



VOLUME CONTROL DAMPERS



Our Product Ranges

Dampers

- 1 Fire Dampers
- 2 Fire / Smoke Dampers
- 3 Volume Control Dampers
- 4 Motorized Control Dampers
- 5 Pressure Relief Dampers /Non Return Dampers

Variable Air Volumes

- 6 Pressure Independent VAV
- 7 Constant Air Volume VAV
- 8 By Pass VAV

Louvers

- 9 Sand Trap Louvers
- 10 Acoustic Louvers
- 11 Stationery Louvers / Architectural Louvers
- 12 Storm Louvers
- 13 Weather Louvers

Sound Attenuators

- 14 Rectangular Sound Attenuators
- 15 Circular Sound Attenuators
- 16 Crosstalk Attenuators

Electric Duct Heaters

- 17 Flange & Slip 'n' Type
- 18 Modulating & On/Off Type

Air Outlets

- 19 Registers & Grilles
- 20 Diffusers (Linear Diffusers, Sq. & Rect. Ceiling Diffusers, Round Diffusers, Jetflow Diffusers)
- 21 Swirl Diffusers & Disc Valves
- 22 Drum Louvers



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Airwellcare Manual or Automatic Control Dampers can be used to regulate the airflow, depending on the zone / area requirement, thus conserving the energy and substantial benefits and savings to the user as well facilitate to regulate overall comfort of the environment.

Airwellcare have comprehensive range and models of balancing dampers with maximum rigidity, cost-effective quality in Standard, Low Leakage, Ultra Low Leakage & Marine based Volume Control Dampers, to suit various HVAC Light, Medium and Heavy duty applications.

Selection & Design

Airwellcare Volume Control Dampers are designed and manufactured in compliance with international standards, to achieve the optimum results, to cater to the requirements of HVAC Industry.



Key Features

Available in Aluminium, Galvanized Steel, Stainless Steel or in any Combinations.

- ❖ Linkages out of air stream.
- ❖ Compatible to Duct flange and 'S' & 'C' systems.
- ❖ Easier and faster installation.
- ❖ QUALITY in Standard, Low Leakage, Ultra Low leakage & Marine based Construction suits to project requirement and application.
- ❖ Fully Non Corrosive optional construction.
- ❖ Design Flexibility.
- ❖ Hurdle free installation.
- ❖ Swift delivery upon 100% Production confirmation.
- ❖ Technical & after sales support.
- ❖ All sizes are custom fabricated to meet project requirements.

Model: AVD - S

Standard Construction

Casing

Casing is made of Galvanized Steel, Stainless Steel Or Aluminium with Standard Thickness of 1.2 mm.

Casing above 1.2mm Thickness is optional.

Blades

Blades are of 1.0 mm thick. Galvanized Single Skin or Aluminium 1.0mm thick. Aerodynamic Double Skin
Blade Width : 100, 150, 200 & 250mm

Blade Operation

Blades are operated either PARALLEL or OPPOSED directions.

Blade Axle

The Blade Axle/Shaft is made of 12x12mm Square Galvanized Steel.

Blade Stopper

18 Gauge Galvanized Steel Angle.

Locking Quadrant

Medium Or Heavy Duty (depends on application) Quadrant made of Heavy Gauge Galvanized Steel, fastened rigidly with position locking facility. Quadrant bracket Comprising visual position indicators.

Gaskets

Neoprene Gaskets are fixed in Blade edges to

prevent leakages.

Frame Depth

Standard frame depth is 130mm. Depth over & above 130mm are optional.

Bearings

Fire Resistant Nylon Bush / Bearings are supplied with VCD.



Linkages

Mechanical Linkages are made of 2.8mm Thick. Galvanized Steel rigidly fastened with damper Blades concealed in damper frame out of Air Stream.

Finish

All VCDs are supplied in Mill Finish.

Model: AVD - L

Low Leakage Dampers

Casing

Casing is made of Galvanized Steel, Stainless Steel or Aluminium with Standard Thickness of 1.2 mm.

Casing above 1.2mm Thickness is optional.

Blades

Blades are of 1.0 mm thick. Galvanized Single Skin or Aluminium 1.0mm thick. Aerodynamic Double Skin
Blade Width : 100, 150, 200 & 250mm

Blade Operation

Blades are operated either PARALLEL or OPPOSED directions.

Blade Axle

The Blade Axle is made of 12x12mm Square Galvanized Steel.

Blade Stopper

18 Gauge Galvanized Steel Angle.

Locking Quadrant

Medium Or Heavy Duty (depends on application) Quadrant made of Heavy Gauge Galvanized Steel, fastened rigidly with position locking facility. Quadrant bracket comprising visual position indicators.

Gaskets

Neoprene Gaskets are fixed on Blade edges to prevent leakages.

Side Seals (Jamb Seals)

0.3mm Thick. Stainless Steel of Grade 304 is placed on both the blade edges, to prevent the leakage of air between Blades & Damper frame.

Bearings

Fire Resistant Brass Bearings are appropriately positioned on the damper frame through the Damper Axle / Spindle.

Linkages

Mechanical Linkages are made of 2.8mm Thick. Galvanized Steel rigidly fastened with damper Blades concealed in damper frame out of Air Stream.

Frame Depth

Standard frame depth is 130mm. Depth over & above 130mm are optiona.

Finish

All VCDs are supplied in Mill Finish.



Model: AVD - LS

Stainless Steel Low Leakage Dampers

Airwellcare Airwellcare AVD LS is a low leakage damper fully constructed in Stainless Steel, which is perfectly appropriate to a corrosive and tough atmospheric conditions.

Casing

Casing is made of 1.2mm thick. (18 Gauge) Stainless Steel Grade 304 Or 316.

Blade

Blades are made of 1.0mm thick (20 Gauge) Stainless Steel Grade 304 Or 316.

3V type Single Skin Or Aerodynamic Double Skin type.

Blade Operation

Blades are operated either PARALLEL or OPPOSED directions.

Blade Axle

The Blade Axle is made of Stainless Steel Grade 304 Or 316 in 12x12mm Square.

Blade Stopper

18 Gauge 304 Or 316 Grade.

Locking Quadrant

Medium Or Heavy Duty (depends on application) Quadrant made of Heavy Gauge Stainless Steel (304 / 316 Grade), fastened rigidly with position locking facility. Quadrant bracket comprising visual position indicators.

Silicone Gaskets

Fire Resistant Silicone Gaskets are fixed on both sides of blade edges to prevent leakages (only for 3V Type single skin blades).

Bearings

Fire Resistant Brass / Stainless Steel bearings are appropriately positioned on the damper frame through the Damper Axle / Spindle.

Side Seals (Jamb Seals)

0.3mm Thick. Stainless Steel of Grade 304 is placed on both the blade edges, to prevent the leakage of air between Blades & Damper frame.

Linkages

Mechanical Linkages are made of 2.8mm Thick. Stainless Steel (304/316 Gr.) rigidly fastened with damper Blades concealed in damper frame out of Air Stream.

Frame Depth

Standard frame depth is 130mm. Depth over & above 130mm are optional.

Finish

Finish All VCDs are supplied SS 304 / 316 Grade Mill Finish.



Model: AVD - U

Ultra Low Leakage Dampers

Airwellcare Ultra Low Leakage Volume Control Dampers have excellent leakage rated performance.

Its robust galvanized steel construction features with remarkable interlocking frame design with the strength of 16 Gauge makes perfect performance in medium and high velocity and pressure applications.

Casing

Casing is made of 1.5mm thick. (16 Gauge) Galvanized Steel / Stainless Steel (304 / 316).

Blades

Blades are Galvanized Single Skin 3V Blade
Blade Width : 100, 150 & 200 mm.

Blade Thickness : 18 Gauge

Blade Operation

Blades are operated either PARALLEL or OPPOSED directions.

Blade Axle

The Blade Axle is made of 12x12mm Square Galvanized Steel.

Blade Stopper

18 Gauge Galvanized Steel Angle.

Locking Quadrant

Medium Or Heavy Duty (depends on application) Quadrant made of Heavy Gauge Galvanized Steel, fastened rigidly with position locking facility and quadrant bracket including visual position indicators.

Silicone Gaskets

Fire Resistant Silicone Gaskets are fixed on both sides of blade edges to prevent leakages.



Bearings

Fire Resistant Brass Bearings are appropriately positioned on the damper frame through the Damper Axle / Spindle.

Side Seals (Jamb Seals)

0.3mm Thick. Stainless Steel of Grade 304 is placed on both the blade edges, to prevent the leakage of air between Blades & Damper frame.

Linkages

Mechanical Linkages are made of 2.8mm Thick. Galvanized Steel rigidly fastened with damper Blades concealed in damper frame out of Air Stream.

Frames Depth

Standard frame depth is 130mm. Depth over & above 130mm are optional.

Finish

All VCDs are supplied in Mill Finish.

Model: AVD - M

Marine Dampers

Airwellcare Marine damper has been specially designed for Marine Applications. The Stainless Steel construction provide an enduring solution for corrosive environment for both commercial and industrial HVAC applications.

The solid 3V type blades and its heavy duty construction frame that withstand in harshest environment. Airwellcare Marine based Volume Control Dampers have excellent leakage rated performance.

Construction Details

Frame Depth

Standard frame depth is 130mm. Depth over & above 130mm are optional.

Casing

Casing is made of 3.0mm thick. (11 Gauge) Stainless Steel (304 or 316 Grade) or Galvanized Steel.

Blades

Blades are of 16 Gauge (1.5mm) Heavy Gauge Stainless Steel 304 / 316 Grade Or Galvanized Steel 3V type Blades.

Blade Width : 100, 150 & 200 mm.

Blade Operation

Blades are operated either PARALLEL or OPPOSED directions.

Blade Axle

The Blade Axle is made of 12x12mm Square Stainless Steel 304 Grade.



Blade Stopper

16 Gauge Galvanized Steel / Stainless Steel Angle.

Locking Quadrant

Heavy Duty Quadrant is made of Heavy Gauge Galvanized Steel, fastened rigidly with position locking facility and quadrant bracket including visual position indicators.



Side Seals (Jamb Seals)

0.3mm Thick. Stainless Steel of Grade 304 is placed on both the blade edges, to prevent the leakage of air between Blades & Damper frame.

Linkages

Mechanical Linkages are made of 2.8mm Thick. Stainless Steel rigidly fastened with damper Blades concealed in damper frame out of Air Stream.

Silicone Gaskets

Fire Resistant Silicone Gaskets are fixed on both sides of blade edges to prevent extra leakages.

Bearings

Stainless Steel Bearings are appropriately positioned on the damper frame through the Damper Axle / Spindle.

Finish

All VCDs are supplied in Mill Finish.

Key Features

- Tightness in closed position fulfills class 1 requirements as per International Standard.
- Heavy Gauge Stainless Steel or Galvanized Steel Frame Construction.
- Blades are of stainless steel or Galvanized Steel construction, Opposed or Parallel operation.
- Corrosion Resistant Stainless steel Axle & bearings.
- All Accessories & Fasteners are Non Corrosive type, which will add strength to the damper.
- Rattle Free operation of damper.
- Customized Design flexibility.
- The design also features stainless steel zero-maintenance concealed blade linkage for reduced pressure drop and turbulence.



Model: AVD - C & AVD CR

Circular Damper

Airwellcare manual butterfly damper designed for all types of round duct applications suitable for use in most low pressure and velocity commercial HVAC applications.

Casing

Casing is made of Galvanized Steel or Stainless Steel with Standard Thickness of 1.2 mm.

Casing above 1.2mm Thickness is optional.

Circular Dampers are available from Dia 50mm to Dia 400mm.

Circular Dampers over & above 400mm Dia will be constructed with Rectangular casings with Circular Spigot & Aerodynamic single or multiple blades.

Blades

Blades are made of 1.0mm Thick. Galvanized Single Skin Blade.

Blade Axle

The Blade Axle is made of 12x12mm Square Galvanized Steel.

Locking Quadrant

Heavy Gauge Galvanized Steel, fastened rigidly with position locking facility and quadrant bracket including visual position indicators.

Bearings

VCDs are Supplied with Nylon Bearings.

Linkages

Mechanical Linkages are made of 2.8mm Thick. Galvanized Steel rigidly fastened with damper Blades concealed in damper frame out of Air Stream (Only with AVD-CR Model).

Flanges

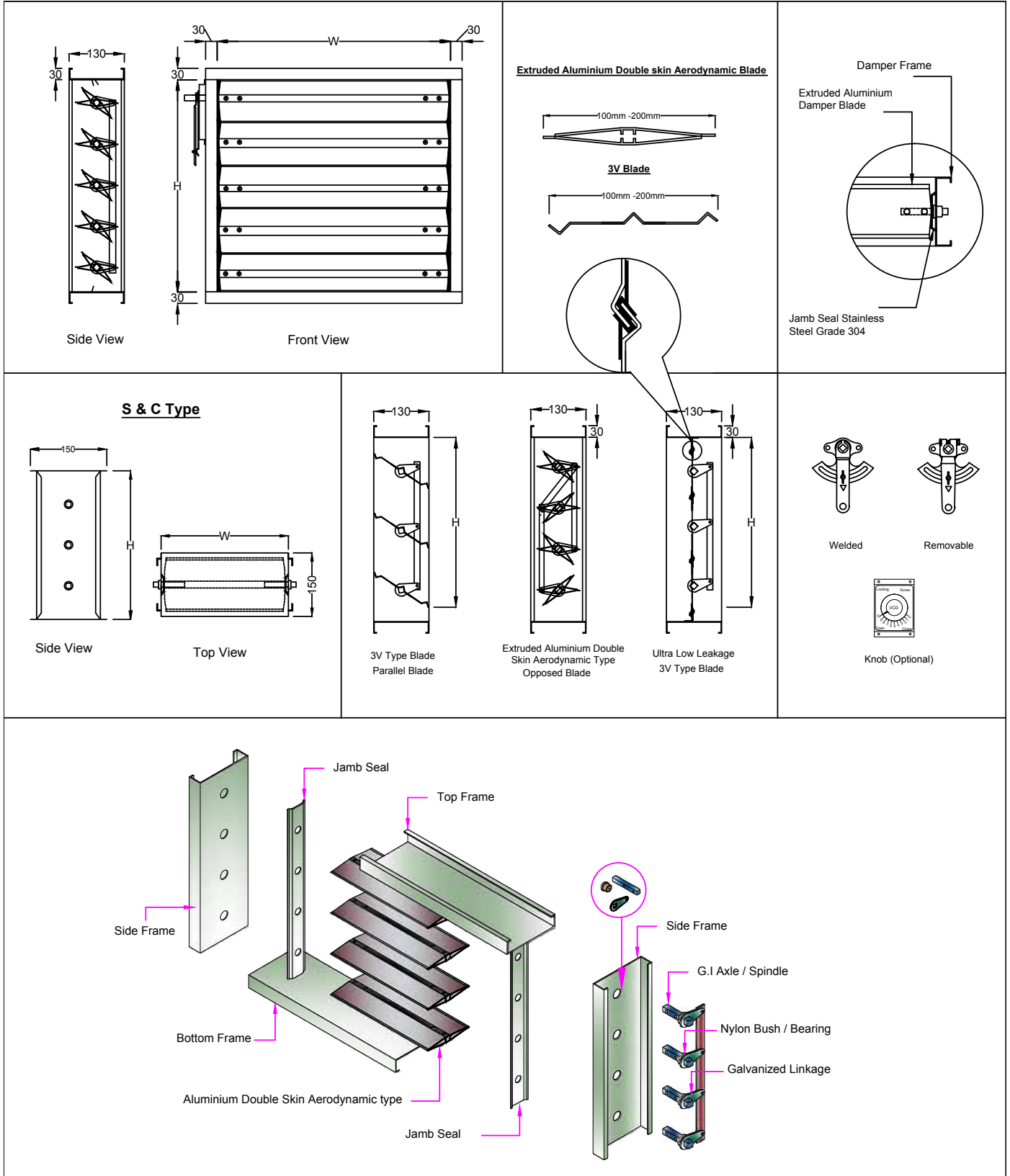
Plain Flanges are supplied with VCDs are made of same material & thickness of casing. (Only with AVD-CR Model).

Gaskets Rubber Gaskets are provided on the edge of circular blade, to prevent the leakage.



AVD CR

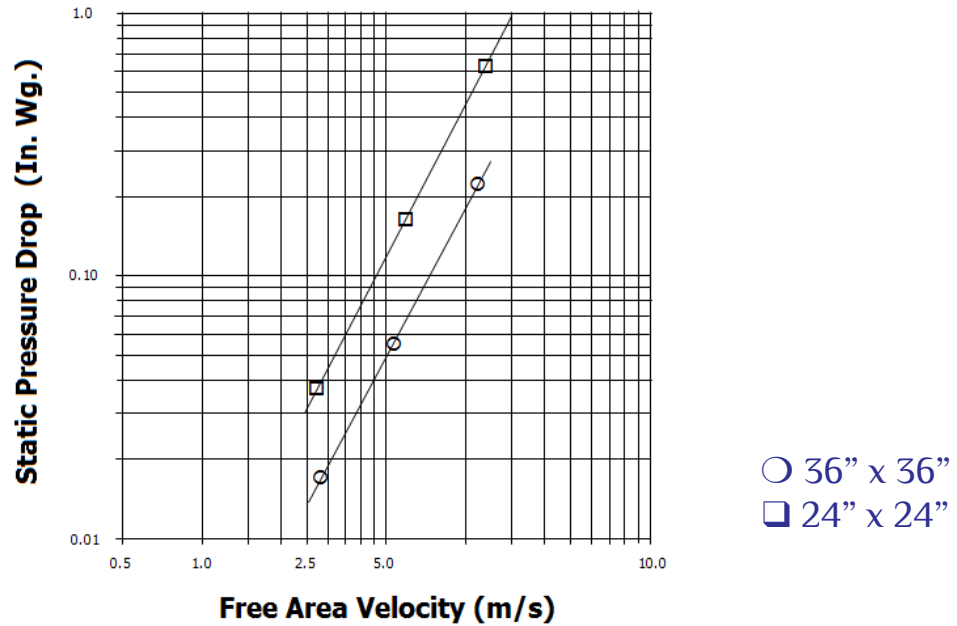
Dimensional Data



Engineering Guidelines

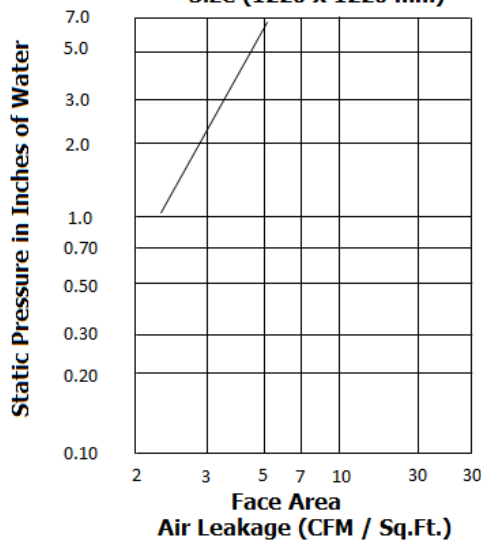
Pressure Drop (Standard Damper Construction)

Free Area Velocity Vs Pressure Drop

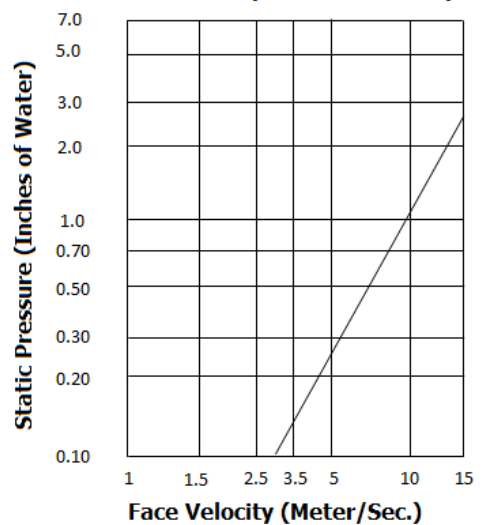


Air Leakage & Pressure Drop Low Leakage, Ultra Low Leakage & Marine Dampers

**(Damper in 100% Closed Position)
Size (1220 x 1220 mm)**



Air Velocity Vs Pressure Drop



- Airwellcare Standard & Low Leakage Volume Control Dampers can be used where the maximum system pressure is up to 1500 Pa and duct velocities to 15m/s.
- All Ultra Low Leakage & Marine based dampers can be used where the maximum system pressure is up to 3500 Pa and duct velocities to 25m/s.

Engineering Guidelines

PARALLEL BLADES & OPPOSED BLADES

Airwellcare Volume Control Dampers are designed with two types of Blade movements, based on the operation requirement.

PARALLEL BLADES

Parallel Blades requires the damper blades to rotate in the same direction, parallel to one another. Parallel blades more suitable to low-pressure zone control systems. Parallel blades rapidly increases the flow when damper begins to open.

OPPOSED BLADES

In this blade movements, adjacent damper blades rotate opposite one another. Opposed blade configuration is typically used on dampers that modulate airflow. Opposed blades gives slow increase in the flow when damper begins to open.

General Compliance

- The standard 1.2mm Galvanized steel flanged type casing complies with HVAC Ductwork Specification DW144, at Temp. not exceeding 70°C.
- The standard material, Galvanized Steel coating conforms to Z-22 to Z-27.
- Stainless steel peripheral gasketing (Side Seals) included, which allows for expansion under high temp. conditions.
- All Types of Airwellcare Volume Control Dampers can be used where the maximum system pressure is up to 1500 Pa and duct velocities to 15m/s.
- Volume Control Damper is suitable for both vertical and horizontal applications with airflow in either direction.
- Corrosion comply to BS EN 60068-2-52.
- Conformed to International standards of NFPA 90A & UL 181 for erosion.
- Stainless Steel Axles, bearings and accessories for a long lasting operation suitable for use in applications with temperatures ranging from -50° F (-45° C) to 250° F (121° C) depending on blade configuration & leakage requirements.

Model Selection & Ordering System

Volume Control Dampers larger than the maximum single section sizes are fabricated in multiple section assemblies. These assemblies consists of sections of equal size, which are coupled together with the help of full length Axle / Shaft.

A) Model Selection Select the below suitable model					
AVD-S Standard	AVD-L Low Leakage	AVD-U Ultra Low Leakage Stainless Steel Construction	AVD-LS Low Leakage with 100% Stainless Steel Construction	AVD-M Marine Damper	AVD-C/CR Circular/ with Rect. Casing

(B) Blade Selection Select the Blade movement	
A – Parallel Blade	X – Opposed Blade

(C) Blade Options Select the Blade configuration				
E Extruded Alumin- ium Aerodynamic Double Skin	G1 Galvanized Steel 3V Type Single Skin	G2 Galvanized Steel Aerodynamic Double Skin	S1 Stainless Steel 304 Or 316 Grade Single Skin	S2 Stainless Steel 304 Or 316 Grade Aerodynamic Double Skin

Example 1: Model selected AVD-S-EA :

Volume Control Damper, Standard, Extruded Aluminium Aerodynamic Double Skin, Parallel Blade operation.

Example 2: Model selected AVD-U-X-S1 :

Volume Control Damper, Ultra Low Leakage, Opposed Blade operation, Stainless Steel 304 Or 316 Grade Single Skin,

Minimum Single Section Size	Maximum Single Section Size	Maximum Multiple Section Size
100 x 100mm (w x h)	1250 x 1250mm (w x h)	Customers Option



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