



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.

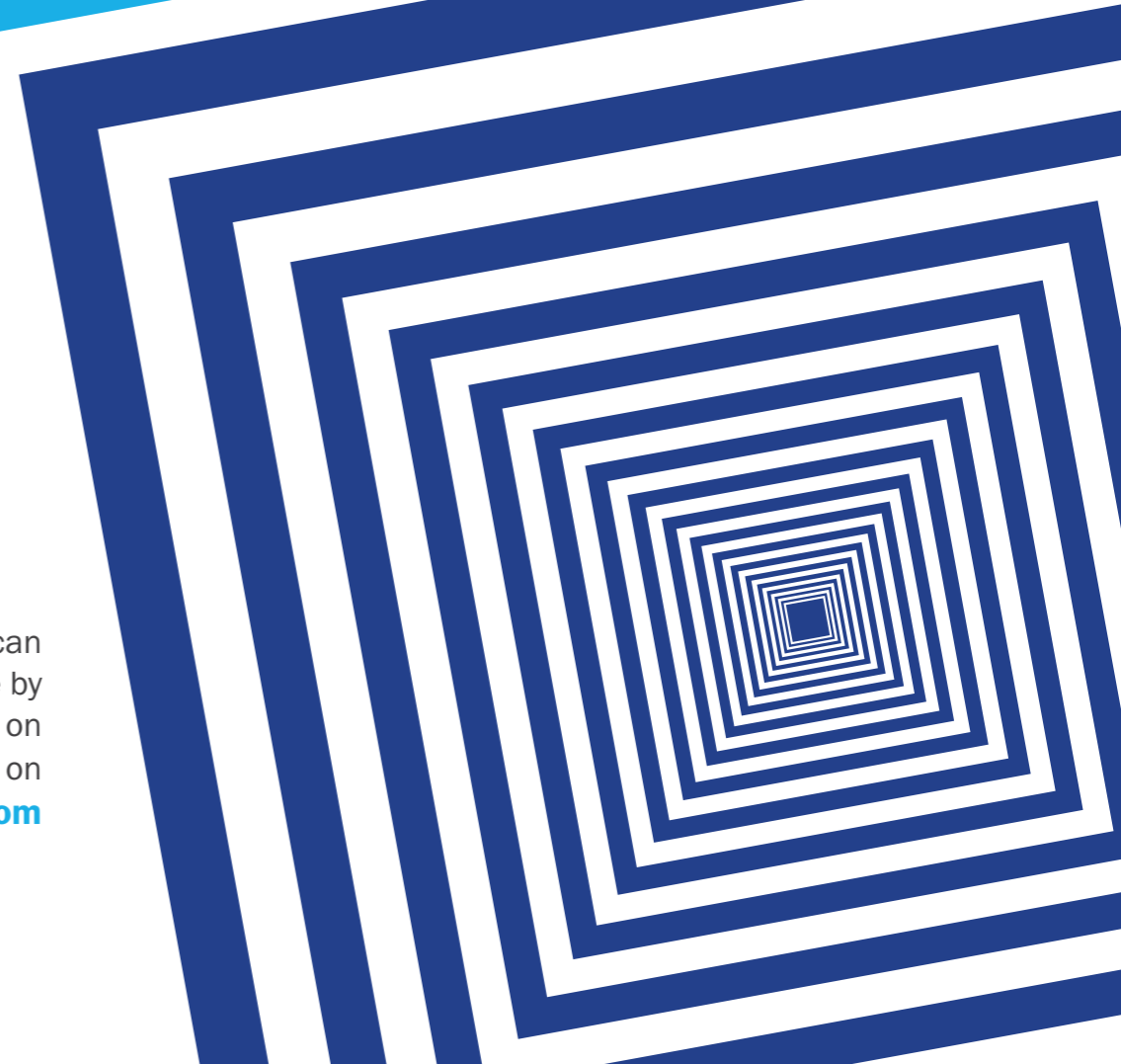
Air-Precision is an addition to Monodraught's portfolio including grilles, diffusers, external louvres and volume control dampers.

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**



Aluminium Volume Control Dampers - VCD



An excellent general purpose volume control damper, 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, including additional blade edge and frame side seals for reduced leakage if required, and 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.

Materials:

- Frame and blades: Extruded aluminium
- Drive system: Acetyl as standard, brass and zinc if high temperature specification
- Galvanised steel spigot plates (if required)

Frame:

- 40 mm flange
- 100 mm overall depth

Mass /m² face area:

- 14 kg

Free Area:

- 86% maximum

Sizes:

- Minimum: 100 mm x 105 mm nominal
- Maximum single unit: 2900 mm x 2900 mm
- Widths above 1200 mm nominal size will use mullions

Options:

Model:

- Model A: Square flanged (standard for square / rectangular sizes)
- Model B: Square spigotted
- Model C: Circular spigotted
- Model D: Flat oval spigotted

Options:

- ES: Blade edge seals (both ES and SS can be specified together)
- SS: Stainless steel frame side seals
- HT: High temperature specification (Cannot be specified with blade edge seals - ES)

Debris:

- BS: Bird screen (12 mm x 12 mm mesh)
- IS: Insect screen

Control:

- "Nothing": Lockable plastic handle (standard)
- 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.

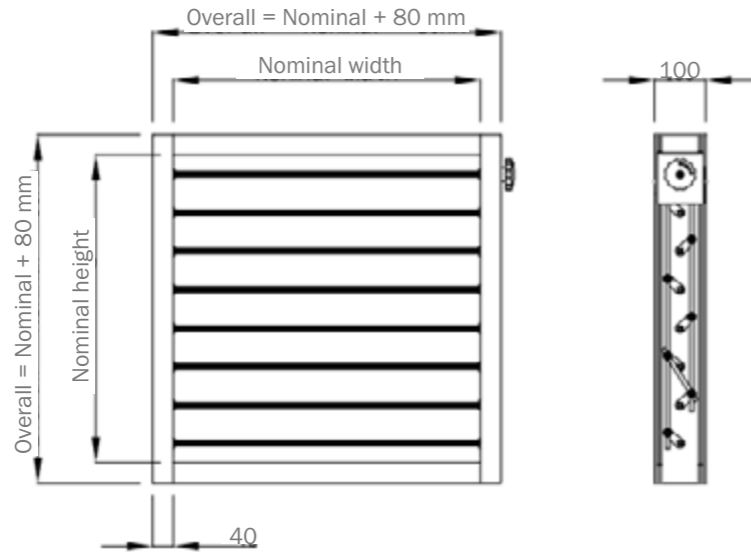
Actuator Protection:

- Protected: Actuator enclosure built into damper

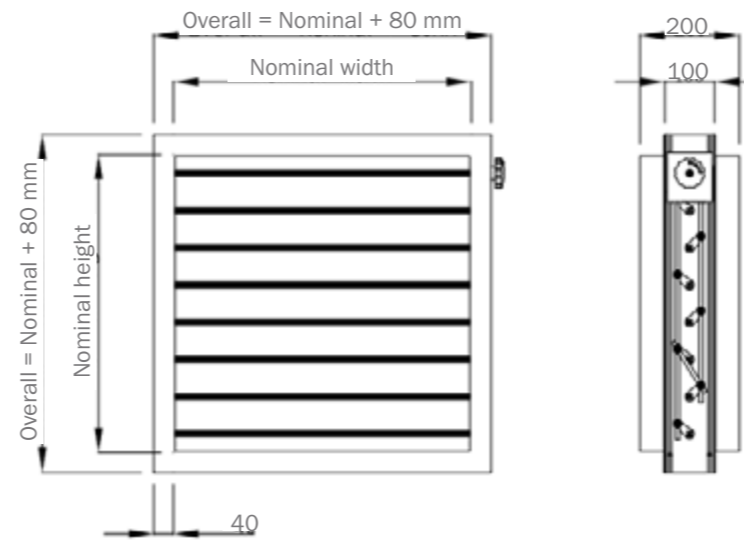
Aluminium Volume Control Dampers - VCD

Technical Drawings:

- **Model A: Square flanged (no case)**



- **Model B: Square spigotted**



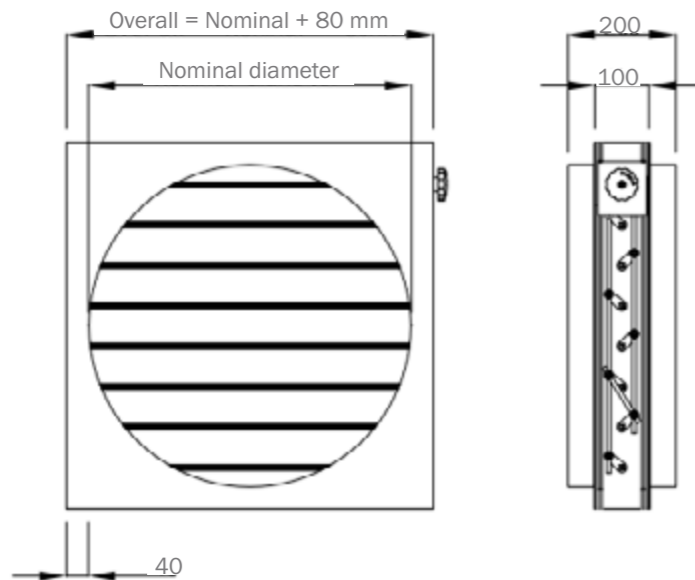
Spigots:

Model B spigots supplied 6 mm under nominal size.

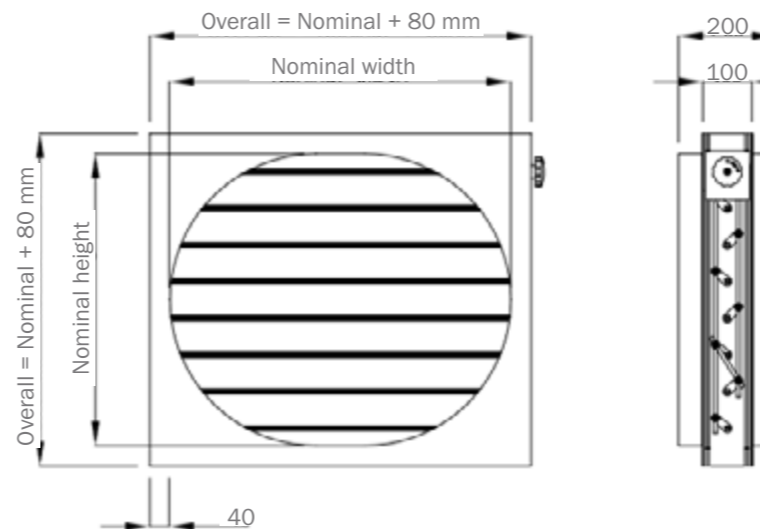
Model C and D spigots supplied 3 mm under nominal size.

Manufacturing Tolerance: + or - 1.5 mm.

- **Model C: Circular spigotted**



- **Model D: Flat oval spigotted**



Aluminium Volume Control Dampers - VCD

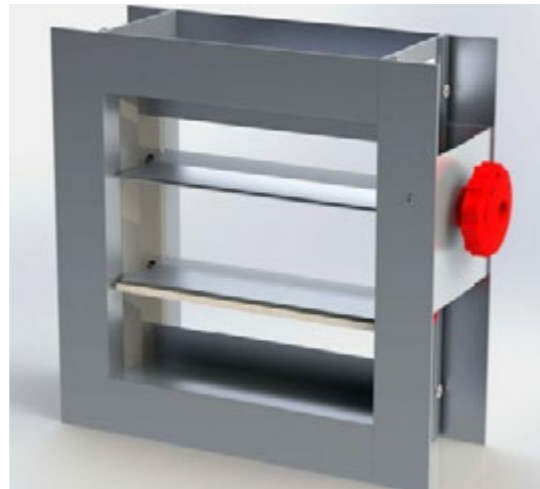
Options:

Blade Edge and Frame Side Seals:

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 temperatures specification is required, blade edge seals cannot be fitted.



High Temperature Specification:

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

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

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



Debris Screens:

Bird or insect mesh screens can be fitted to aluminium volume control dampers.

Available with mesh fixed directly to the damper frame (non-removable) or housed in a bolt-on removable frame (shown) to allow for easier cleaning and maintenance.

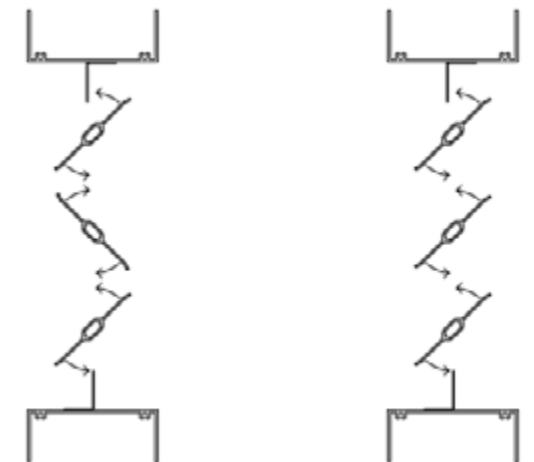


Blade Motion:

As standard all Monodraught 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 Monodraught VCDs can be set up with a parallel motion as a free of charge option. Arrows in the image show a damper closing, with opposed motion on the left and parallel on the right.



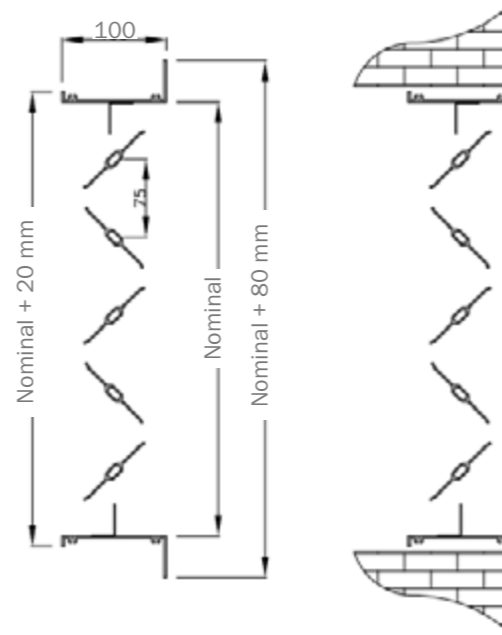
Aluminium Volume Control Dampers - VCD

Options:

40:10 Frame

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

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



Sizes Available:

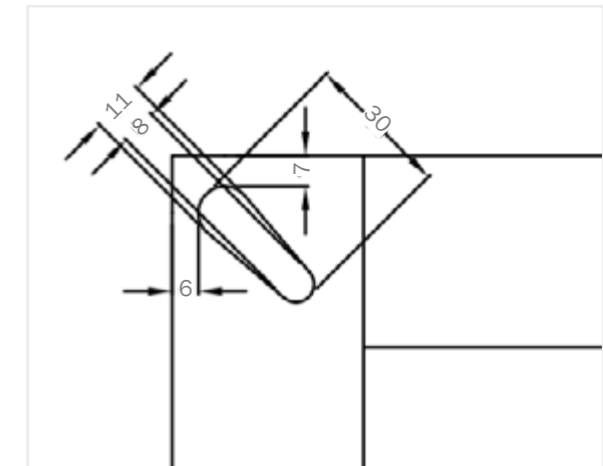
H	WIDTH																		
	150	200	250	300	400	500	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	
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Fixings:

Teardrop Corner Fixing Holes:

Monodraught 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.

Aluminium Volume Control Dampers - VCD

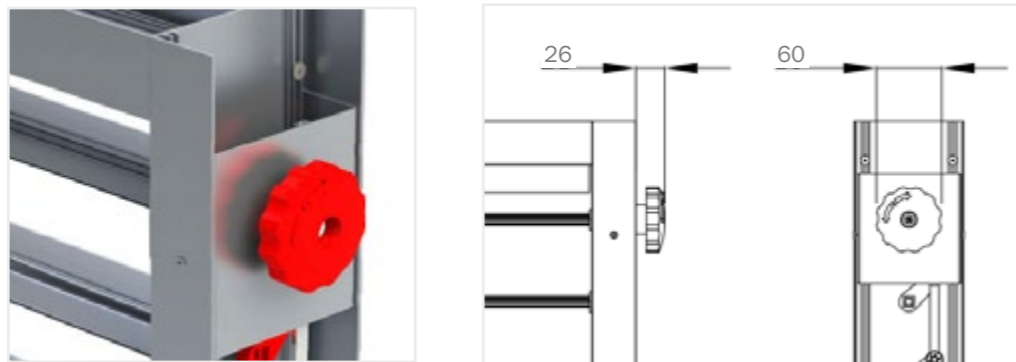
Control Options:

Manual Plastic Handles

Standard control method unless damper is high temperature spec.

The red nylon handle is ergonomically designed for ease 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.

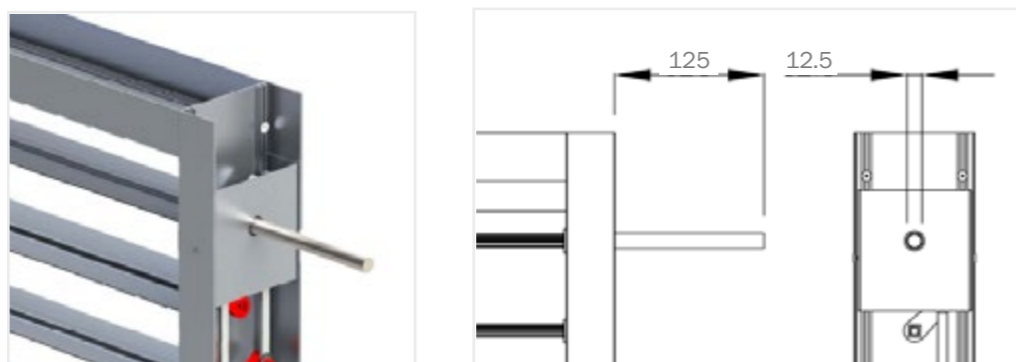
Lockable with a single pozidrive screw in the handle centre (supplied)



Extended Spindle:

Allows fitting of an actuator by others.

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

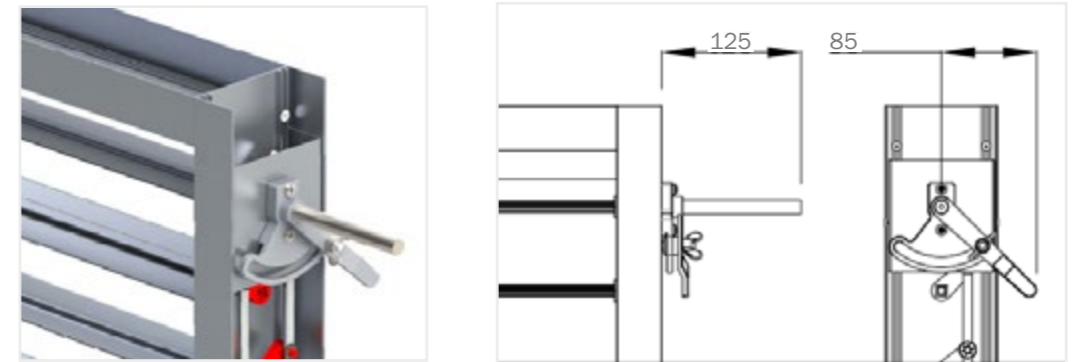


Locking Quadrant:

Standard control method if damper is high temperature spec.

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

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



Actuators:

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

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



Aluminium Volume Control Dampers - 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 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			✓	✓				✓	✓
SFA			✓	✓	✓			✓	

* 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 aluminium volume control dampers.



Kinetrol pneumatic actuators

We can factory fit 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 aluminium volume control dampers.

KINETROL

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 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 160 mm 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 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 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.


Finish:


- Standard: Mill Aluminium
- RAL: Polyester powder coated to RAL
- BS: Polyester powder coated to BS



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