



air master
ISO 9001 CERTIFIED COMPANY

25 YEARS OF EXCELLENCE



VOLUME CONTROL DAMPERS



www.airmasteremirates.com



INDEX

| SECTION | TOPIC | PAGE |
|---------|--|------|
| 16.1 | Volume Control Damper AVCD | 3 |
| 16.2 | Motorized Volume Control damper AVCD-M | 5 |
| 16.3 | Slip & Clip Volume Control damper AVCD-SC | 6 |
| 16.4 | Stainless Steel Volume Control damper AVCD-SS | 7 |
| 16.5 | Low Leakage Volume Control damper AVCD-ZL | 8 |
| 16.6 | GI Volume Control Damper AVCD-GI | 9 |
| 16.7 | Heavy Duty Volume Control Damper AVCD-HD | 10 |
| 16.8 | Pre-Insulated Volume Control damper AVCD-PI | 11 |
| 16.9 | Circular Volume Control Damper AVCD-C | 12 |
| 16.10 | Product Summary | 12 |

Cover Page Photo Tornado Tower, Qatar.

CONSTRUCTION:

Frame: High quality Galvanized Steel sheet of thickness 1.2mm as standard.

Frame size: 125mm depth and standard flange height of 25mm.

Blades: Double skinned high quality extruded Aluminium aerofoil profiles.

Drive shaft: Electro-plated square rod of size 12.7mm x 12.7mm.

Bushings: Self-lubricating nylon bushings.

Blade linkage: Nylon gear.

Handle: Galvanized Steel locking hand quadrant.

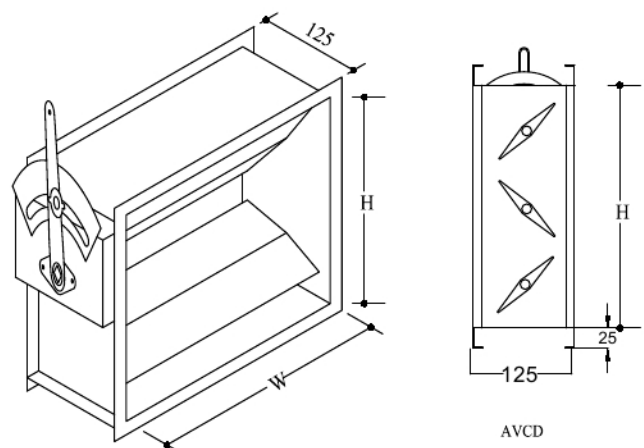
Blade stopper: G.I angle of thickness 0.7mm.

Description:

- Designed for use in heating, ventilating and air conditioning systems.
- Joints are welded and protected by aluminium spray coating to prevent rusting.
- Blades are coupled by toothed nylon gears which provides opposed blade operation.
- Hand locking quadrant is provided with clear open/close indication and three intermediate open positions (1/4 – 1/2 - 3/4).
- Foam gasket is sealed across the blade edges to minimize air leakage between the blades.
- Flanged edges are supplied un-drilled as standard.
- Dampers without flanges available as option for duct insertion purpose.

Optional Accessories:

- **Frame:** Thickness upto 2mm on request. Aluminium frame available for light weight applications.
- **Handle:** Cast Aluminium.
- **Bush:** Brass bush, S.S. Ball Bearing.
- **Gear Wheel:** Aluminium Alloy.
- **Blade:** Low leakage: S.S Jamb seal, Nylon blade end caps

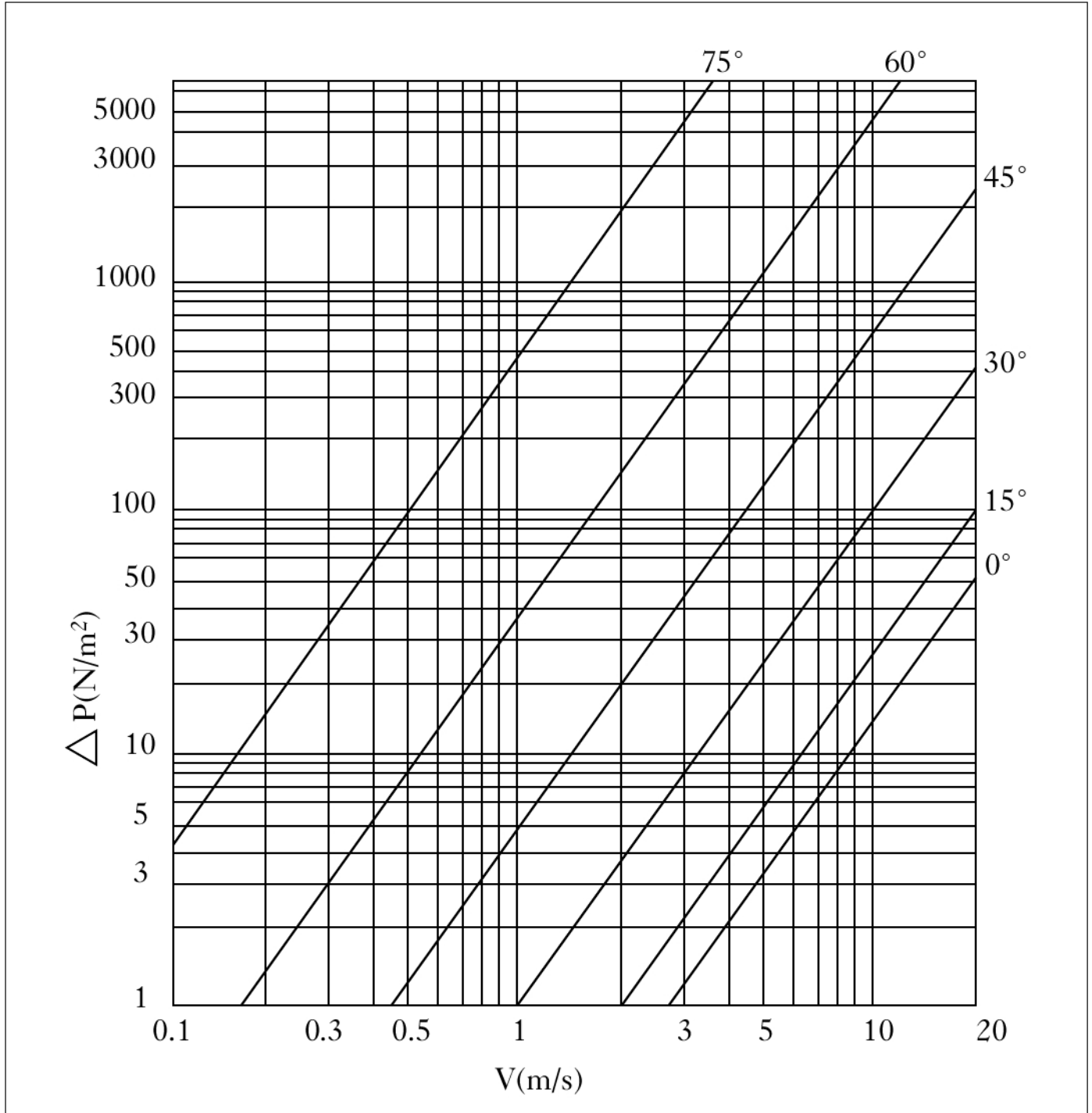


PERFORMANCE CHART VOLUME CONTROL DAMPER



Performance chart:

Model: AVCD



Pressure drop - Rectangular VCD aerofoil type blades

CONSTRUCTION:

Frame: High quality Galvanized Steel sheet of thickness 1.2mm as standard.

Frame Size: 125mm depth and standard flange height of 35mm.

Blades: Double skinned high quality extruded Aluminium aerofoil profiles.

Drive Shaft: Electro plated square rod of size 12.7mm x 12.7mm.

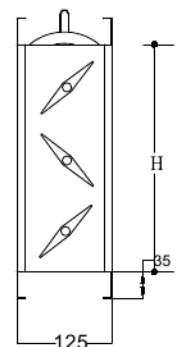
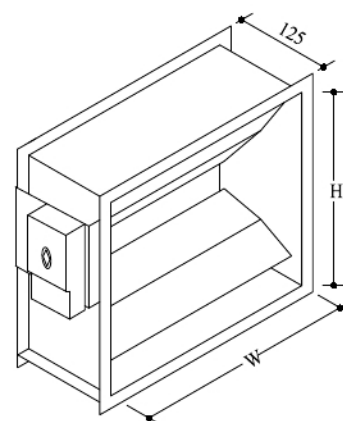
Bushings: Self-lubricating S.S Ball bearing.

Blade linkage: Nylon gear.

Blade stopper: G.I angle of thickness 0.7mm.

Description:

- Designed for use in heating, ventilating and air conditioning systems.
- Joints are welded and protected by aluminium spray coating to prevent rusting.
- Blades are coupled by toothed nylon gears which provides opposed blade operation.
- Foam gasket is sealed across the blade edges to minimize air leakage between the blades.
- Flanged edges are supplied un-drilled as standard.
- Dampers without flanges available as option for duct insertion purpose.
- Actuators of client's choice will be supplied separately.
- Dampers will be provided with extended spindle to fix actuator on-site.
- Bigger sizes will be provided with mechanical linkage for stability and hassle-free operation.



AVCD-M

Optional Accessories:

- **Frame:** Thickness up to 2mm upon request. Aluminium frame available for off-shore or light weight applications.
- **Handle:** Cast Aluminium
- **Bush:** Brass bush, S.S. Ball Bearing.
- **Gear Wheel:** Aluminium Alloy.
- **Low Leakage:** S.S. Jamb seal, nylon blade end caps

SLIP & CLIP TYPE VOLUME CONTROL DAMPER

CONSTRUCTION:

Frame: High quality Galvanized Steel sheet of thickness 0.9mm as standard.

Frame size: 200mm depth.

Blades: Double skinned high quality extruded aluminium aerofoil profiles.

Drive Shaft: Electro-plated square rod of size 12.7mm x 12.7mm

Blade linkage: Nylon gear.

Bushings: Self-lubricating nylon bushings.

Blade stopper: G.I. angle of thickness 0.7mm..

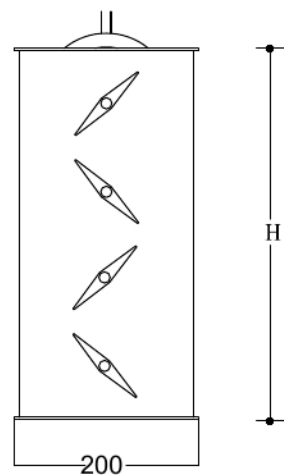
Handle: Galvanized Steel locking hand quadrant

Description:

- Designed for use in heating, ventilating and air conditioning systems.
- Joints are welded and protected by aluminium spray coating to prevent rusting.
- Blades are coupled by toothed nylon gears which provides opposed blade operation.
- Hand locking quadrant is provided with clear open/close indication and three intermediate open positions (1/4 – 1/2 - 3/4).
- Foam gasket is sealed across the blade edges to minimize air leakage between the blades.

Options:

- **Handle:** Cast Aluminium
- **Bush:** Brass bush, S.S. Ball Bearing.
- **Gear Wheel:** Aluminium Alloy.
- **Low Leakage:** S.S Jamb seal, Nylon blade end caps.



AVCD-SC

CONSTRUCTION:

Frame: High quality Stainless Steel sheet (Grade 304/316L) of thickness 1.2mm depending on the size.

Frame Size: 125mm depth and standard flange height of 25mm.

Blades: Single skin ridge shaped blade constructed out of 1.2mm thick S.S sheet as standard.

Drive Shaft: S.S square rod of size 12.7mm x 12.7mm.

Bushings: Self-lubricating S.S or brass bushings.

Blade linkage: Nylon gear.

Blade stopper: S.S angle of thickness 0.7mm.

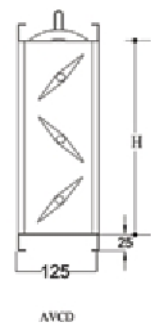
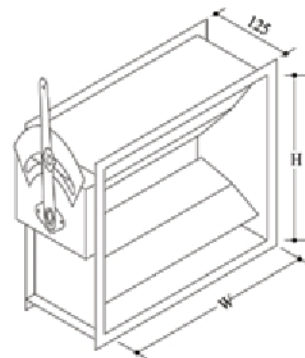
Handle: S.S locking hand quadrant.

Description:

- Designed for offshore applications in heating, ventilating and air-conditioning systems.
- Can also be used in chemical industries and kitchen ventilation.
- Joints are welded and protected by chemical cleaning process.
- Blades are coupled by toothed nylon gears which provides opposed blade operation.
- Hand locking quadrant is provided with clear open/close indication and three intermediate open positions (1/4 – 1/2 - 3/4).
- Foam gasket is sealed across the blade edges to minimize air leakage between the blades.
- Flanged edges are supplied un-drilled as standard.
- Dampers without flanges available as option for duct insertion purpose.

Options:

- **Frame:** Thickness up to 1.6mm upon request.
- **Gear Wheel:** Aluminium Alloy.
- **Low Leakage:** S.S Jamb seal.



LOW LEAKAGE VOLUME CONTROL DAMPER

CONSTRUCTION:

Frame: High quality Galvanized Steel sheet of thickness 1.2mm as standard.

Frame size: 125mm depth and standard flange height of 25mm.

Blades: Double skinned heavy duty extruded Aluminium profiles.

Drive shaft: Electro plated square rod of

size 12.7mm x 12.7mm.

Bushings: Self-lubricating nylon bushings.

Blade linkage: Nylon gear.

Blade stopper: G.I angle of thickness 0.7mm.

Handle: Galvanized Steel locking hand quadrant.

Description:

- Designed for use in heating, ventilating and air conditioning systems for low-leakage applications.
- Joints are welded and protected by aluminium spray coating to prevent rusting.
- Blades are coupled by toothed nylon gears which provides opposed blade operation.
- Hand locking quadrant is provided with clear open/close indication and three intermediate open positions (1/4 – 1/2 - 3/4).
- Foam gasket is sealed across the blade edges to minimize air leakage between the blades.
- Flanged edges are supplied un-drilled as standard.
- Dampers without flanges available as option for duct insertion purpose.
- Air leakage from 0.18% to 1.33% only based on tests conducted in accordance with AMCA standard 500-D-98.

Options:

- **Frame:** G.I sheet of thickness up to 2mm available upon request. Aluminium frame is also available for light weight / offshore / exposed area applications.



- **Handle:** Cast Aluminium.
- **Bush:** Brass bush, S.S. Ball Bearing.
- **Gear Wheel:** Aluminium Alloy.
- **Low Leakage:** S.S Jamb seal.

CONSTRUCTION:

Frame: High quality Galvanized Steel of thickness 1.2mm as standard .

Frame Size: 125mm depth and standard flange height of 25mm.

Blades: Single skinned 3-V type G.I blade of 1.5mm thickness.

Drive Shaft: Electro plated square rod of size 12.7mm x 12.7mm.

Bushings: Self-lubricating nylon bushings.

Blade linkage: Nylon gear/mechanical linkage

Blade stopper: G.I angle of thickness 0.7mm.

Handle: Galvanized Steel locking hand quadrant.

Description:

- Designed for use in heating, ventilating and air conditioning systems.
- Joints are welded and protected by aluminium spray coating to prevent rusting.
- Blades are coupled by toothed nylon gears which provides opposed blade operation.
- Hand locking quadrant is provided with clear open/close indication and three intermediate open positions (1/4 – 1/2 - 3/4).
- Foam gasket is sealed across the blade edges to minimize air leakage between the blades.
- Flanged edges are supplied un-drilled as standard.
- Dampers without flanges available as option for duct insertion purpose.

Options:

- **Frame:** Thickness up to 2mm upon request.
- **Blade:** Double skin aerofoil type G.I blade of thickness 0.7mm.
- **Handle:** Cast Aluminium.
- **Bush:** Brass bush, S.S. Ball Bearing.
- **Gear Wheel:** Aluminium Alloy.
- **Low Leakage:** S.S Jamb seal.



Double skin - aerofoil



Single skin - 3V

HEAVY DUTY VOLUME CONTROL DAMPER



CONSTRUCTION:

Frame: High quality Galvanized Steel sheet of thickness 1.2mm.

Frame size: 180mm depth and 30mm flange height.

Blades: Double skinned aerofoil blades made from galvanized steel with 165mm blade spacing.

Drive shaft: Electro plated rod of size 14mmØ.

Bushings: Sintered, self-lubricating bronze bearing.

Blade linkage: Galvanized steel flat bars of 3mm thick.

Blade stopper: 1.2mm G.I angle.

Handle: Heavy duty G.I quadrant.

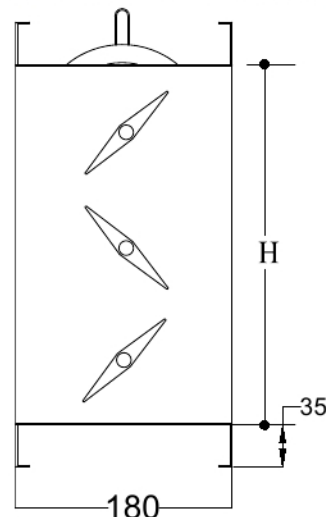
Description:

- Designed for heavy duty applications in heating, ventilating and air-conditioning systems.
- Also applicable for explosive areas.
- Frame is constructed from galvanized steel sheet and joined using corner-keys.
- Blades are of robust construction, roll formed G.I having 1.2mm thickness designed to withstand high pressure without clattering.
- Service temperature ranges from -40° C to +80° C.
- Hand locking quadrant is provided with clear open and close indication.
- Rubber edge seal is provided across blade edges to minimize air leakage between the blades.
- Standard model available with corner borehole.

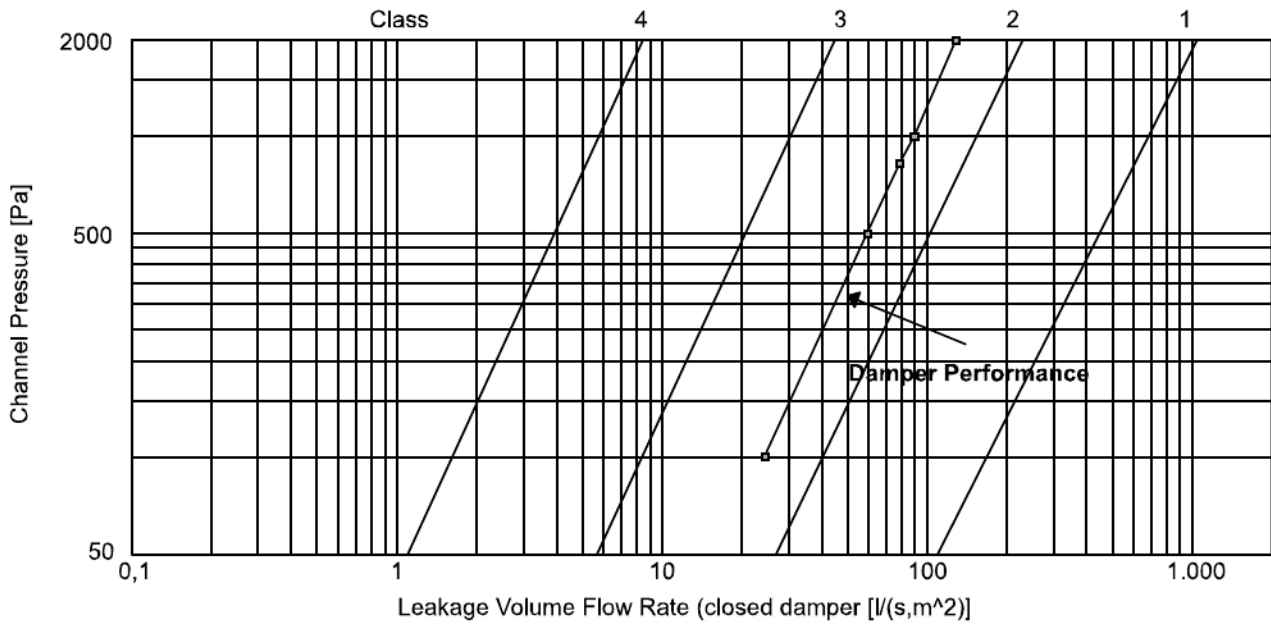


Options:

- **Silicon Edge Seal:** For use in service temperature of -40° C to +200° C.
- **Jamb Seal:** Between blade and frame, includes slide film and special foam plastic.



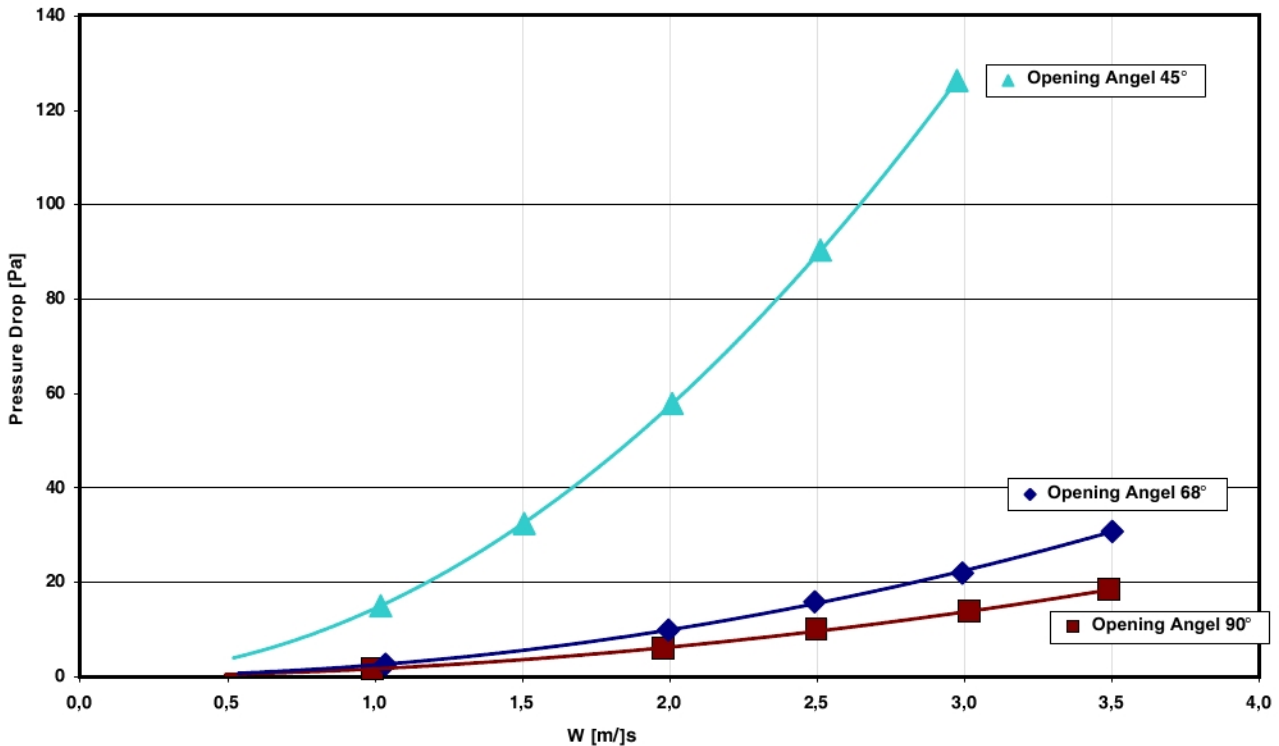
Air Leakage Performance - AVCD-HD



Damper size: 1000 mm x 1005 mm 6 blades, blade width 165 mm

Pressure Drop: AVCD-HD

Pressure Drop Curve (open damper)



PRE-INSULATED VOLUME CONTROL DAMPER

CONSTRUCTION:

Frame: 20mm thick polyurethane material with 2-sides Aluminium foil facing.

Frame Size: 200mm depth with flanges for side-fixing.

Blades: Double skinned high quality extruded Aluminium aerofoil profiles.

Drive Shaft: Electro plated square rod of size 12.7mm x 12.7mm.

Bushings: Self-lubricating nylon bushings.

Blade linkage: Nylon Gear.

Blade stopper: G.I angle of thickness 0.7mm.

Handle: Galvanized Steel locking hand quadrant.

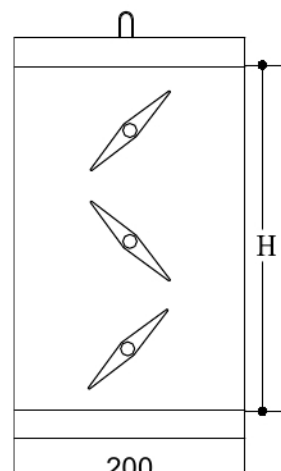
Description:

- Designed for use in heating, ventilating and air conditioning systems in open/limited access areas and light weight applications.
- The edges are joined using special glue and silicon.
- Blades are coupled by toothed nylon gears which provides opposed blade operationn.
- Hand locking quadrant is provided with clear open/close indication and three intermediate open positions (1/4 – 1/2 - 3/4).
- Foam gasket is sealed across the blade edges to minimize air leakage between the blades.



Options:

- **Frame:** Thickness up to 25mm available upon request.
- **Handle:** Cast Aluminium.
- **Bush:** Brass bush.
- **Gear Wheel:** Aluminium Alloy.



AVCD-PI

CONSTRUCTION:

Frame & Blade: High quality Galvanized Steel.

Bearing pins: Electro plated steel rod of 10mmØ with square transition of size 12.7mm x 12.7mm

Bushings: Self-lubricating nylon bushings.

Handle: Galvanized Steel locking hand quadrant.

Description:

- Joints are welded and protected by aluminium spray coating to prevent rusting.
- Damper blades are fixed to the bearing pin (which is coupled with hand locking quadrant) and can be fully opened or closed.
- Hand locking quadrant is provided with clear open/close indication and three intermediate open positions (1/4 – 1/2 - 3/4).
- Foam gasket is provided on the inner frame surface.

Options:

- **Handle:** Cast Aluminium
- **Bush:** Brass bush
- **Actuator:** Of clients choice for motorized applications

Dimensions:

| D = Diameter | L = Length | Sheet Thickness |
|----------------|---------------|-----------------|
| 100 to 150 mm | L = D+ 50 mm | 0.7 mm |
| 200 to 500 mm | L = D | 0.9 mm |
| 550 to 1000 mm | L = D+ 50 mm | 1.2 mm |
| 1000 mm&above | L = D+ 100 mm | 1.5 mm |

Standard sizes:

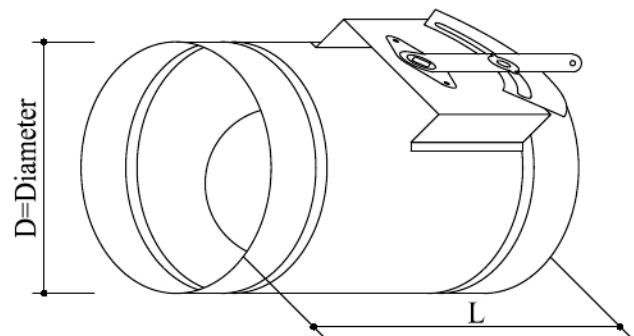
| D = Duct opening in mm dia | | | | | |
|----------------------------|-----|-----|------|------|------|
| 100 | 200 | 300 | 400 | 500 | 600 |
| 700 | 800 | 900 | 1000 | 1100 | 1200 |

Fixing details:

- Fixing by using Jubilee clip to flexible duct.



Round VCD with flange. Model AVCD-CF



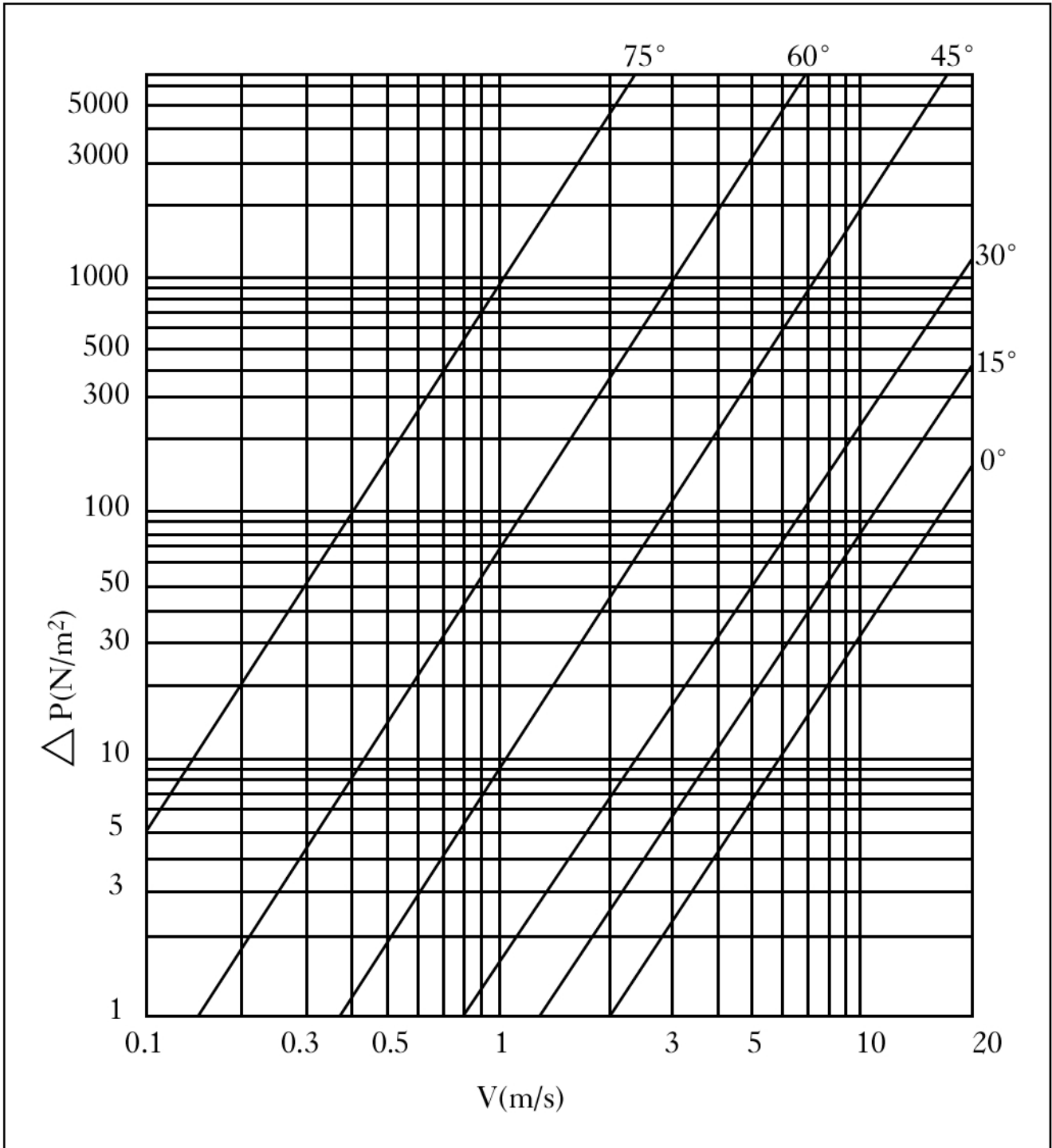
AVCD-C

PERFORMANCE CHART VOLUME CONTROL DAMPER



Performance chart:

Model: AVCD-C



Pressure drop - Circular VCD

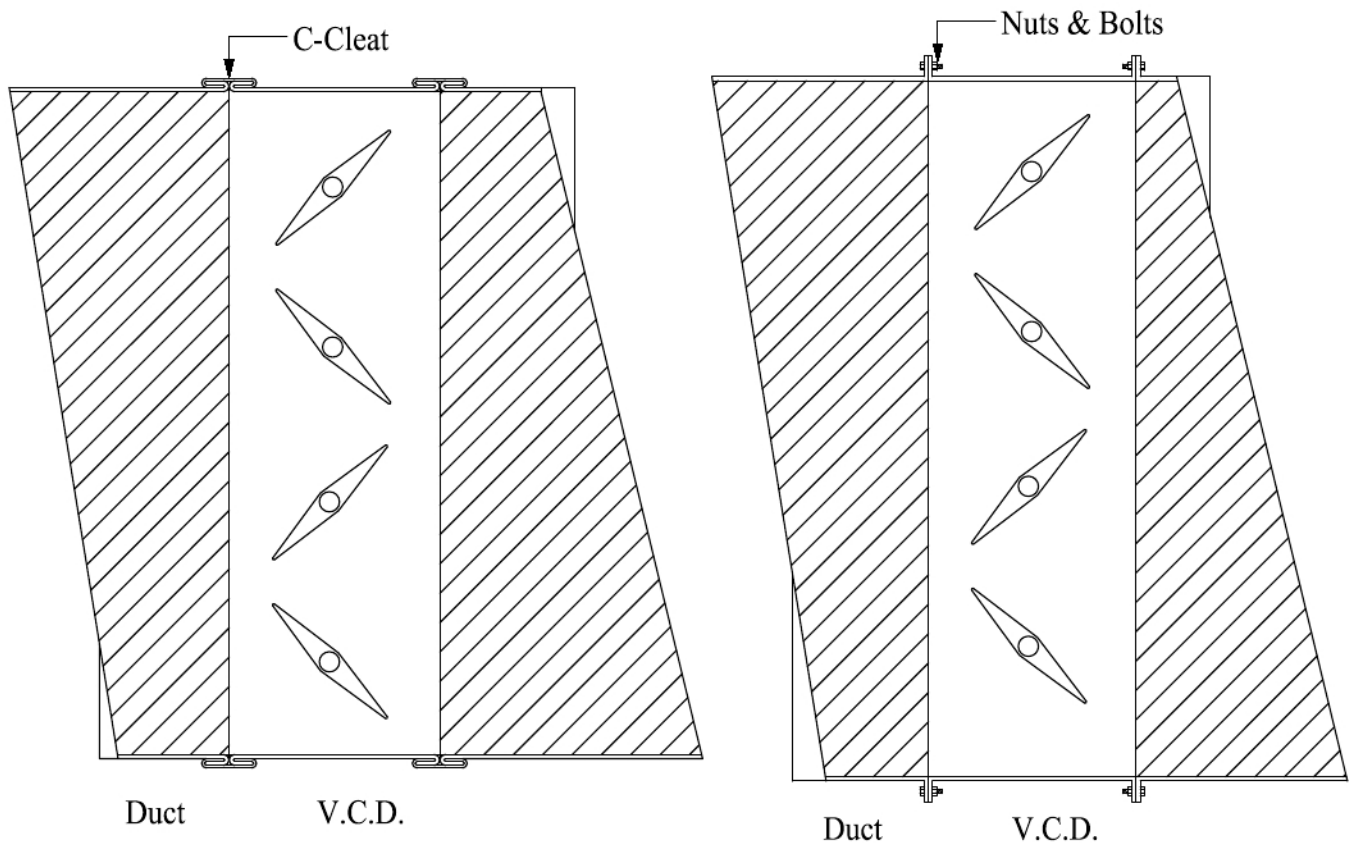
Product Summary:

| Model | Product Description | Remarks |
|----------------|-------------------------------------|--------------------------------|
| AVCD | GI Frame with double skin Al.Blades | Manual Quadrant |
| AVCD-M | GI Frame with double skin Al.Blades | With actuator |
| AVCD-SC | Slip & Clip type | |
| AVCD-SS | SS Frame with double skin SS blade | Option: Single skin SS blade |
| AVCD-ZL | GI Frame with double skin Al.Blades | With Jamb seal for Low leakage |
| AVCD-GI | GI Frame with double skin GI blade | Option: Single skin GI blade |
| AVCD-HD | Heavy Duty VCD | |
| AVCD-PI | Pre-Insulated VCD | |
| AVCD-C | Round/Circular VCD | Manual Quadrant |

Product Order check list:

- Model
- Size in Length x Width
- Quantity
- Refer options available for each product

Product Installation:





air master
ISO 9001 CERTIFIED COMPANY

AIR MASTER EQUIPMENTS EMIRATES LLC.

Post Box - 3180, Ajman, U.A.E.

Tel: +971 6 7436900, 7439600 Fax: +971 6 7436700

E-mail: airmastr@eim.ae, sales@airmaster.ae