



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.

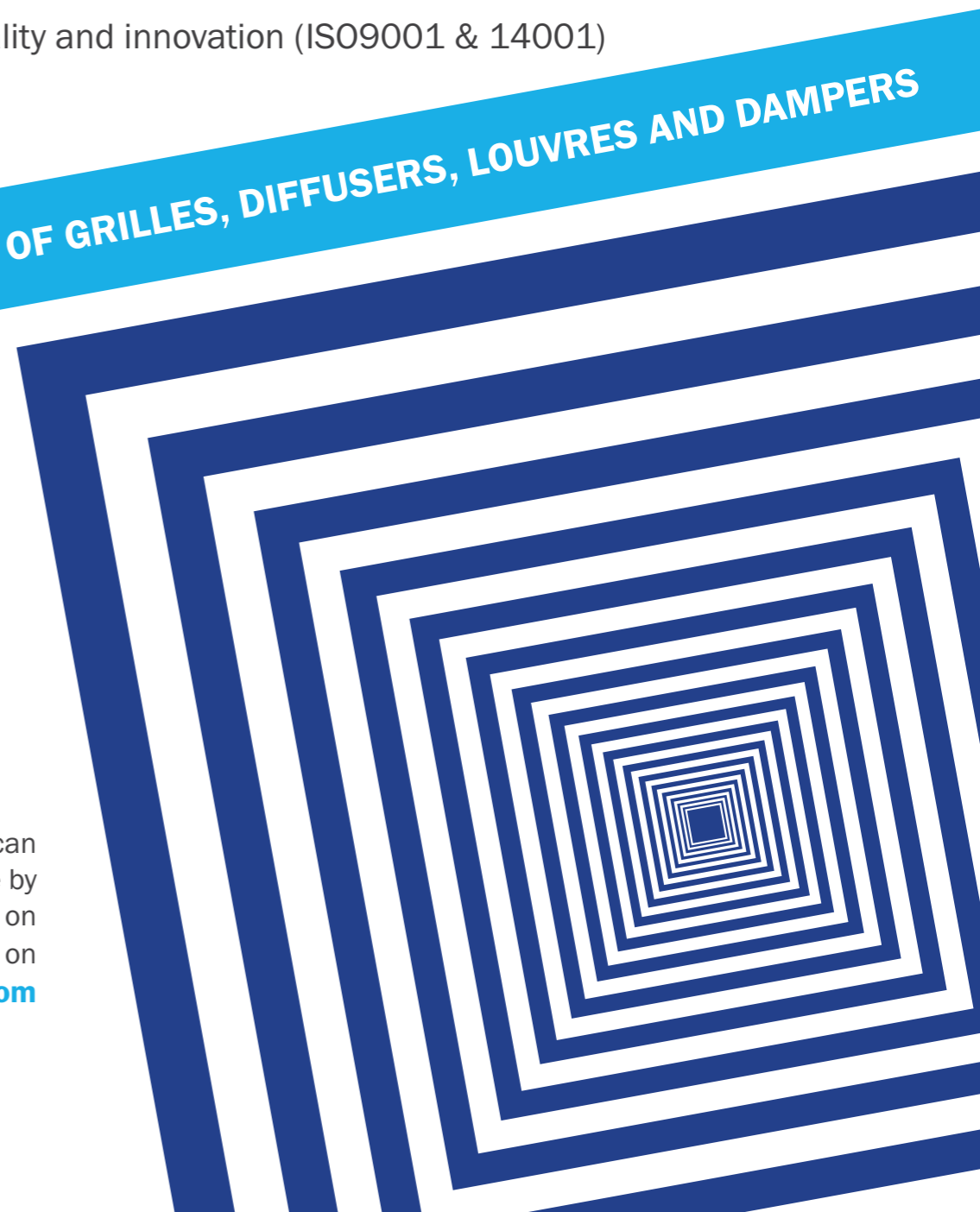
Air-Precision is an addition to Monodraught's portfolio including grilles, diffusers, external louvres and volume control dampers.

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**



Steel VCDs - S900



NCA Series 900 Dampers

Series 900 dampers are multi-leaf, opposed blade dampers available in two configurations:

S900B: Standard volume control dampers

Designed for balancing applications where a high level of shut-off is not required.

Fitted with a lockable plastic handle as standard.

S900C: Shut-off dampers

Fitted with additional seals, shut-off dampers have a far lower leakage than regular volume control dampers.

Supplied with and extended spindle as standard, facilitating motor fitment by others.

Materials:

- S900B: Galvanised steel throughout
Stainless steel frame / case / blades or aluminium blades optional.
- S900C: Galvanised steel frame and case, aluminium blades, stainless steel side seals, silicone rubber blade seal.
Stainless steel case and frame optional.

Mass /m² face area:

- 16 kg (S900BAG - 1000 mm x 1000 mm nominal size). Smaller units will be proportionally heavier.
- Models B, C and D will be approximately 50% heavier due to the case.

Free Area:

- 80% maximum

Material:

- "Nothing": Galvanised steel case, aluminium blades
- G: Galvanised steel throughout (not available with S900C)
- M: Galvanised steel case, stainless steel blades (not available with S900C)
- S: Stainless steel throughout (not available with S900C)
- F: Stainless steel case, aluminium blades

Sizes:

- Minimum: 100 mm x 100 mm nominal
- S900B: Maximum single unit: 1000 mm width, 1000 mm height or 1000 mm diameter
- S900C: Maximum single unit: 1000 mm width, 800 mm height or 800 mm diameter.
Above any of these, units would be made in sections or with mullions

Frame:

- 30 mm wide flange
- 65 mm overall depth

Product Testing:

DW144 - Leakage Throughout Case

NCA Series 900 volume control and shut-off dampers have been tested against:

DW144

Sheet metal ductwork

This test measures leakage through the damper case at pressures from 100 Pa to 200 Pa.

Model A units were not tested since they do not have a case.

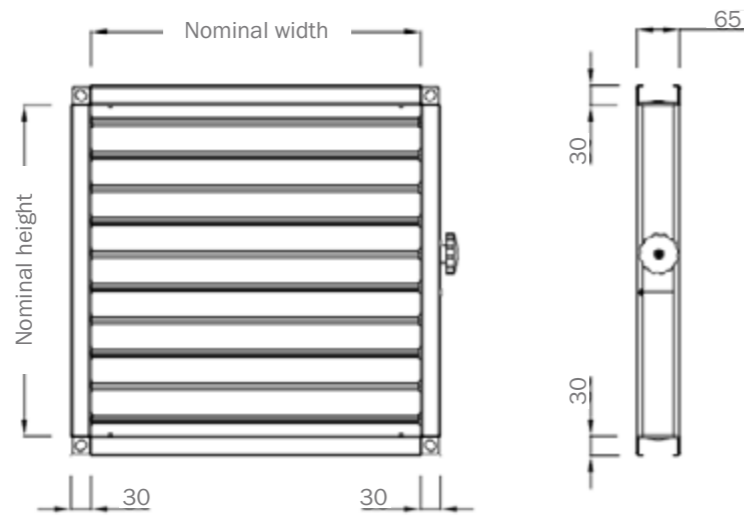
The testing was carried out in August 2009 by Building Testing Ltd in Surrey, England.

	Pressure (Pa)	Class Achieved
Model B	100 - 500	A & B
	600 - 1000	B & C
	1100 - 2000	C
Model C	100 - 500	A
	600 - 2000	N/A
Model D	100	A
	200	A & B
	300 - 500	A
	600 - 2000	N/C

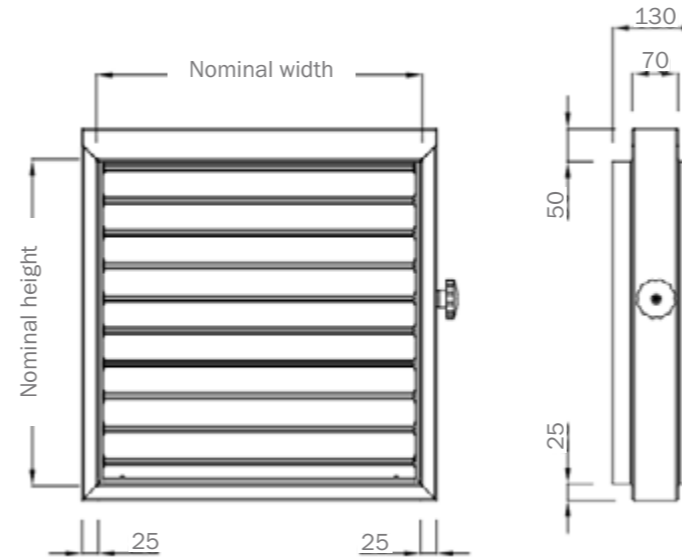
Steel VCDs - S900

Technical Drawings:

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



- **Model B: Square spigotted**



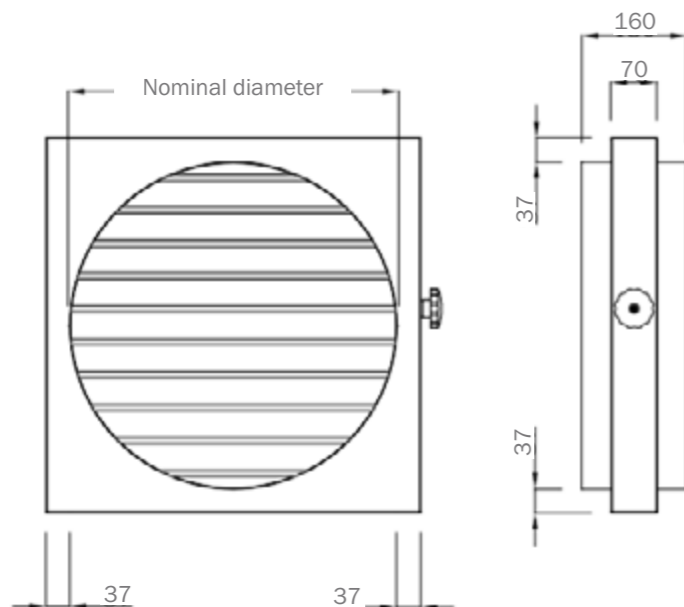
Spigots:

Model B spigots supplied 6 mm under nominal size.

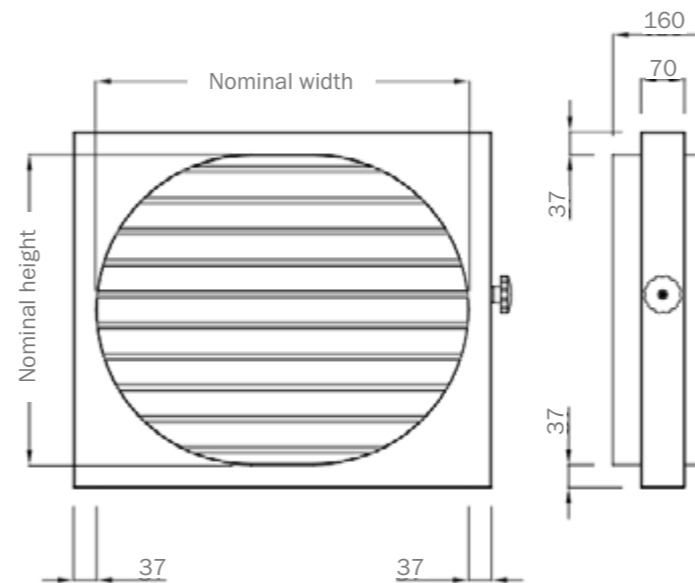
Model C and D spigots supplied 3 mm under nominal size.

Manufacturing Tolerance: + or - 1.5 mm.

- **Model C: Circular spigotted**



- **Model D: Flat oval spigotted**



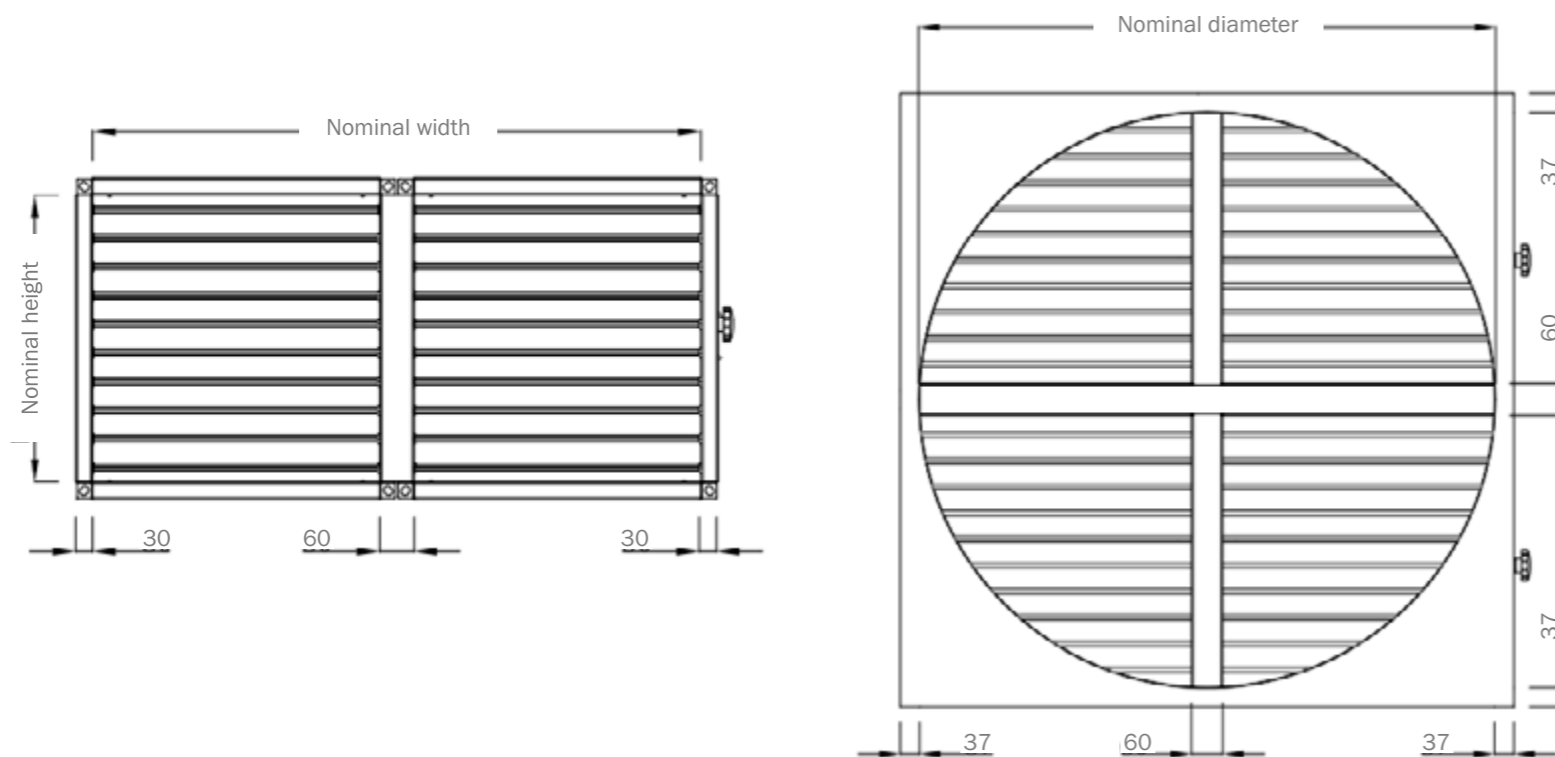
Technical Drawings:

Multiple Units

If nominal width, height or diameter exceed the maximum size per single unit, these will be manufactured with mullions. If stated nominal height or diameter are exceeded, two control devices will be required.

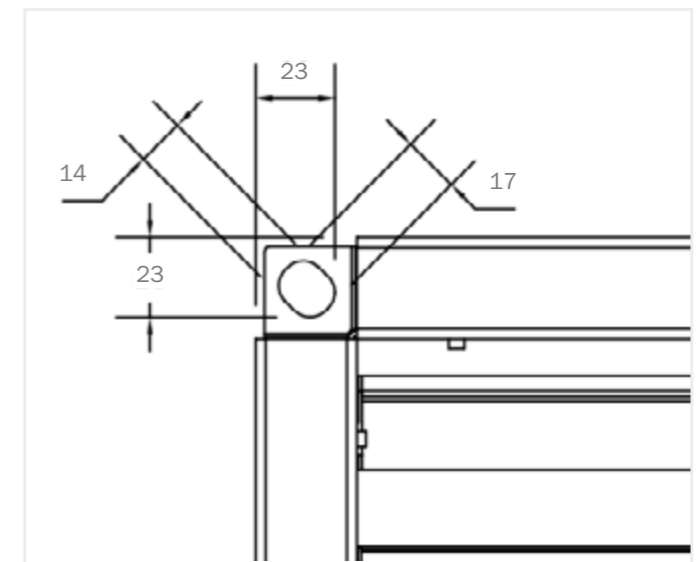
Very large units may need to be made in separate sections for joining together on site.

Alternatively, Series VCD aluminium volume control dampers are more suitable for sizes above 1 m x 1 m and also do not require two control devices for dampers with nominal height over 1 m.



Model A Fixing Holes

All Model A Series 900 volume control and shut-off dampers have prepunched fixing holes at each corner to facilitate easy connection to flanged ductwork.



Steel VCDs - S900

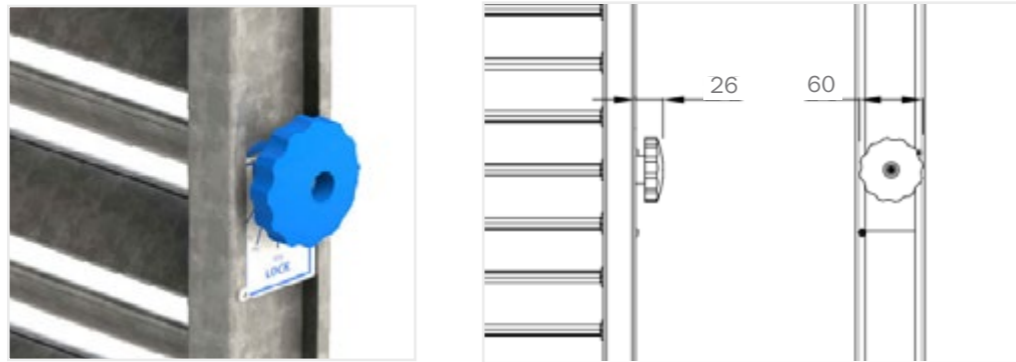
Control Options:

Manual Plastic Handles

Standard control method on Series 900B models.

The blue 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:

Standard control method on Series 900C models.

Allows fitting of an actuator by others.

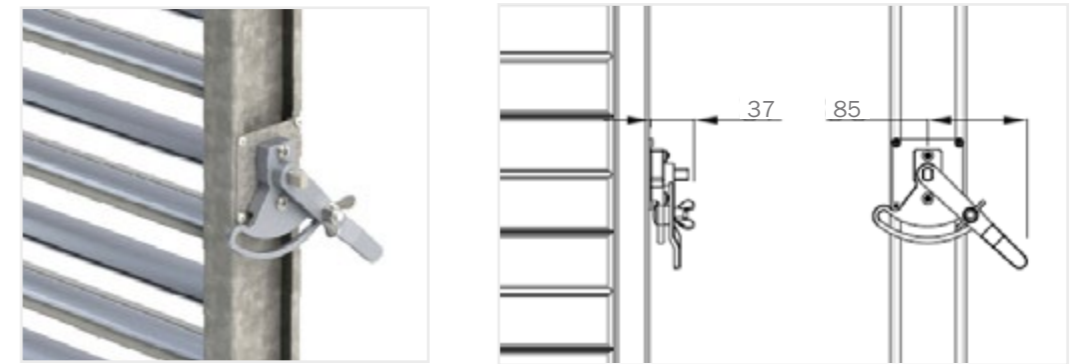
- Galvanised steel
- 10 mm diameter
- Extends 115 mm from damper case



Locking Quadrant:

Cast aluminium locking quadrants can be fitted to enable manual operation of the VCD or shut-off dampers.

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 S900 dampers, from manufacturers including:

- **Belimo:** Standard applications
- **Schischek:** Specialist explosion proof actuators
- **Kinetrol:** Pneumatic 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 table to find the series of Belimo actuator you require for your application.

Series	Suitable for S900 dampers 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.

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 S900 dampers.



Kinetrol pneumatic actuators

We can factory fit S900 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 S900 dampers.



Configurations

Series 900B: Standard VCDs

Standard volume control dampers for general purpose applications.

Constructed from galvanised steel as standard, S900 VCDs are also available in fully stainless steel models. Blade material can be specified independently of frame material, with blades available in galvanised steel, stainless steel and aluminium.

Stainless grades available: 430, 304, 316 (marine grade).

Aerofoil blades keep noise generation and pressure drops to a minimum, while a system of nylon gears, protected from dust and debris by being mounted within the frame, ensures low operating torque and long term, smooth operation with minimal maintenance.



Series 900C: Shut-off Dampers

Modified volume control dampers with a greater shut off.

Shut-off dampers have the same basic construction as standard VCDs, with the same galvanised steel case (stainless steel optional) and fully protected gear train.

Blades are double skin aluminium aerofoil and are alternated between blades fitted with a flexible silicone rubber seal and a non-sealed version, meaning every blade interface is rubber on aluminium.

Stainless steel side seals are fitted at each side of the blade pack.



Installation

NCA Series 900 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:


- Bare metal only



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