



**VCD** *Volume Control Damper*

**MVCD** *Motorized Volume Control Damper*





## Introduction

With its opposed blade operation closing system, volume control damper is designed for controlling air flow and pressure in HVAC systems. Designed to operate with opposed blade action (providing better aerodynamics), volume control damper provides better balancing control or airflow rates.

Blades are formed from single skin construction with grooved blade tips to produce an interlocking blade closure, either via manual or automatic operation.

Manually operated dampers are supplied as standard with a lockable quadrant assembly, thus allowing for conversion to motor operation without the need for additional components.

## CONSTRUCTIONS & MATERIALS

- Square and round VCDs available
- Triple V-Groove Opposed Blade operation
- Available in manual or motorized models
- Actuation available in following configurations:
  - i) Hand locking quadrant arm
  - ii) Worm gear drive
  - iii) Bare shaft
  - iv) Factory installed actuator

### Construction Available



Stainless Steel

### Frame Construction

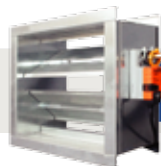
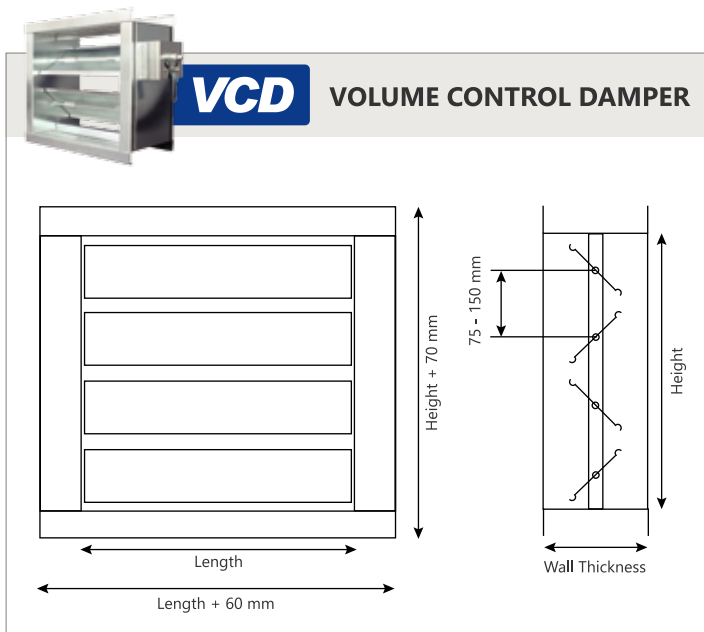


Galvanised Steel  
(Size Dependant)

### Blade Construction

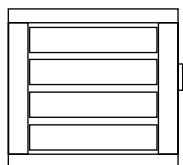


Galvanised Steel  
(Size Dependant)

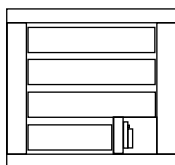


## MVCD

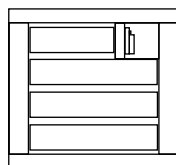
### MOTORIZED VOLUME CONTROL DAMPER - ACTUATOR LOCATION



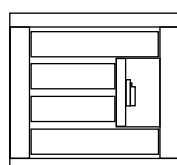
Configuration A  
Shaft Outside



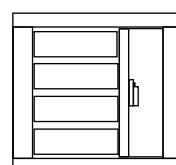
Configuration B  
Inside Bottom



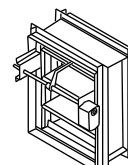
Configuration C  
Inside Top



Configuration D  
Inside Middle



Configuration E  
Compartment

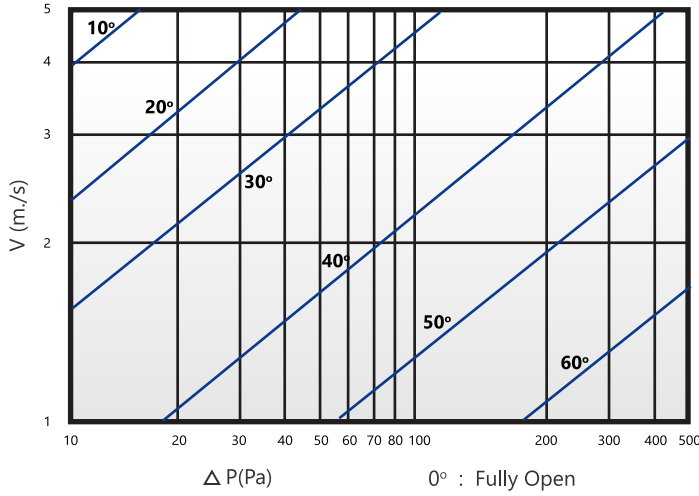


Configuration F  
Infront Shaft

**AERODYNAMIC PERFORMANCE**

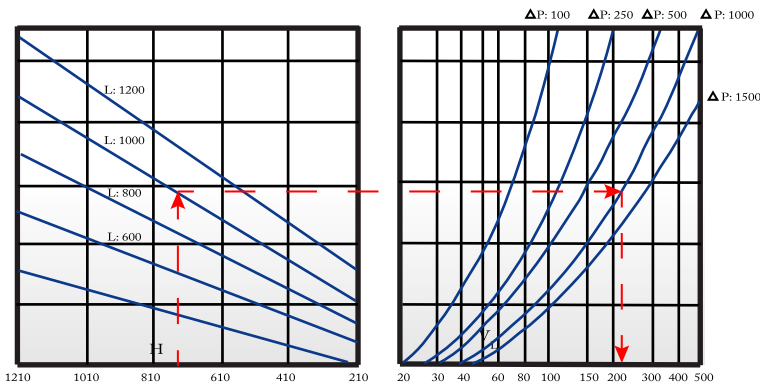
**STATIC PRESSURE DROP**

**PRESSURE DROP VS DUCT VELOCITY**

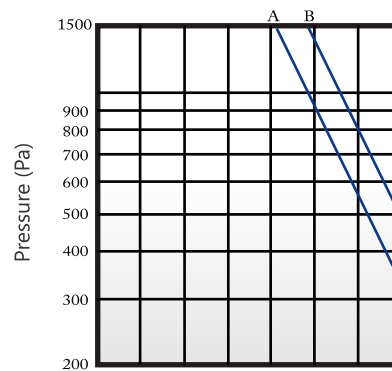


**V** Duct Velocity (m/s)  
**ΔP** Static Pressure Drop (Pa)  
 00, 100, 200, ... etc Degree Opening  
 Max static pressure drop for fully open dampers is 10 Pa

**CLOSED DAMPER LEAKAGE**



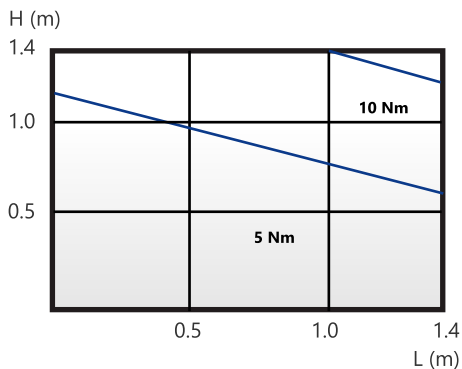
**OPERATION RANGE**



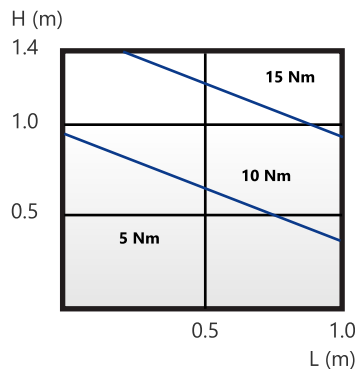
**L** Length (mm)      **VL** Volume Flowrate (cmh)      **A** Recommended operation range  
**H** Height (mm)      **ΔP** Pressure Difference (Pa)      **B** Critical operation range

**ACTUATOR TORQUE REQUIREMENTS**

**FOR PRESSURE LESS OR EQUAL TO 500 PA**



**FOR PRESSURE LESS OR EQUAL TO 1000 PA**



**H** Damper Height (m)  
**L** Damper Length (m)

## JOINING METHODS

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**Angle Joint**



**1 Side Angle Joint  
1 Side Grille**



**TDC Joint**



**1 Side TDC Joint  
1 Side Grille**



**Slot In Type**



**1 Side Grille  
1 Side Flat**



**Slip Joint**



# VOLUME CONTROL DAMPER TECHNICAL SPECIFICATION

## Casing Assembly

- 0.7mm – 1.5mm thick casing sections. Casing section to be welded externally with welding beads to be ground flush. Multiple modular to be provided for damper larger than 1000mm width x 1000mm height. Standard wall thickness to be 150mm, unless otherwise stated.
- Standard joining method to be in TDC joint, unless otherwise stated.
- Material provided to be galvanized steel, unless otherwise stated.

## Damper Blade Assembly

- 0.7mm – 1.0mm thick single skin configuration. The individual blade to be in triple V-grooves design. Blade operation to be of opposed blade action with linkage system. Parallel blade action configuration to be available upon request. 9.5mm galvanized steel shaft to be provided for each blade section.
- Mechanical bushing to be tight-fitted into the casing channel sections of the casing assembly to support and maintain the blade shafts in the pre-determined locations.
- Damper blade to be operated by quadrant arm, worm gear and electrical actuator are available upon request.
- Material provided to be galvanized steel, unless otherwise stated.

## Linkage Assembly

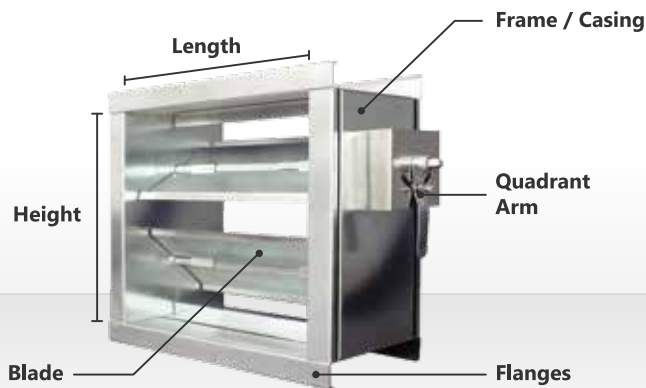
- 15.0mm x 3.0mm thick linkage system to be welded to the driving blade shaft. Individual linkage components to be secured with pins or welding method at pre-determined geometry locations to ensure accurate blade phasing.

## Linkage Cover & Side Seals

- 1.5mm pre-formed angles to be welded to the damper casing assembly to provide both blade stop and sealing functions.
- Damper side seals are available upon request.
- Actuator mounting angles to be provided when required to ensure proper actuator mounting. Construction design to be changed according to actuator type.
- Material provided to be galvanized steel, unless otherwise stated.

## Finishing

- Damper assembly to be in natural finish of the material.



### Notice :

**Damper size would be fabricate as exact neck size**

## AVAILABLE TYPES



**Quadrant Arm**



**Worm Gear**



**Motorized**



**VCD** | *Volume Control Damper*

**MVCD** | *Motorized Volume Control Damper*

## Products Range

Grilles



Diffusers



Dampers



Fire & Smoke Protection



VAV



Others



Accessories



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