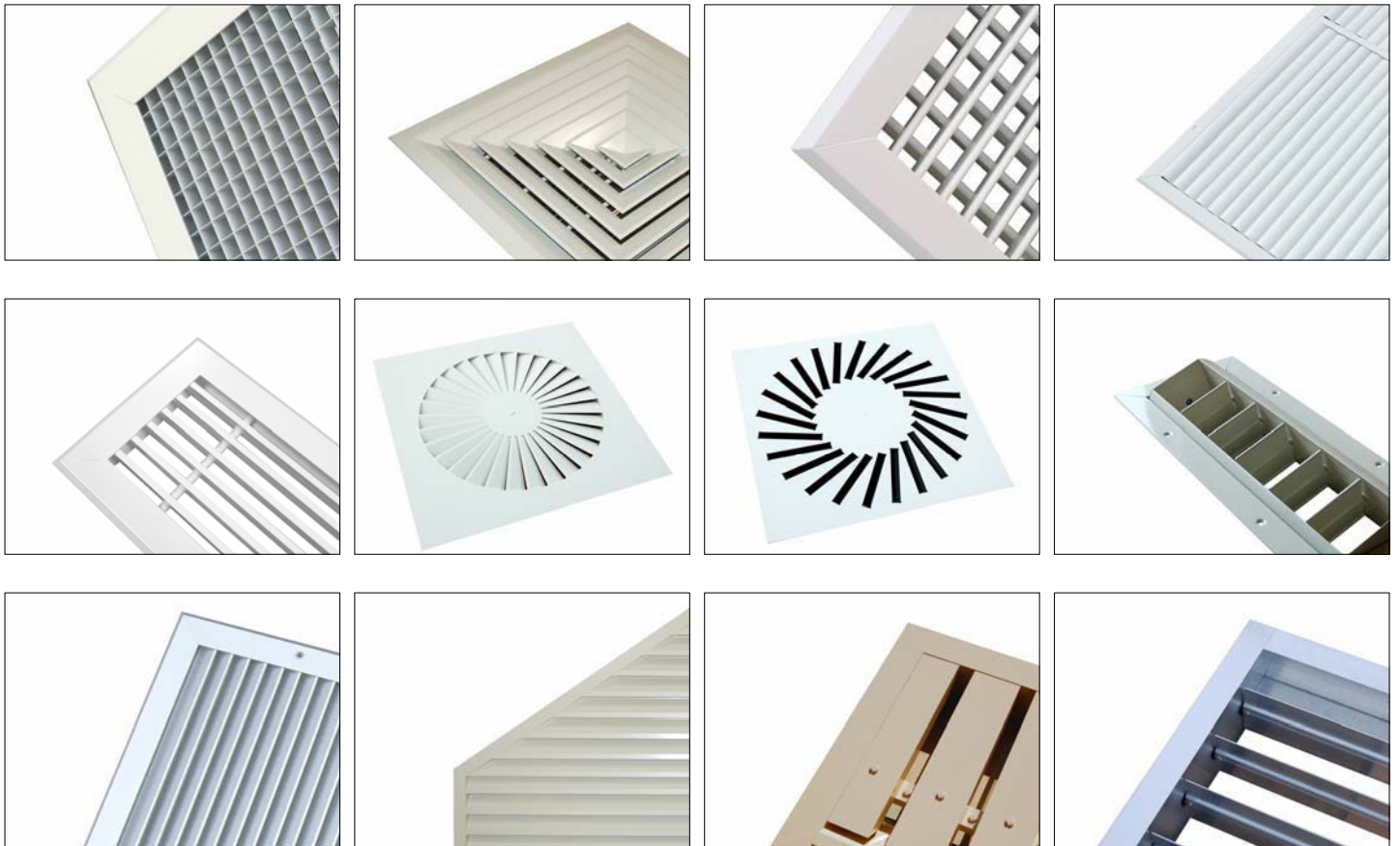
1)	Quantity		
2)	Size (mm)	(Width x height)	Nominal size
3)	Series	LF uPVC-VCD	High performance plastic volume control damper
4)	Model	Model A Model B Model C Model D	Square flanged (standard) Square spigotted Circular spigotted Flat oval spigotted
5)	Control	EX LQ (Actuator)	Extended spindle (standard) Locking quadrant State actuator code When ordering a spring return actuator, please specify whether you require spring open or spring close operation.
6)	Motor housing	MH	Motor housing to protect actuator
7)	Finish	<i>*nothing*</i> RAL... BS...	White uPVC (standard) Painted to RAL... Painted to BS...

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

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

All details within this brochure are correct at time of publication. However HVC's policy is one of continual product development. The right is reserved to alter any details published in this brochure without any prior notice. Any changes will appear on www.h-v-c.com as soon as is practically possible.

All information in this brochure is designed to be used for informative purposes only. HVC will not be legally bound by anything contained within this publication, or any other information distributed.

All references to companies not part of the HVC group of companies are used with the permission of their respective owners.