



Monodraught are the recognised market leaders in ultra-low carbon, low energy solutions for Natural Ventilation, Natural Cooling and Natural Lighting.

WINDCATCHER[®], **SUNPIPE**[®] and **COOL-PHASE**[®] brands are synonymous with quality and innovation (ISO9001 & 14001) and are supported by our market leading design service.

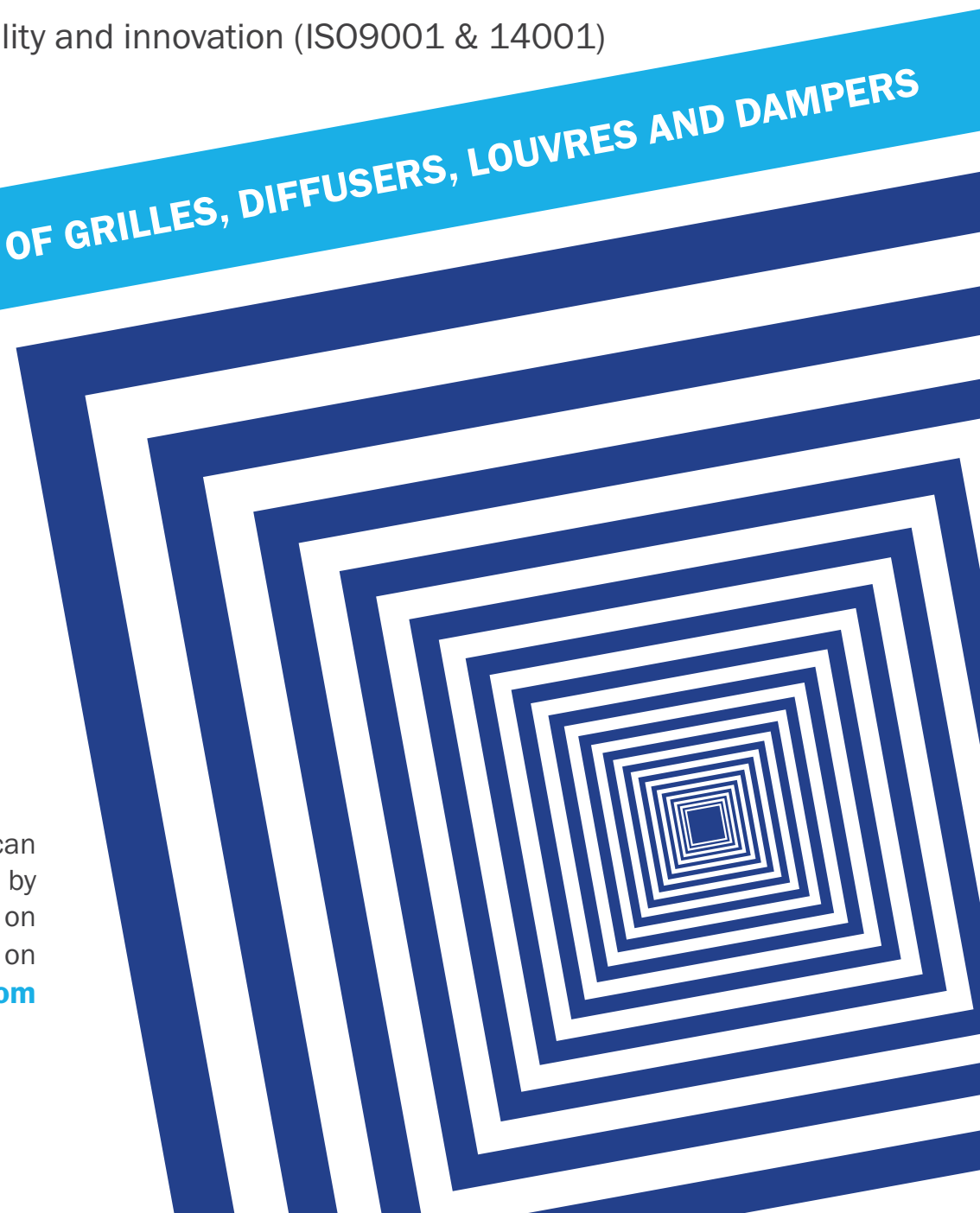
Air-Precision is an addition to Monodraught's portfolio including grilles, diffusers, external louvres and volume control dampers.

PRODUCT RANGE OF GRILLES, DIFFUSERS, LOUVRES AND DAMPERS

We are supporting this range with:

- £1 million of fast moving stock
- Bespoke manufacture with any standard RAL colour within 5 days
- 15 dedicated selection experts
- Designed with industry leading software
- Belimo actuators used throughout
- AA5 anodisation (ISO7599) utilised
- Market leading quality fully supported by a **10 year guarantee**

We are confident that we can beat any quotation you have by 10% so please contact us on **01494897700** or email us on **air-precision@monodraught.com**



Large Format Volume Control Dampers - LF uPVC-VCD



The Series LF uPVC-VCD is an exceptionally low leakage volume control damper, designed for highly energy efficient buildings.

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 air-precision volume control dampers, the drive 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.

LF uPVC-VCDs are now available with low pressure and high pressure specifications.

Materials:

- Extruded rigid uPVC frame and blades
- Aluminium blade cores
- Stainless steel seals and fixings

Sizes:

- Minimum: 100 mm x 105 mm nominal
- Maximum single unit: 1500 mm width, 1005 mm height or 1005 mm diameter. Above any of these, units would be made in sections or with mullions.

Frame:

- 40 mm flange
- 130 mm overall depth

Operation:

- Opposed blade, gear driven

Mass /m² face area:

- 17.5 kg

Free Area:

- 75% maximum

Options:

Model:

- Model A: Square flanged
- Model B: Square spigotted
- Model C: Circular spigotted
- Model D: Flat oval spigotted

Pressure rating:

- “Nothing”: Low pressure specification (for pressures up to 100 Pa including natural ventilation)
- HP: High Pressure specification (for pressure over 100 Pa)

Control:

- EX: Extended spindle (standard)
- LQ: Locking quadrant
- Actuator: When ordering a spring return actuator, please specify whether you require spring open or spring close operation.

Actuator Protection:

- Protected: Actuator enclosure built into damper

Large Format Volume Control Dampers - LF uPVC-VCD

Low and High Pressure Specifications:

Series LF uPVC-VCDs are available in two specifications:

- **Low Pressure (standard):**
Recommended for applications with static air pressures up to 100 Pa, including all natural ventilation applications.
- **High Pressure (optional);**
Recommended for applications with static air pressures over 100 Pa.

This difference in performance is achieved by using different blade tip seals.

Product Testing:

Leakage testing

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

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

LF uPVC-VCDs with a low pressure specification 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 1000 mm x 1005 mm.

Test Report Number G2619/7610

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

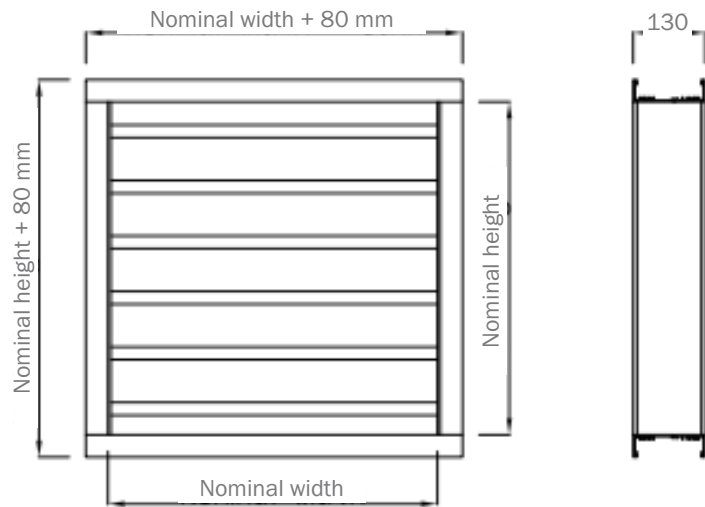


Air Leakage				
Static Pressure (Pa)	Low Pressure Specification		High Pressure Specification	
	l/s	m ³ /hr/m ²	l/s	m ³ /hr/m ²
25	0.40	1.43	0.60	2.15
50	0.77	2.76	0.90	3.22
75	1.00	3.58	1.13	4.05
100	1.17	4.19	1.22	4.37
150	1.57	5.62	1.47	5.26
200	1.96	7.03	1.73	6.19
250	2.09	7.48	1.81	6.49
500	3.48	12.47	3.07	11.00
750	5.32	19.05	4.27	15.29
1000	6.98	25.00	5.49	19.66
1250	9.29	33.27	6.35	22.75
1500	11.97	42.88	7.22	25.86
1750	14.18	50.80	8.24	29.51
2000	17.71	63.44	9.11	32.64

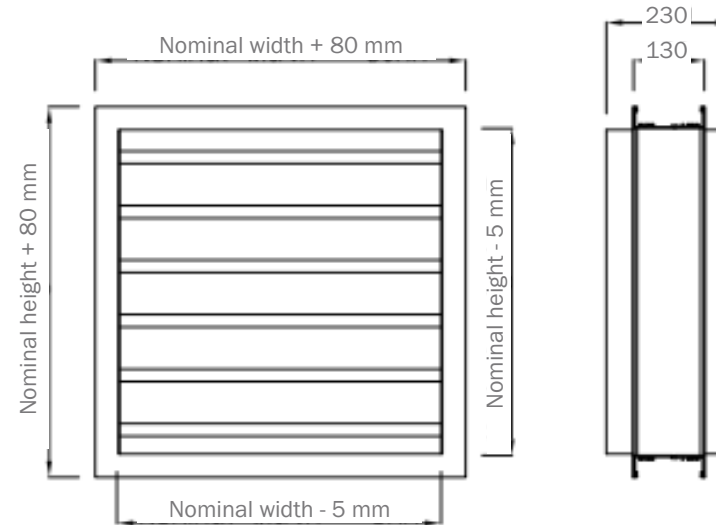
Large Format Volume Control Dampers - LF uPVC-VCD

Technical Drawings:

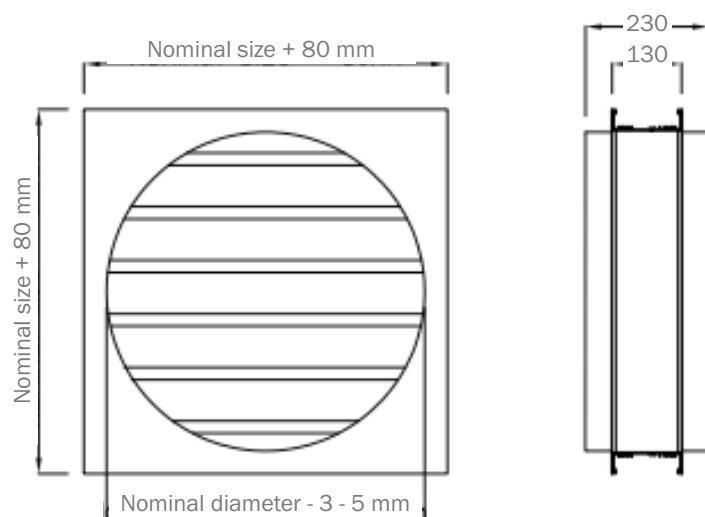
- Model A: Square flanged**



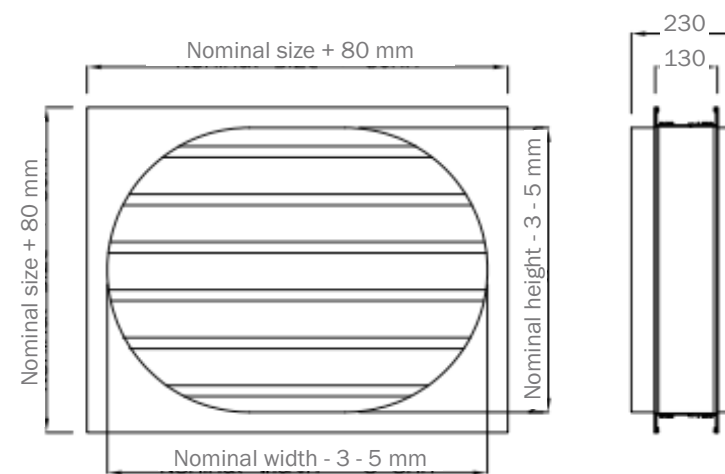
- Model B: Square spigotted**



- Model C: Circular spigotted**



- Model D: Flat oval spigotted**



If nominal sizes exceeds 1500 mm wide, 1005 mm high or 1005 mm 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.

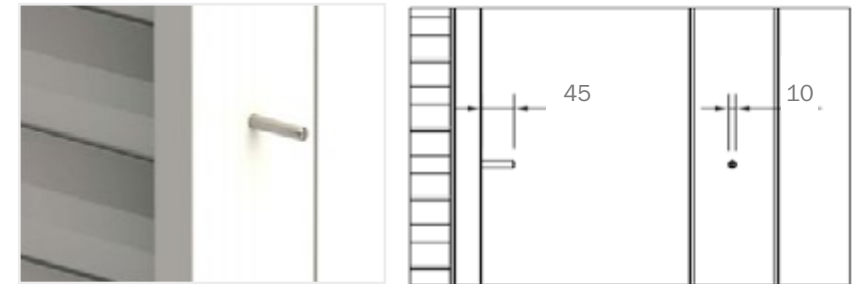
Manufacturing Tolerance: + or - 1 mm.

Manual Controls:

Extended Spindle (standard control method unless stated):

Allows fitting of an actuator by others.

- Stainless steel
- 10 mm diameter
- Extends 45 mm 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.



Large Format Volume Control Dampers - LF uPVC-VCD



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

Series	Suitable for LF uPVC-VCDs up to			Voltage		Action			
	0.4 m ²	1.0 m ²	2.0 m ²	24V	230V*	Power open	Power close	Spring Return	Modulating
LM24A	✓			✓			✓		
LM24A - SR	✓			✓			✓		✓
LM230A	✓				✓		✓		
LM230A - SR	✓				✓		✓		✓
NM24A		✓		✓			✓		
NM24A - SR		✓		✓			✓		✓
NM230A		✓			✓		✓		
NM230A - SR		✓			✓		✓		✓
SM24A			✓	✓			✓		
SM24A - SR			✓	✓			✓		✓
SM230A			✓		✓		✓		
SM230A - SR			✓		✓		✓		✓
LF24	✓			✓				✓	
LF24 - SR	✓			✓				✓	✓
LF230	✓				✓			✓	
NF24A		✓		✓				✓	
NF24A - SR		✓		✓				✓	✓
NF230A		✓			✓			✓	
SF24A			✓	✓				✓	
SF24A - SR			✓	✓				✓	✓
SF230A			✓		✓			✓	

* Suitable for 240V supply.

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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.



Protected actuators enclosures

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 enclosure.

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 140 mm with Belimo LM, NM and SM actuators. Other motor models may require larger enclosures.




Finish:


- Standard: White uPVC
- RAL: Painted to RAL
- BS: Painted to BS


Please Note:


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



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