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**VOLUME CONTROL DAMPER
VCD**



VOLUME CONTROL DAMPER VCD

PRODUCT DESCRIPTION AND APPLICATION

Airfoil's Australian Made and Designed Volume Control Dampers (VCD) can be custom-built to any size using premium extruded aluminium profiles. The primary function of the Volume Control Dampers are to ensure balanced airflow control in commercial air handling systems. Airfoil's VCD is specifically engineered for low to medium velocity air conditioning systems, with a maximum of 8 m/s velocity and 1000 pascals pressure.

Featuring an aluminium extruded frame with a robust 2mm wall thickness and an overall frame channel depth of 155mm, the VCD offers exceptional strength and rigidity. The frame is constructed using both screws and welding for added support, and it includes a 35mm flange for straightforward installation into ductwork.

With blades set at 140mm centres, the VCD employs an interlocking blade system designed to minimize air leakage when closed, thanks to integrated rubber seals running along the full length of the blade. When fully opened, the blades are engineered to reduce air drag, ensuring smooth and economical airflow. Additionally, the blades are fully enclosed within the frame when in the open position. Each blade is equipped with a 12mm hexagonal shaft secured by two industrial-grade screws.

Standard non-corrosive **Nylon Bushes** are fitted to each shaft for easy maintenance, with **optional Brass Bushes** available upon request. All blades are operable from one end and feature left and right die-cast linkages. These linkages, made of 20mm x 3mm aluminium flat bar, allow for parallel or opposed blade operation and are secured with metal washers and split pins.

Airfoil's Australian-Made VCD is ordered based on its **AIRWAY SIZE** and comes with either a **MANUAL** Quadrant (**VCD-MAN**) or a **MOTORISED** Operator (**VCD-MOT**) shaft. The manual quadrant can be positioned at any setting and locked in place with a wing nut for user convenience. For enhanced performance, optional Side Seals can be installed between the blade and the frame, running the full internal height of the damper. These seals apply positive pressure to the blades, minimizing air leakage. Larger dampers can be manufactured in modular form, ensuring a maximum blade length of 1200mm for added strength and rigidity.

Airfoil's Australian-Made Volume Control Dampers underwent rigorous testing to meet all requirements, making it the perfect choice for precise and balanced airflow control in commercial air handling systems.

VOLUME CONTROL DAMPER VCD-MAN

PRODUCT SPECIFICATIONS AND INFORMATION

- **Product ordering code – VCD-MAN**
- Australian Made
- Premium Aluminium Mill Finish Construction
- Manufactured to any size
- Manual Quadrant lever for manual setting
- Always ordered by the dampers “AIRWAY SIZE” blade length dimensions **first** then by height
- Function to precisely balance airflow in air handling systems
- 150mm VCD Aluminium Blade
- 8m/s maximum and 1000 pascals pressure (Pa)
- 2mm frame channel 155mm deep screwed and welded for extra strength and rigidity
- 35mm frame easy installation into ductwork
- **Optional** VCD Blade Rubber Seals available (**not included as standard**)
- **Optional** Venetian Side Seals available (**not included as standard**)
- 12mm Hexagonal Shafts
- Non Corrosive Nylon Bushes **as standard**
- **Optional** Brass Bushes available where specified
- Blades interlinked with 20mm x 3mm aluminium flat bar
- **Full product tested information is available upon request. All tested information performed by Airfoil through the laboratories of Vipac Engineers & Scientists**



VOLUME CONTROL DAMPER VCD-MOT

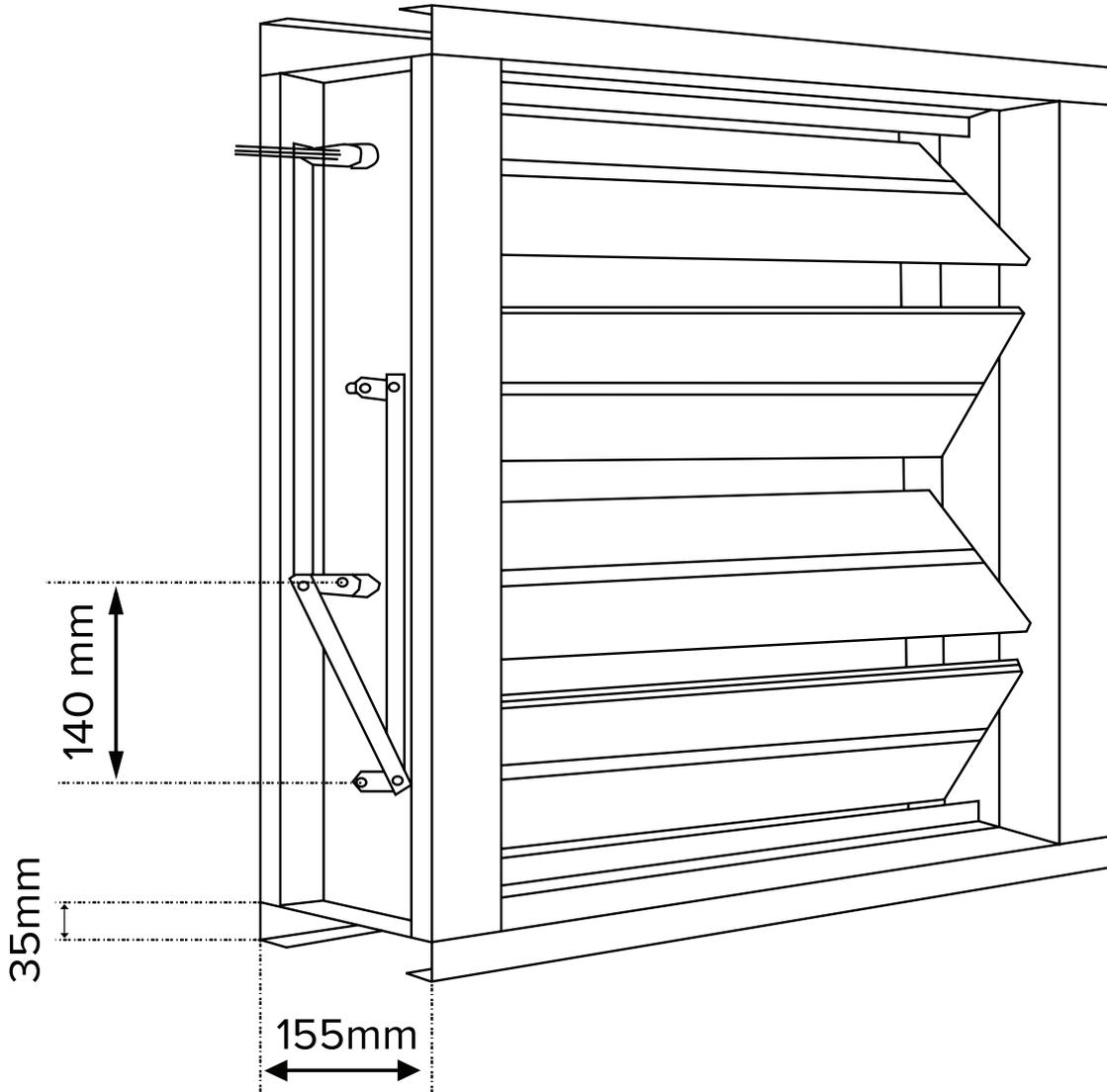
PRODUCT SPECIFICATIONS AND INFORMATION

- **Product ordering code – VCD-MOT**
- Australian Made
- Premium Aluminium Mill Finish Construction
- Manufactured to any size
- Motorised Operator shaft included
- Available with optional internal 320mm by 150mm Motor Housing
- Different Motor Housing sizes available on request
- Always ordered by the dampers “AIRWAY SIZE” blade length dimensions **first** then by height
- Function to precisely balance airflow in air handling systems
- 150mm VCD Aluminium Blade
- 8m/s maximum and 1000 pascals pressure (Pa)
- 2mm frame channel 155mm deep screwed and welded for extra strength and rigidity
- 35mm frame easy installation into ductwork
- Blades come complete as **standard** with rubber seals for minimising air leakage
- Interlocking **standard** Side Venetian Sealed blade system at 140mm centres
- 12mm Hexagonal Shafts
- Non Corrosive Nylon Bushes as **standard**
- **Optional** Brass Bushes available where specified
- Blades interlinked with 20mm x 3mm aluminium flat bar
- **Full product tested information is available upon request. All tested information performed by Airfoil through the laboratories of Vipac Engineers & Scientists**



VOLUME CONTROL DAMPER VCD

CROSS SECTIONAL DIAGRAM



DISCLAIMER:

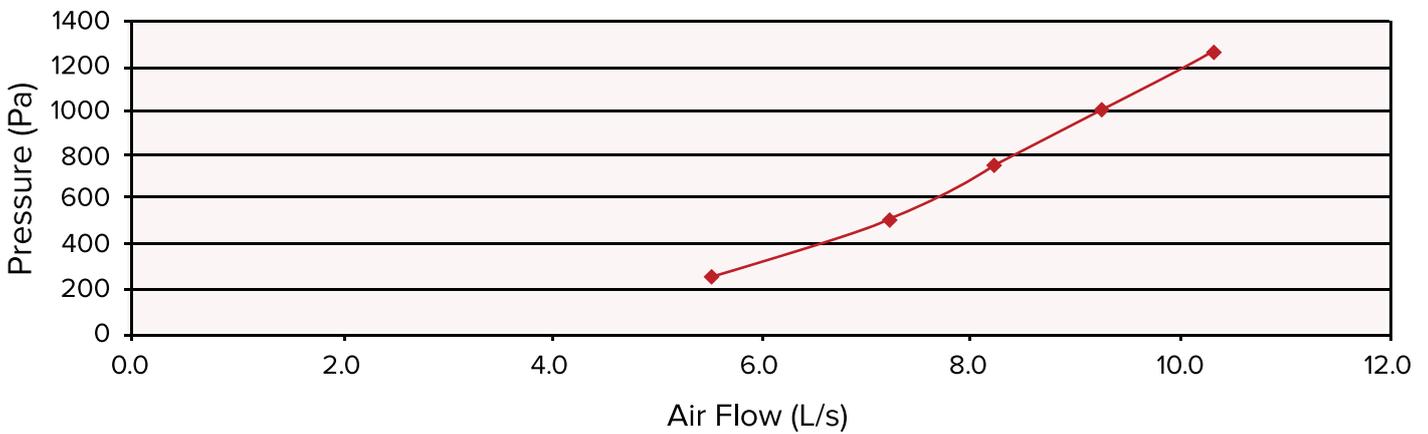
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VOLUME CONTROL DAMPER VCD

PERFORMANCE DATA

Air Leakage (L/s)	Pressure (Pa)
5.5	250
7.2	500
8.2	750
9.3	1000
10.3	1250

Air Leakage

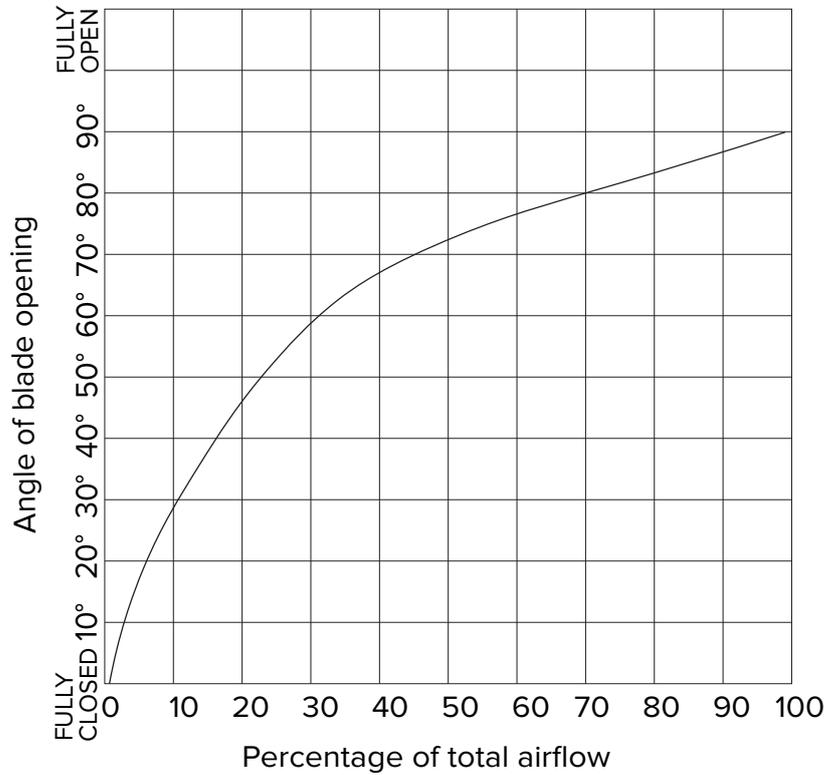


VOLUME CONTROL DAMPER VCD

PERFORMANCE DATA

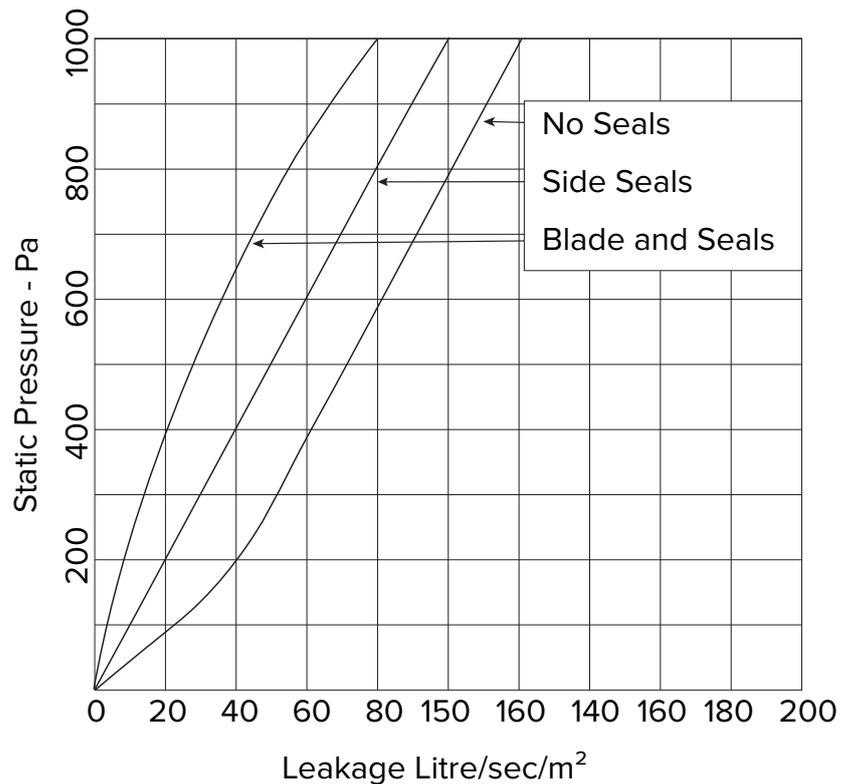
VCD-MAN (MANUAL)
VCD-MOT (MOTORISED)
Airflow Characteristics

Typical airflow curve for showing percentage of total airflow for various blade opening positions.



VCD-MAN (MANUAL)
VCD-MOT (MOTORISED)
Leakage Characteristics

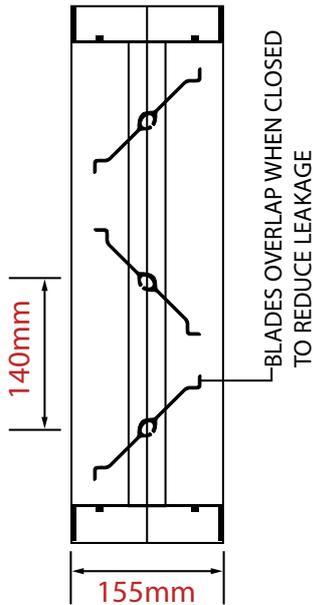
Typical leakage chart for VCD-MAN and VCD-MOT volume dampers.



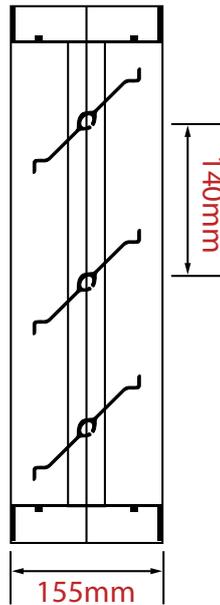
VOLUME CONTROL DAMPER VCD

PRODUCT ORDERING DETAILS

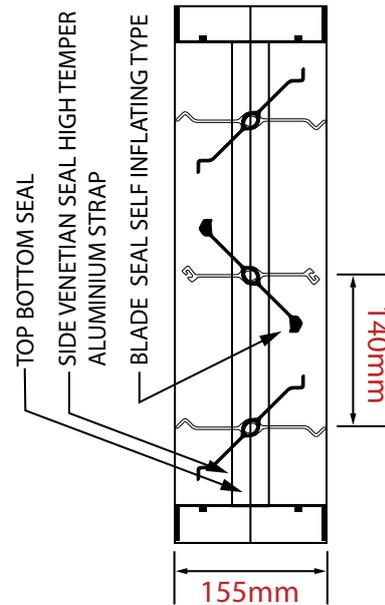
VCD-O
OPPOSED BLADE
ECONOMY



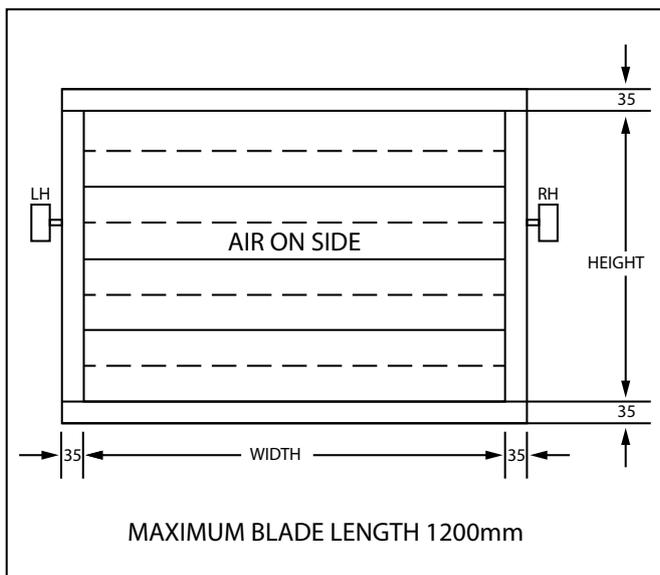
VCD-P
PARALLEL BLADE
ECONOMY



VCD-L
LOW LEAKAGE
BLADE AND/OR SIDE SEALS
STANDARD BLADE CONFIGURATION



- SHAFT = Hexagonal.
- FRAME = 2-mm extruded aluminium
- BLADES = extruded aluminium.
- LINKAGES = 3-m x 20-mm aluminium.
- CORNERS = Screwed and welded.



DETAILS REQUIRED FOR ORDERING

1. MODEL - **VCD-MAN** or **VCD-MOT**
2. AIRWAY SIZE - WIDTH X HEIGHT
BLADE LENGTH FIRST THEN BY HEIGHT
3. DRIVE SHAFT LOCATION LEFT OR RIGHT
4. OPTIONAL INTERNAL MOTOR HOUSING LOCATION
5. BLADE RUBBER SEAL AS **STANDARD (VCD-MOT)**
6. VENETIAN SIDE SEAL AS **STANDARD (VCD-MOT)**
7. **OPTIONAL** BLADE RUBBER SEAL (**VCD-MAN**)
8. **OPTIONAL** VENETIAN SIDE SEAL (**VCD-MAN**)
9. NON CORROSIVE NYLON BUSHES AS **STANDARD**
10. OPTIONAL BRASS BUSHES