

VOLUME CONTROL DAMPER

Features:

AEROSYS multi-leaf volume control dampers have been specifically designed for use in ventilation systems for volume, flow and pressure control in low pressure and light duty applications from low cost. The casing is of sleeve / S & C type which suits most of the ductwork. The blades are of single skin GI/double skin aero foil shaped AL*/GI with blade operation parallel*/opposed. The dampers can be fitted with hand locking quadrant or can be operated by electric or pneumatic actuators. The maximum size of these VCDs is 500 x 500 mm single module.



How to Order?

Item	Family	Model	Specification		Material		Type	Construction
			Frame	Blade	Frame	Blade		
VCD	1	S	Sleeve Type	Single Skin*	GI*,AL,SS.	GI*,SS.	Parallel*/Opposed.	Sleeve Type
				Double Skin	GI*,AL,SS.	GI,AL*,SS.	Parallel*/Opposed.	
		SC	S&CType	Single Skin*	GI*,AL,SS.	GI*,SS.	Parallel*/Opposed.	S & C Type
				Double Skin	GI*,AL,SS.	GI,AL*,SS.	Parallel*/Opposed.	

* - Standard construction.

Standard Construction (AERO-1S / 1SC):

- **Frame** - 5" x 1" (127 x 25 mm) x 20 gauge (1.0 mm) thick Galvanized steel sheet.
- **Blades** - 4" (100 mm)/6" (150 mm), 20 gauge (1.0 mm) thick Galvanized steel sheet, Single skin blade.
- **Linkage** - Galvanized steel sheet linkages.
- **Axles** - ½" (12.7 mm) Galvanized square bar.
- **Bearings** - Nylon bushes.
- **Shaft** - ½" (12.7 mm) full length Galvanized Square bar.
- **Finish** - Mill Finish.
- **Min. Size** - 4" x 4" (100 x 100 mm).
- **Max. Size** - Multi-blade, parallel or opposed operation 20" x 20" (500 x 500 mm).
- **Operator** - Galvanized heavy duty quadrant with manual position indicator as Open, ¼, ½, ¾, shut.

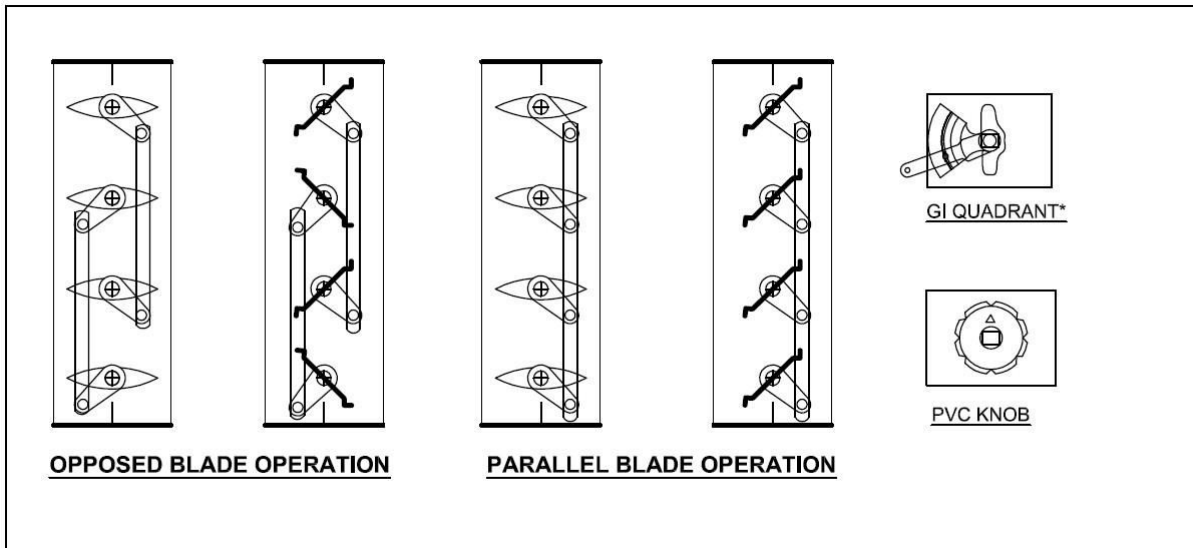
Optional Available construction (AERO- 1S / 1SC):

- **Frame** - Available material Aluminum or Stainless steel (304L / 316L).
- **Blades** - Available with Extruded Aluminum section or Stainless steel (304L / 316L) in double skin aero foil or 3V shape single skin.
- **Bearings** - Bronze or Brass bushes.
- **Operator** - Fitted with electrical Actuator.
- **Finish** - Powder coated on request.

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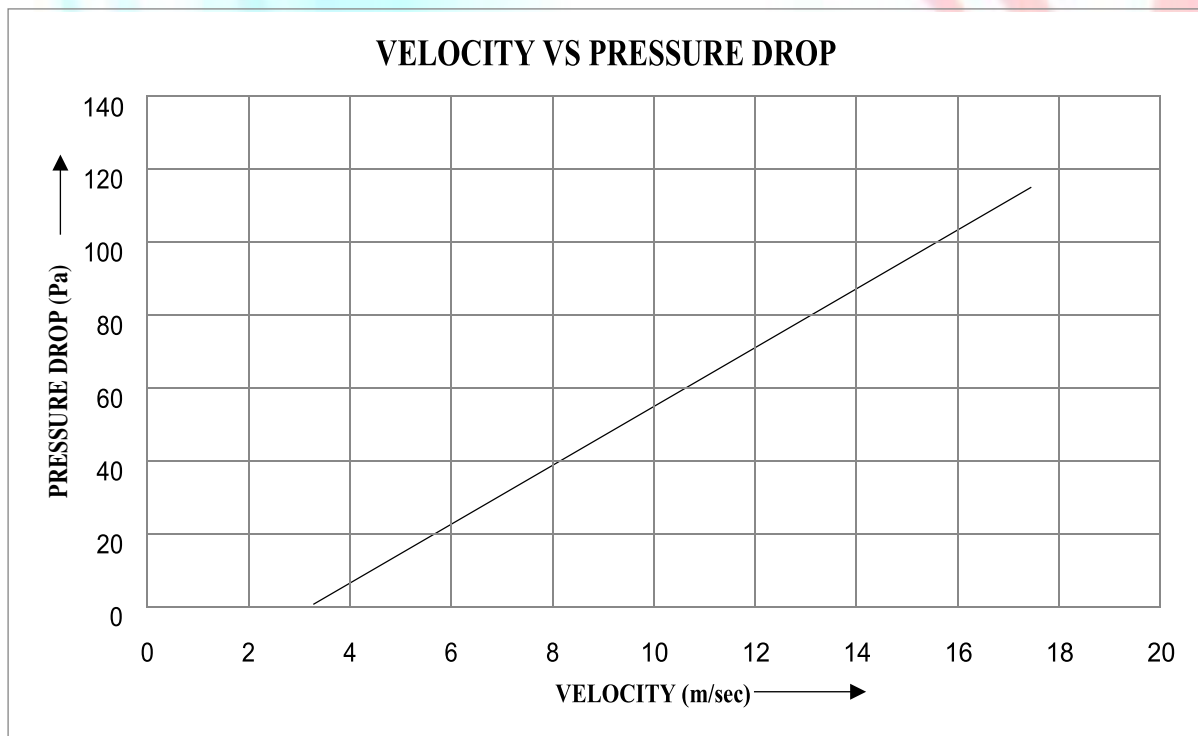
- Available Sizes:
- Available in all Squares as well as rectangular sizes.
- Minimum size available is 4" x 4" (100 x 100 mm) and maximum single piece size of 20" x 20" (500 x 500 mm) as per SMACNA & DW144 standards.
- Sizes bigger than the maximum size will be supplied as flange type.

Constructional and Dimensional Details:



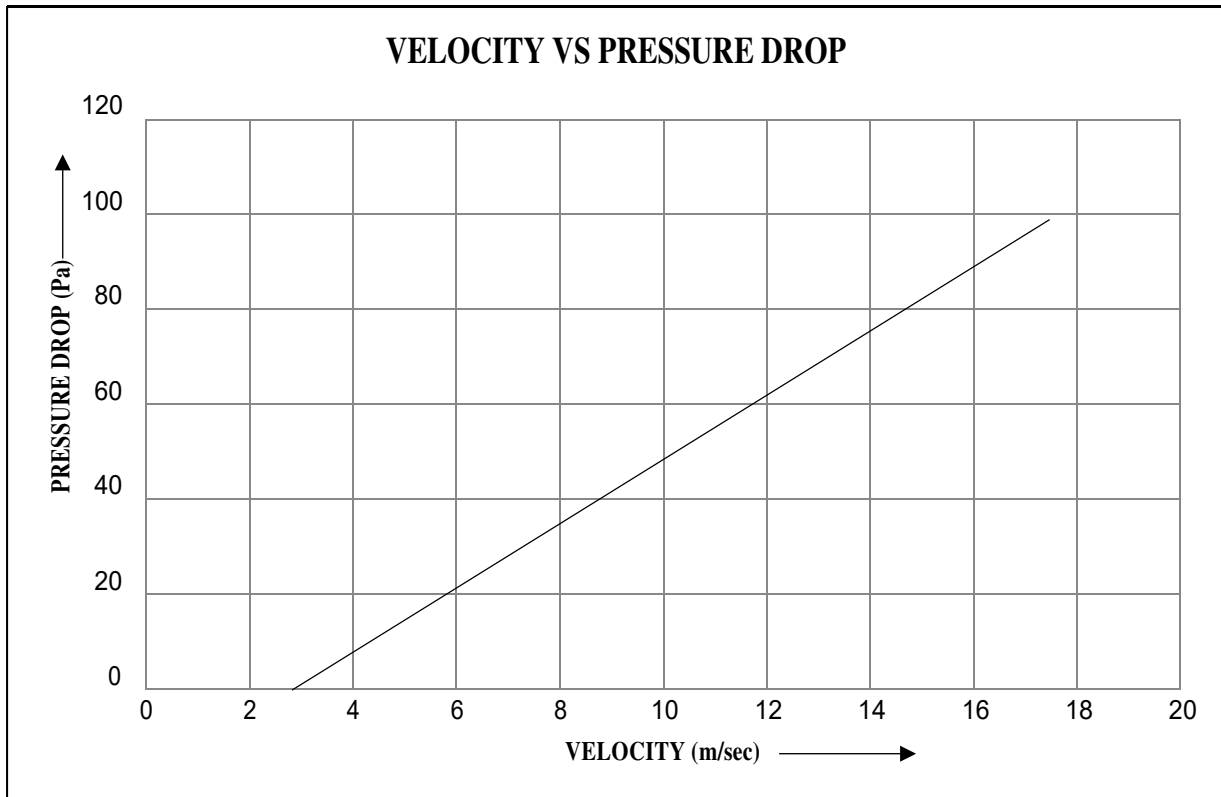
Performance graph:

Volume Control Damper with Single skin blades 100% open condition (1S / 1SC):

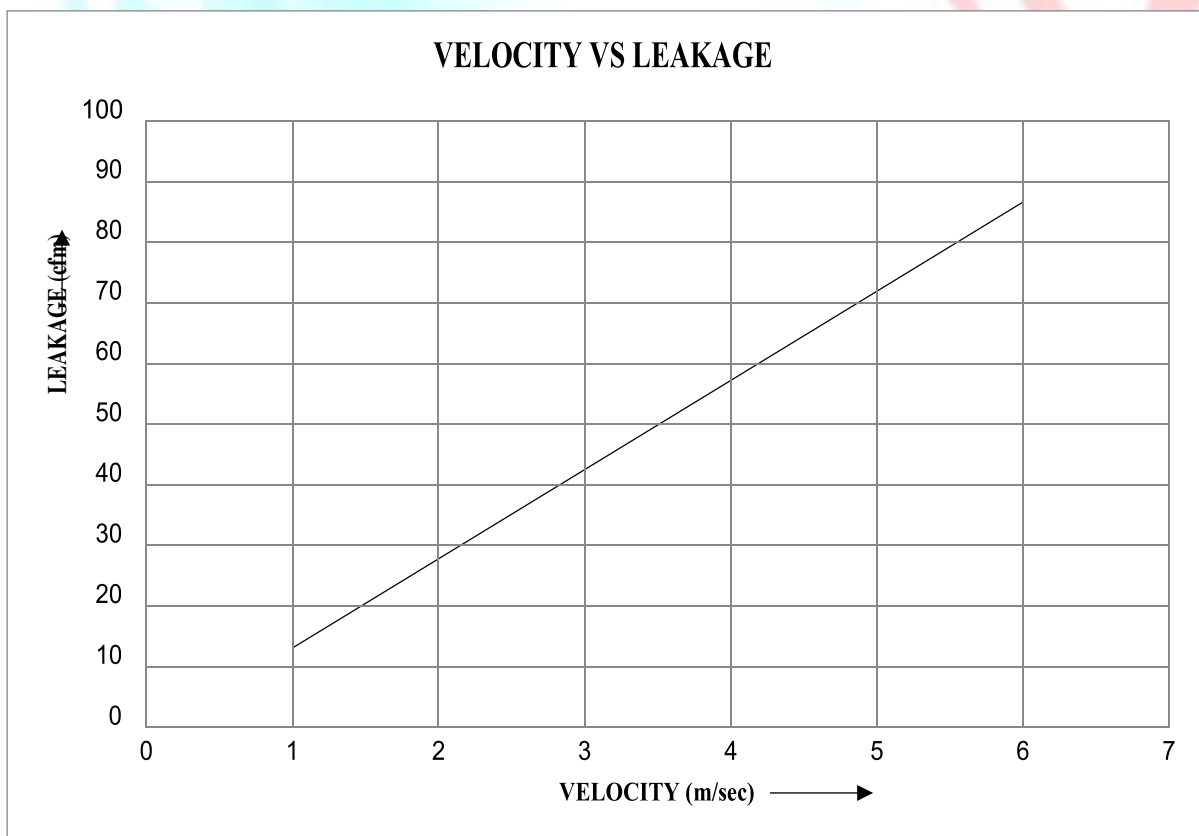


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Volume Control Damper with Double skin aero foil shaped blades 100% open condition (AERO-1S / 1SC):



Volume Control Damper blades 100% closed condition (AERO-1S / 1SC):



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Features:

The AERO-VCD-2A / 2B multi-leaf volume control damper have been specifically designed for use in ventilation systems for volume, flow and pressure control. These are available in rectangular and square shape. 2A model is normal flanged type of volume control dampers having leakage of 140CFM/Sqft @ 1000 Pa and at air velocity of 2000 fpm and recommendable to use for light and medium application in commercial and residential buildings. 2B model is low leakage type having 20CFM/Sqft @ 1000 Pa and at air velocity of 2000 fpm when tested in accordance with AMCA standards. Normally these dampers are fitted with heavy duty galvanized



quadrant for operation which is having position indication mark as Open, 1/4, 1/2, 3/4, shut and can be fitted with electric actuators for automatic operations on request.

How to Order?

Item	Family	Model	Specification		Material		Type	Construction
			Frame	Blade	Frame	Blade		
VCD	2	A	Flange Type	Single Skin	GI*,AL,SS.	GI*,SS.	Parallel */Opposed.	Flange Type
			Flange Type	Double Skin*	GI*,AL,SS.	GI,AL*,SS.	Parallel */Opposed.	
		B	Flange Type	Single Skin	GI*,AL,SS.	GI*,SS.	Parallel */Opposed.	Low leakage Flange Type
			Flange Type	Double Skin*	GI*,AL,SS.	GI,AL*,SS.	Parallel */Opposed.	

* - Standard construction.

Standard Construction (AER0-2A / 2B):

- **Frame** - 5" x 1" (127 x 25 mm) x 18 gauge (1.2 mm) thick Galvanized steel sheet. Mounting Flanges on both sides of frame.
- **Blades** - 4" (100 mm) / 6" (150 mm), 20-gauge thick extruded aluminum, aero foil shaped blades with integral structural reinforcing tube.
- **Linkage** - Galvanized steel sheet linkages Concealed in frame.
- **Axles** - 1/2" (12.7 mm) Galvanized square bar.
- **Bearings** - Nylon bushes.
- **Shaft** - 1/2" (12.7 mm) full length Galvanized Square bar.
- **Gasket** - Foam Gasket.
- **Seals (2B*)** - Flexible Stainless-steel compression type jamb seals for low leakage.
- **Finish** - Mill Finish.
- **Min. Size** - Single blade, parallel action 4" x 4" (100 x 100 mm).
- **Max. Size** - Multi-blade, parallel or opposed operation 48" x 48" (1200 x 1200 mm).
- **Operator** - Galvanized heavy-duty quadrant with manual position indicator as Open, 1/4, 1/2, 3/4, shut.

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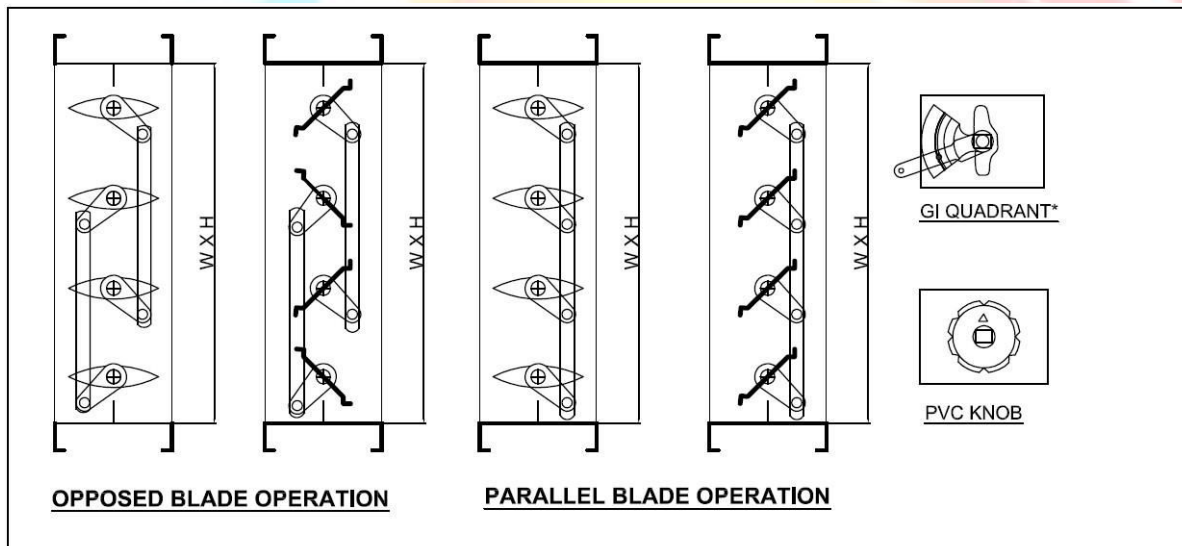
Optional Available construction (AERO- 2A / 2B):

- **Frame** - Available material Aluminum or Stainless steel (304L / 316L).
- **Blades** - Available in Galvanized steel or Stainless steel (304L / 316L) in double skin aero foil or 3V shape single skin.
- **Bearings** - Bronze or Brass bushes.
- **Operator** - Fitted with electrical Actuator.
- **Finish** - Powder coated on request.

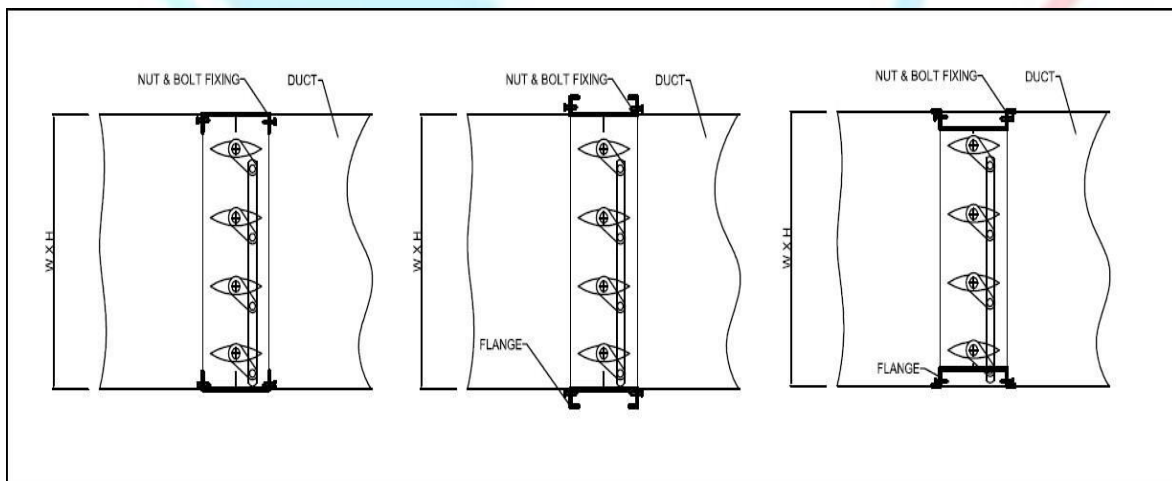
Available Sizes:

- Available in all Squares as well as rectangular sizes.
- Minimum size available is 4" x 4" (100 x 100 mm) and maximum single piece size of 48" x 48" (1200 x 1200 mm) as per SMACNA & DW144 standards.
- Sizes bigger than the maximum size will be supplied in multiple pieces as per request.

Constructional and Dimensional Details:



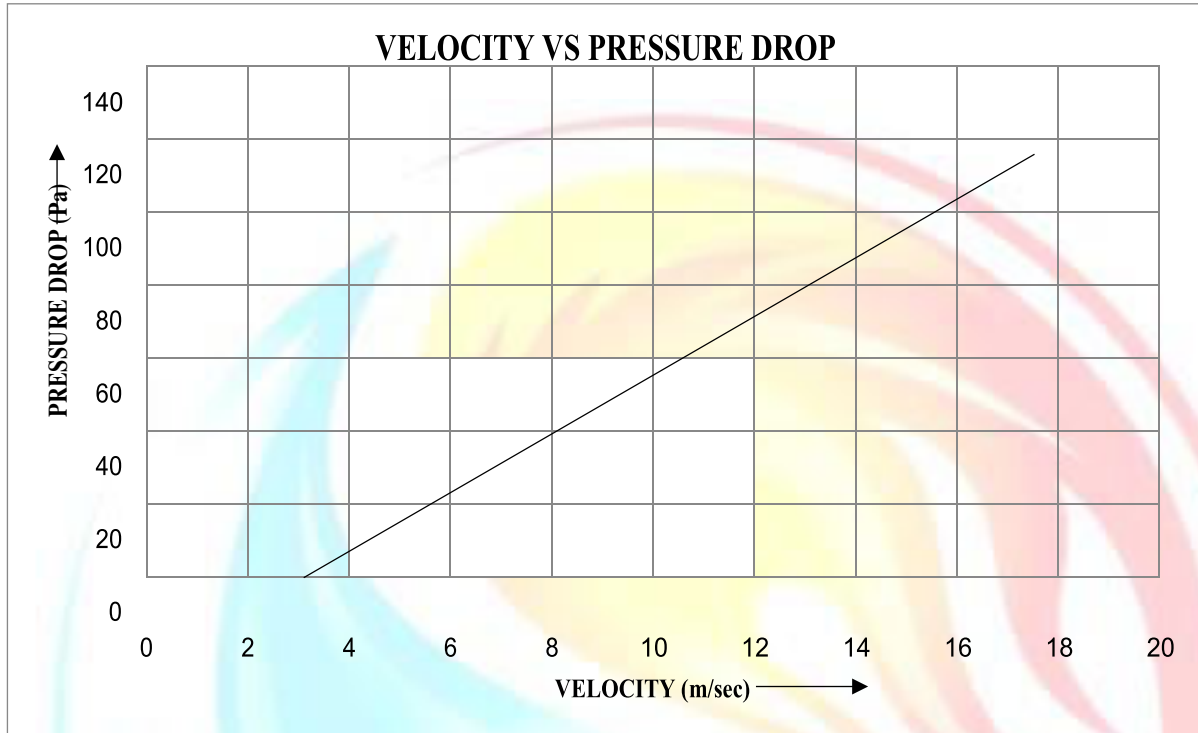
Recommended Installations:



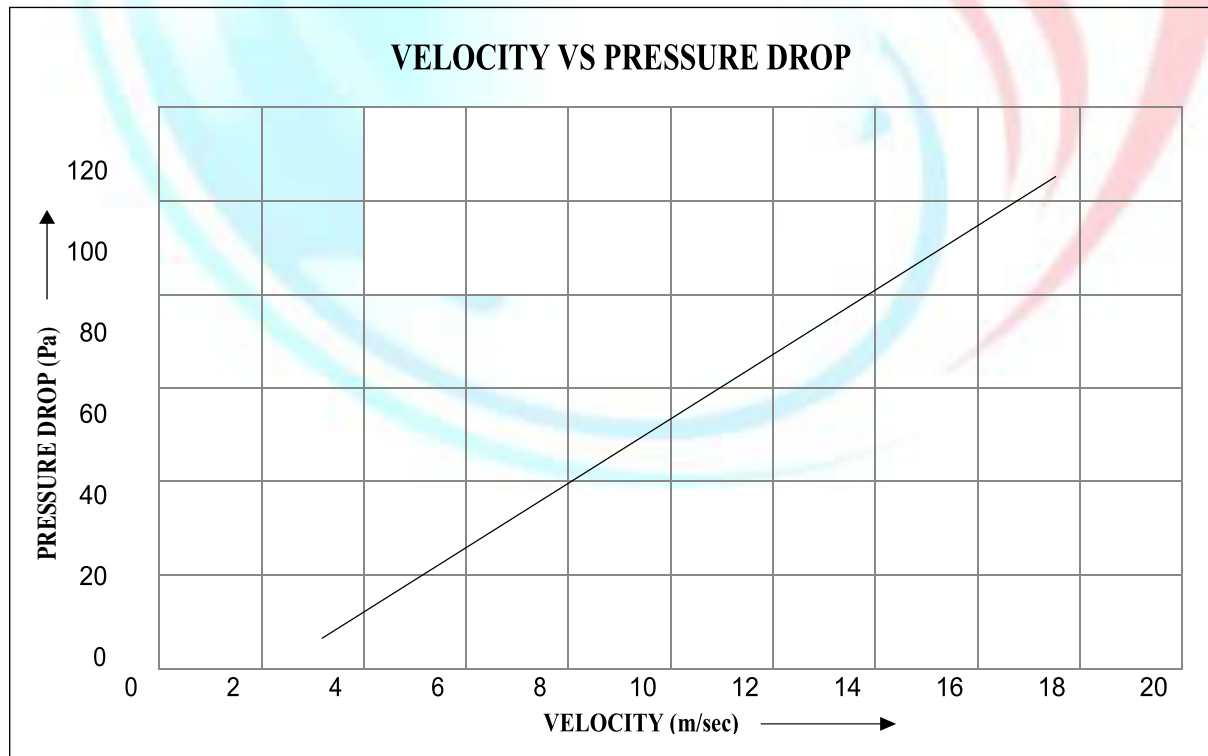
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Performance graph:

Volume Control Damper with Single skin blades 100% open condition (AERO-2A / 2B):

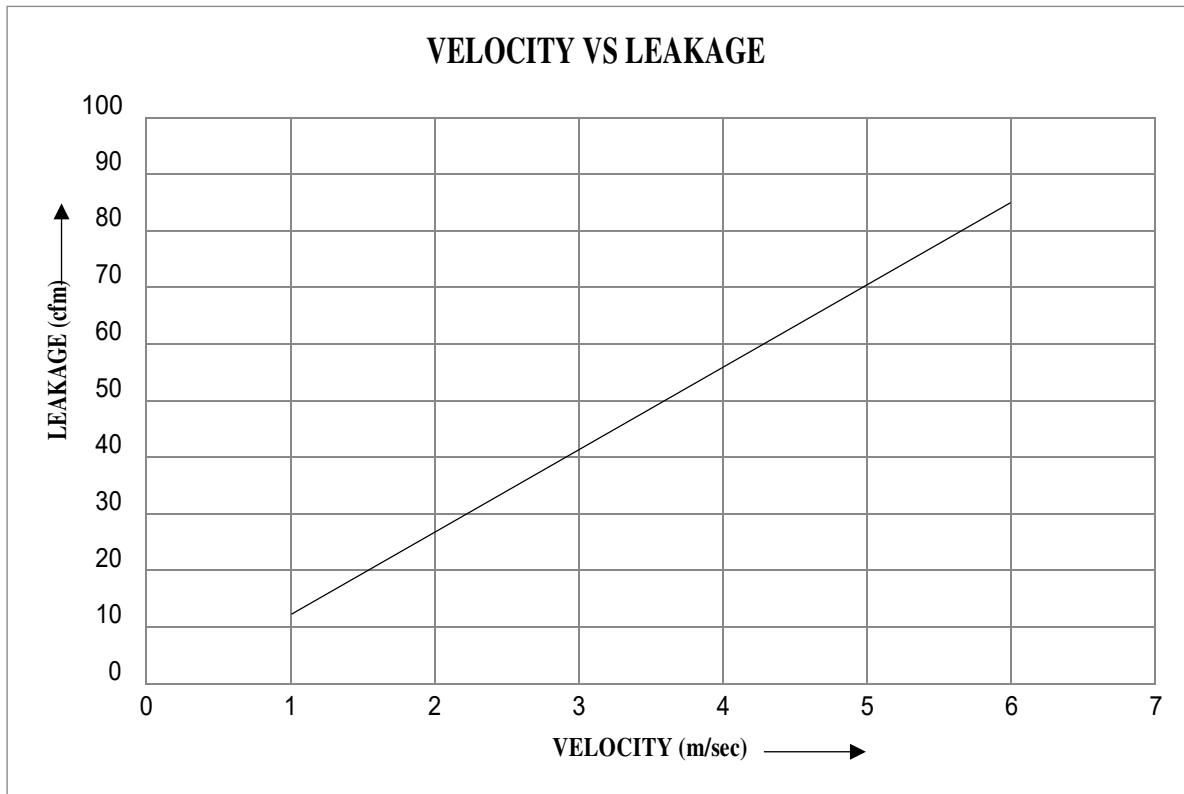


Volume Control Damper with Double skin aero foil shaped blades 100% open condition (AERO-2A / 2B):

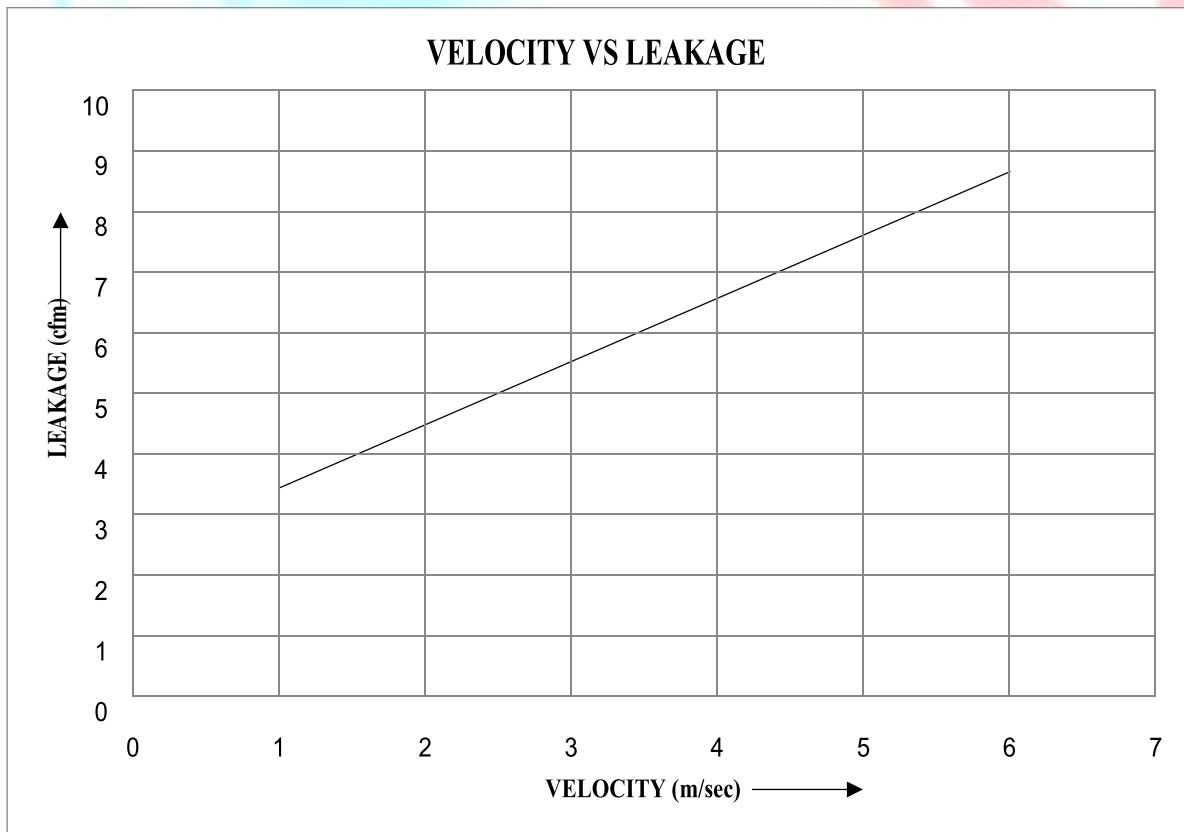


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Volume Control Damper blades 100% closed condition (AERO-2A):



Volume Control Damper blades 100% closed condition (AERO-2B):



ROUND VOLUME CONTROL DAMPER

Features:

The AERO-RVCD-3S / 3S1 round volume control damper have been specifically designed for use in ventilation systems for volume, flow and pressure control. Normally these dampers are fitted with heavy duty galvanized quadrant for operation which is having position indication mark as Open, 1/4, 1/2, 3/4, shut and can be fitted with electric actuators or PVC Knob on request.



How to Order?

Item	Family	Model	Specification		Material		Type	Construction
			Frame	Blade	Frame	Blade		
RVCD	3	S	Round with Both side grooves	Single Skin*	GI*, SS.	GI*, SS.	Round Without Gasket	Round with Grooves
				Double Skin	GI*, SS.	GI*, SS.	Round Without Gasket	
		S1	Round with Both side grooves	Single Skin*	GI*, SS.	GI*, SS.	Round With Gasket	Round with Grooves
				Double Skin	GI*, SS.	GI*, SS.	Round With Gasket	

* - Standard construction.

Standard Construction (AER0-3S / 3S1):

- **Frame** - 22 gauge* (0.8 mm) / 20 gauge (1.0 mm) thick Galvanized steel sheet. Grooving on both sides of frame.
- **Blades** - 22 gauge* (0.8 mm) / 20 gauge (1.0 mm) thick Galvanized steel sheet blades.
- **Spindles** - 2/5" (10 mm) / 1/2" (12.7 mm) Galvanized square bar.
- **Bearings** - Nylon bushes.
- **Gasket S1*** - Foam Gasket.
- **Finish** - Mill Finish.
- **Min. Size** - 4" (100 mm) Ø Diameter.
- **Operator** - Galvanized heavy-duty quadrant with manual position indicator as Open, 1/4, 1/2, 3/4, shut.

Optional Available construction (AER0-3S / 3S1):

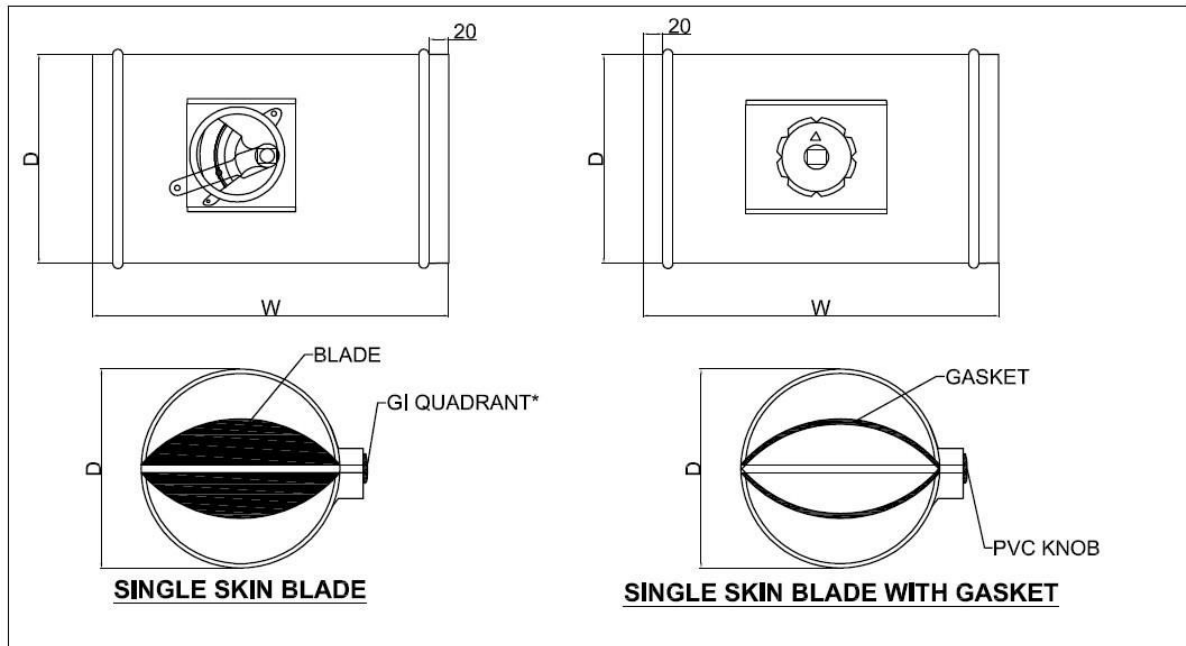
- **Frame** - Available material Stainless steel (304L / 316L).
- **Blades** - Available in Stainless steel (304L / 316L).
- **Bearings** - Bronze or Brass bushes.
- **Operator** - Fitted with electrical Actuator.
- **Finish** - Powder coated on request.

ROUND VOLUME CONTROL DAMPER

Available size:

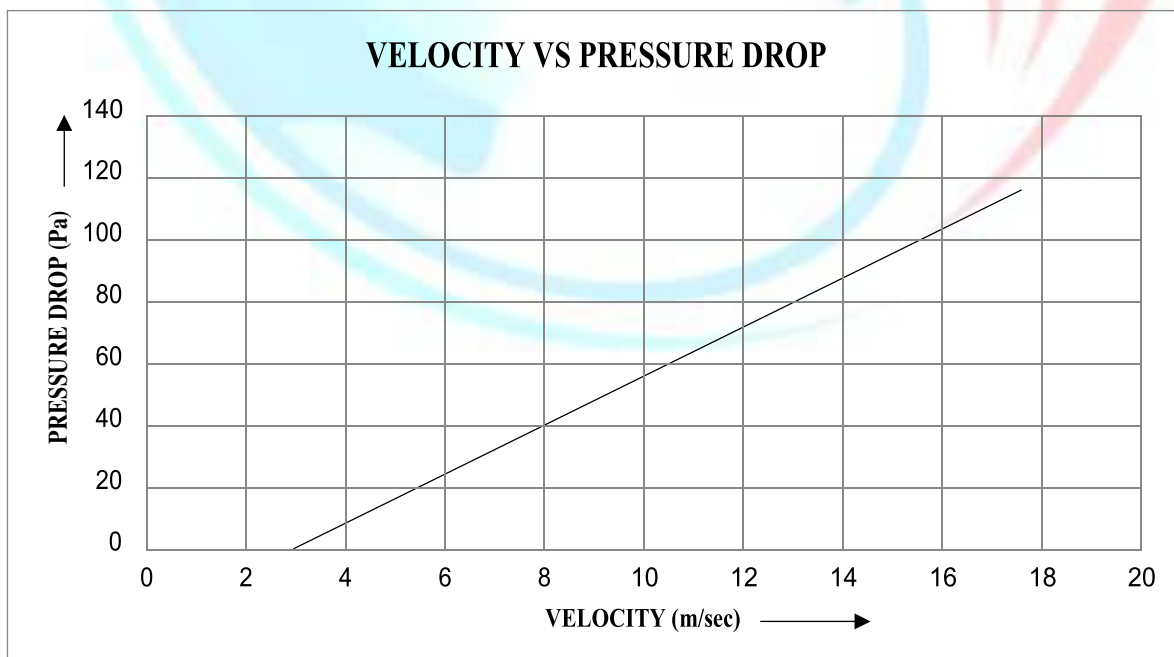
- **Minimum Size 4" (100 mm) Dia. and length of same as given Dia.**
- **Maximum Size 24" (600 mm) Dia and length of same as given Dia.**
- **Size bigger than maximum can also be manufactured on request with higher thickness of frame and blades.**

Constructional and Dimensional Details:



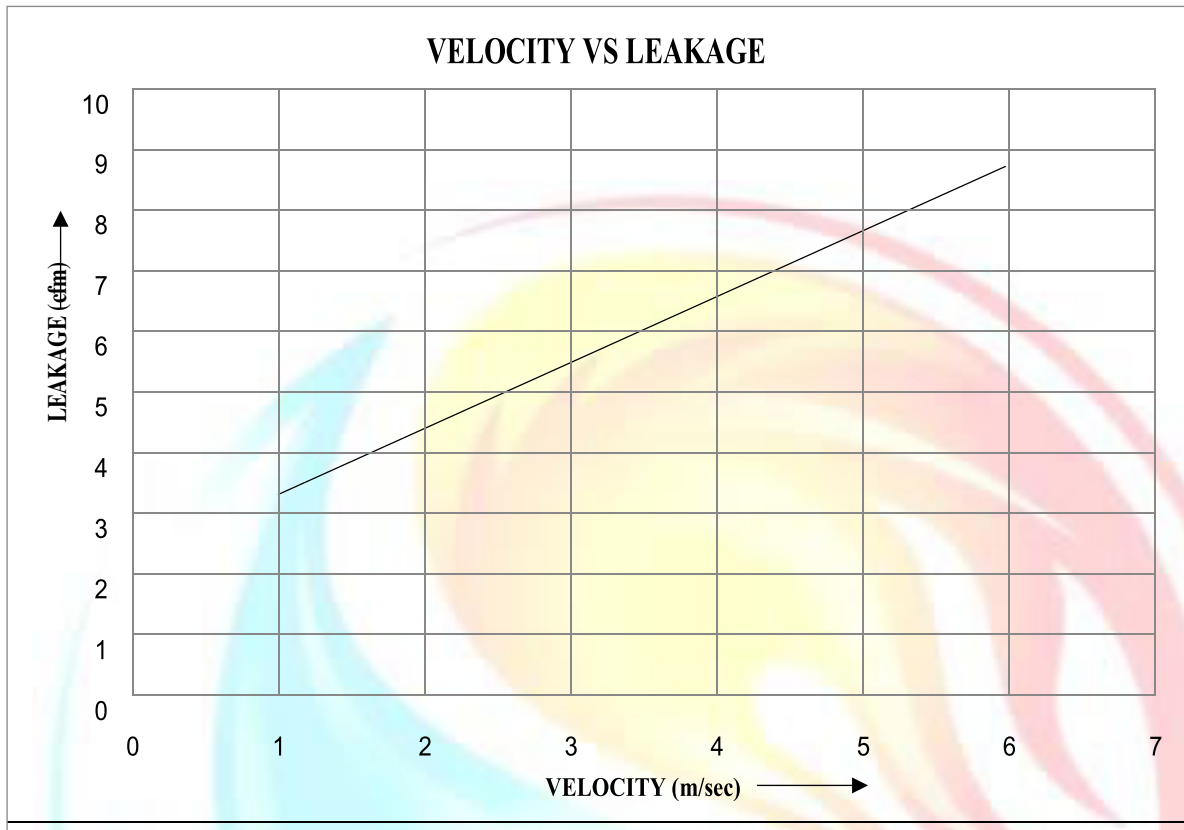
Performance Graphs:

Pressure drop across Round Volume Control Damper.



ROUND VOLUME CONTROL DAMPER

Round Volume Control Damper blades 100% closed condition:



MOTORIZED CONTROL DAMPER

Features:

The AERO-MVCD-4A/4B multi-leaf motorized volume control damper have been specifically designed for use in ventilation systems for volume, flow and pressure control. These are available in rectangular and square shape. 4A model is normal flanged type of volume control dampers having leakage of 140CFM/Sqft @ 1000 Pa and at air velocity of 2000 fpm and recommendable to use for light and medium application in commercial and residential buildings. 4B model is low leakage type having 20CFM/Sqft @ 1000 Pa and at air velocity of 2000 fpm when tested in accordance with AMCA standards. Normally these dampers are fitted with



On/Off type* electric actuators for automatic operations on request.

How to order?

Item	Family	Model	Specification		Material		Type	Control
			Frame	Blade	Frame	Blade		
MVCD	4	A	Flange Type	Single Skin	GI*, SS.	GI*, SS.	Parallel*/Opposed	On/Off type*/Modulating/Floating/Spring Return
				Double Skin*	GI*, SS.	GI,AL*,SS	Parallel*/Opposed	
		B	Flange Type	Single Skin	GI*, SS.	GI*, SS.	Parallel*/Opposed	
				Double Skin*	GI*, SS.	GI,AL*,SS	Parallel*/Opposed	

* - Standard construction.

Standard Construction (AERO-4A / 4B):

- **Frame** - 5" x 1" (127 x 25 mm) x 18 gauge (1.2 mm) thick Galvanized steel sheet. Mounting Flanges on both sides of frame.
- **Blades** - 4" (100 mm) / 6" (150 mm), 20-gauge thick extruded aluminum, aero foil shaped blades with integral structural reinforcing tube.
- **Linkage** - Galvanized steel sheet linkages Concealed in frame.
- **Axles** - ½" (12.7 mm) Galvanized square bar.
- **Bearings** - Bronze bushes.
- **Shaft** - ½" (12.7 mm) full length Galvanized Square bar.
- **Gasket** - Foam Gasket.
- **Seals (4B*)** - Flexible Stainless-steel compression type jamb seals for low leakage.
- **Finish** - Mill Finish.
- **Min. Size** - Single blade, parallel action 4" x 4" (100 x 100 mm).
- **Max. Size** - Multi-blade, parallel or opposed operation 48" x 48" (1200 x 1200 mm).
- **Operator** - On/Off type Electrical Actuator.

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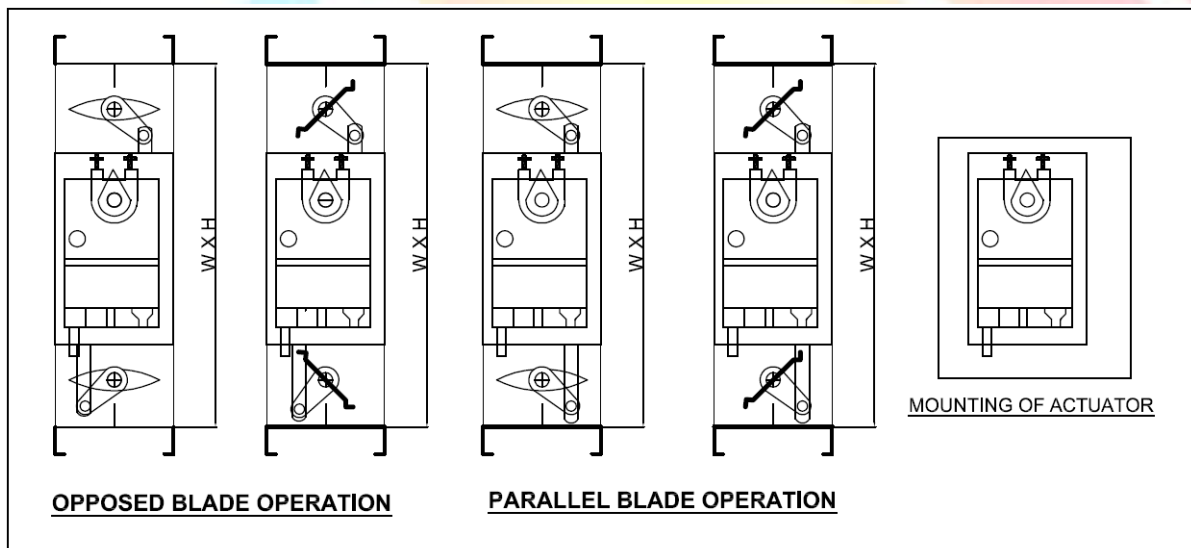
Optional Available construction (AERO-4A / 4B):

- **Frame** - Available material Stainless steel (304L / 316L).
- **Blades** - Available in Galvanized steel or Stainless steel (304L / 316L) in double skin aero foil or 3V shape single skin.
- **Bearings** - Brass bushes.
- **Operator** - Modulating / Floating / Spring return electrical Actuators.
- **Finish** - Powder coated onrequest.

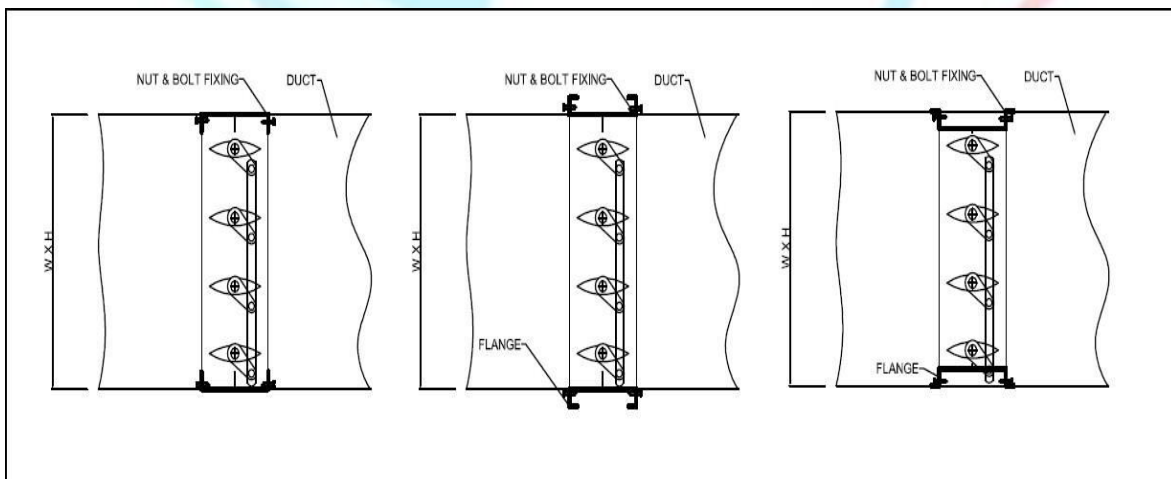
Available Sizes:

- Available in all Squares as well as rectangular sizes.
- Minimum size available is 4" x 4" (100 x 100 mm) and maximum single piece size of 48" x 48" (1200 x 1200 mm) as per SMACNA & DW144 standards.
- Sizes bigger than the maximum size will be supplied in multiple pieces as per request.

Constructional and Dimensional Details:



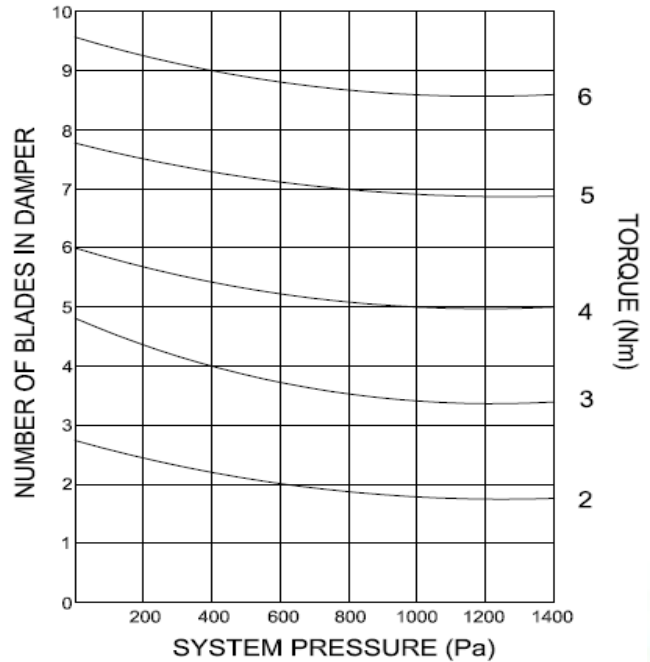
Recommended Installations:



MOTORIZED CONTROL DAMPER

Parallel blade dampers:

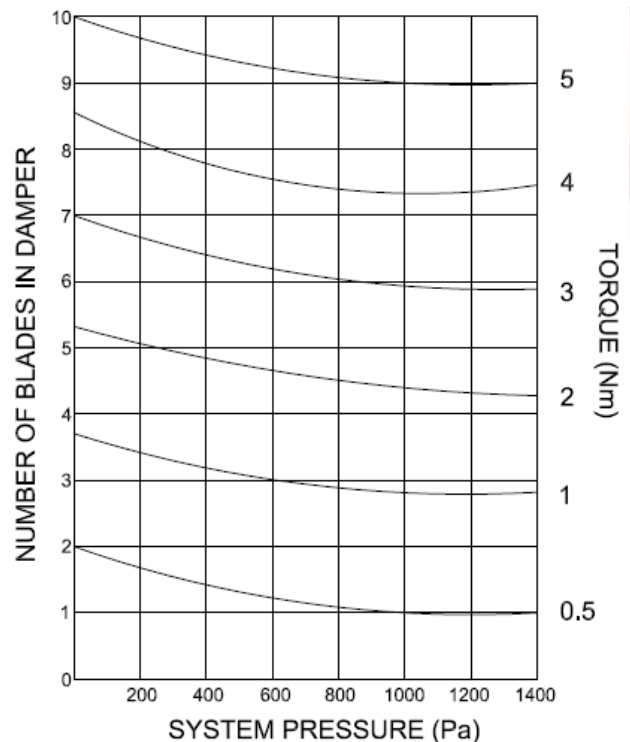
- *Parallel blades operations offer rapid air response relative to blade movement but divert airflow to one side of the duct. Blades rotation is in the same direction and is best suited for on/Off type* application.*
- *Generally, the torque values for parallel blade dampers are higher when compared with opposite blade dampers having same surface and composition.*
- *To overcome the friction of the seals on blade, the indicated ratings of torque are required.*
- *The torque value indicated is for the total damper with the specified no. Of blades.*
- *Actuator selection will be made with a safety factor of 25 % to the indicated values from graph.*
- *The torque values indicated in the graph shown are for closed dampers.*



PARALLEL BLADE OPERATION

Opposed Blade Dampers:

- *Opposed blades operations provide non diverting airflow and reduced turbulence, which is important when the damper is used in front of fans. Opposed blade dampers require a lower opening torque.*
- *In function of aerodynamic load, the torque co-efficient required to operate the damper blade is indicated in graph.*
- *The indicated torque ratings are required to overcome the friction of the seals on blade closure.*
- *The torque value indicated is for the total damper with the specified no. of blades.*
- *Actuator selection will be made with a safety factor of 25 % added to the indicated Nm value.*

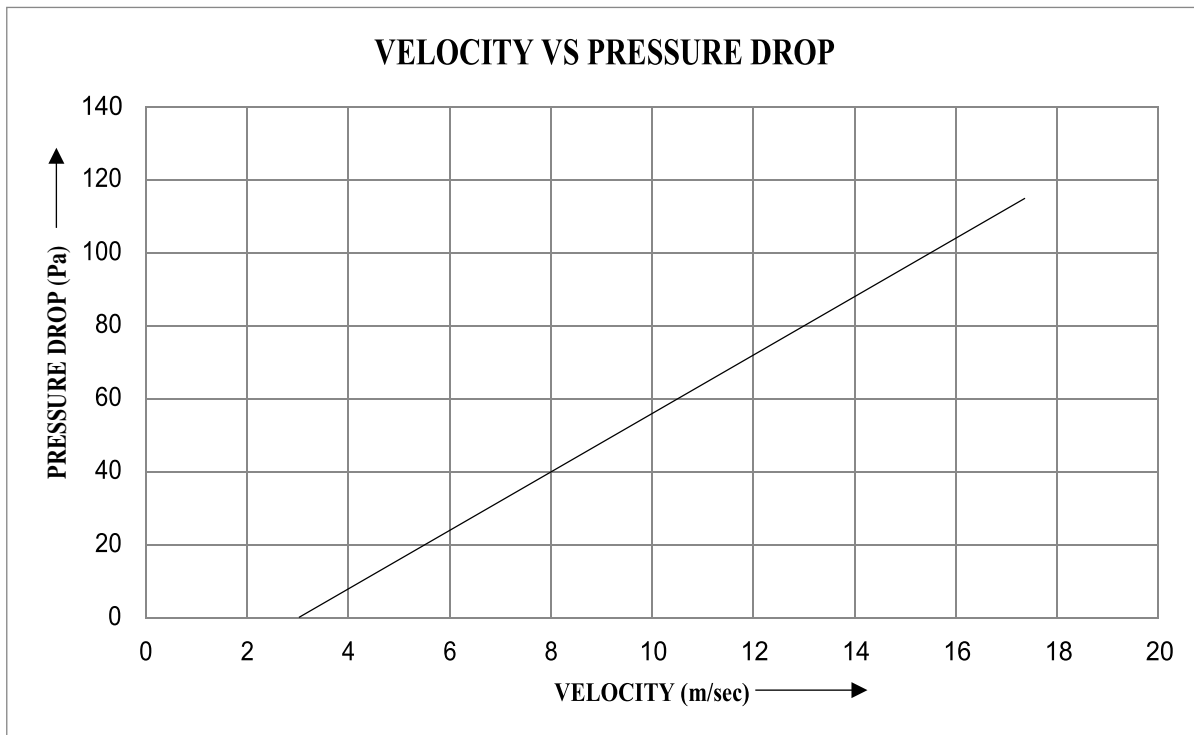


OPPOSED BLADE OPERATION

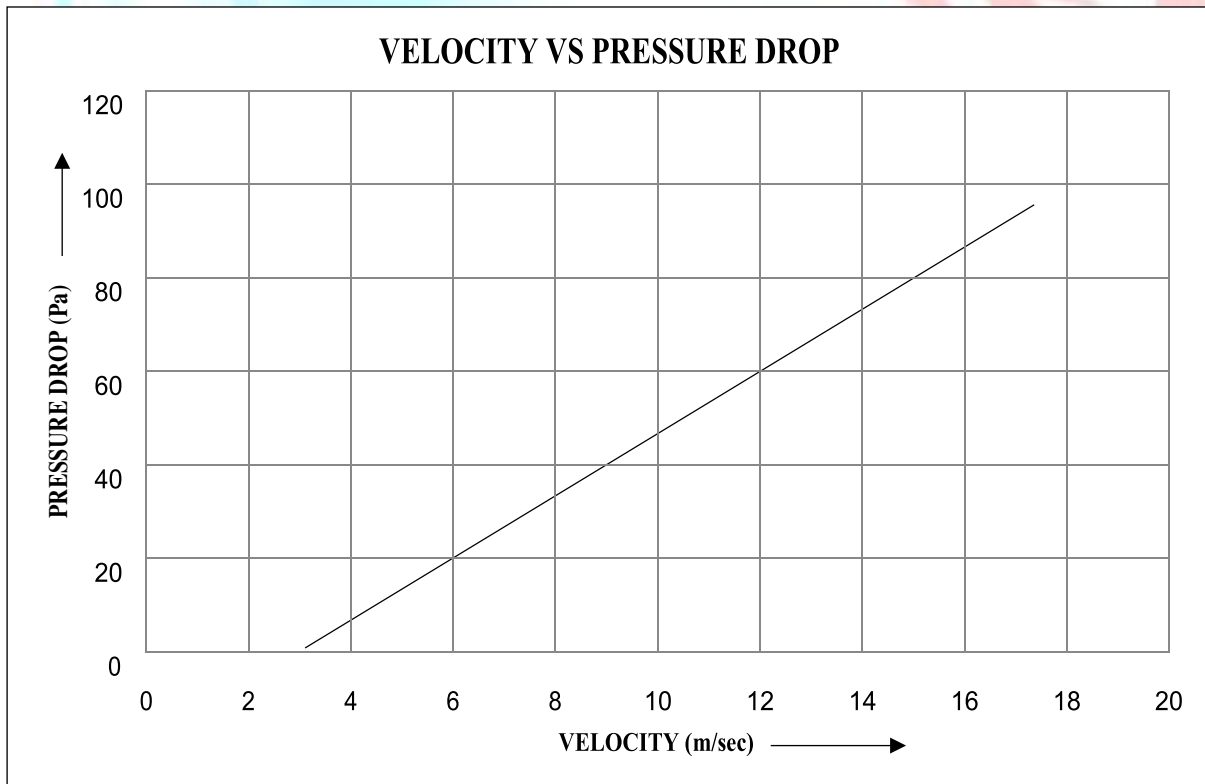
MOTORIZED CONTROL DAMPER

- Performance Graphs and details:

Motorized Volume Control Damper with Single skin blades 100% open condition (AERO-4A / 4B):

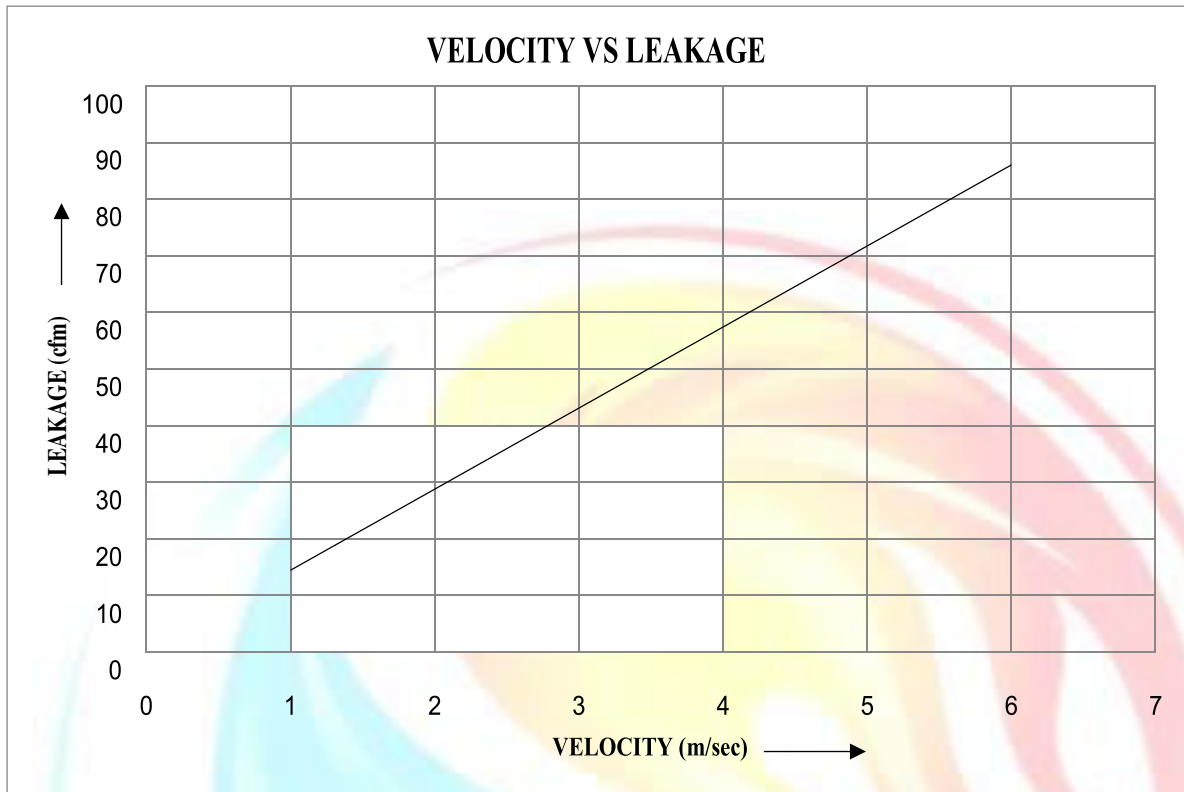


Motorized Volume Control Damper with Double skin aerofoil shaped blades 100% open condition (AERO-4A / 4B):



MOTORIZED CONTROL DAMPER

Motorized Volume Control Damper blades 100% closed condition (AERO-4A):



Motorized Volume Control Damper blades 100% closed condition (AERO-4B):

