ESCO DAMPER

ESCO VOLUME DAMPER

MODEL: DS - 331A

EASTERN SYNTECH CO., LTD

Catalogue ID: DS331A, December 2021

Volume Damper

Model : DS-331A

APPLICATION

Esco dampers are standard, manual, opposed blade volume control dampers which can be used to regulate air flow in square or rectangular duct systems.

OPERATION

Esco volume damper are manually operated and furnished with a lever-type locking regulator with a operating axles. The regulator lever indicates the position of the damper.

RATINGS

Max. Pressure : Up to 5 in.wg
Max. Velocity : Up to 15 m/sec
Temperature : 80°C

PRODUCT DETAILS

Frame Material	:	Galvanized steel
Frame Thickness	:	16 ga.
Frame Type	:	C Channel
Blades Material	:	Galvanized steel
Blades Thickness	:	16 ga.
Blades Wide	:	4 in.
Linkage Material	:	Steel zinc plated
Linkage Thickness	:	1/8 in.
Axles Material	:	Steel zinc plated
Axles Thickness	:	3/8 in. square
Bearings Material	:	Nylon / steel zinc plated

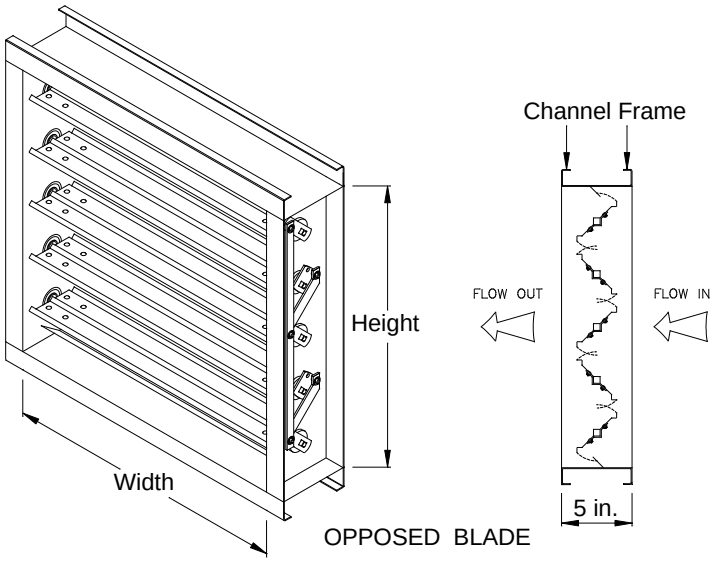
ACTUATOR

Actuator Type : Manual
Actuator Mounting : External

OPTIONS

Actuator Type : Gear and Motorized
Blades Seal : Rubber
Jamb Seal : Stainless Steel

W INCH	H INCH	Number of blades	W INCH	H INCH	Number of blades
6	6	1	14	14	3
8	8	1	16	16	4
10	10	2	18	18	4
12	12	3	20	20	5



SIZE		W x H
Minimum Size	:	6 x 6 inch
Maximum Size (Single Section)	:	48 x 48 inch
Maximum Size (Multiple Section)	:	96 x 96 inch

- W x H dimensions furnished approximately ¼ in. (6mm.) undersize.

EASTERN SYNTECH CO., LTD

Model DS-331A

EASTERN SYNTECH CO., LTD Certifies that the Model. DS-331A shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program.

The AMCA Certified Ratings Seal applies to Air Leakage and Air Performance ratings only

Test information

Air leakage is based on operation between 0°C – 49°C (32°F – 120°F)

Torque

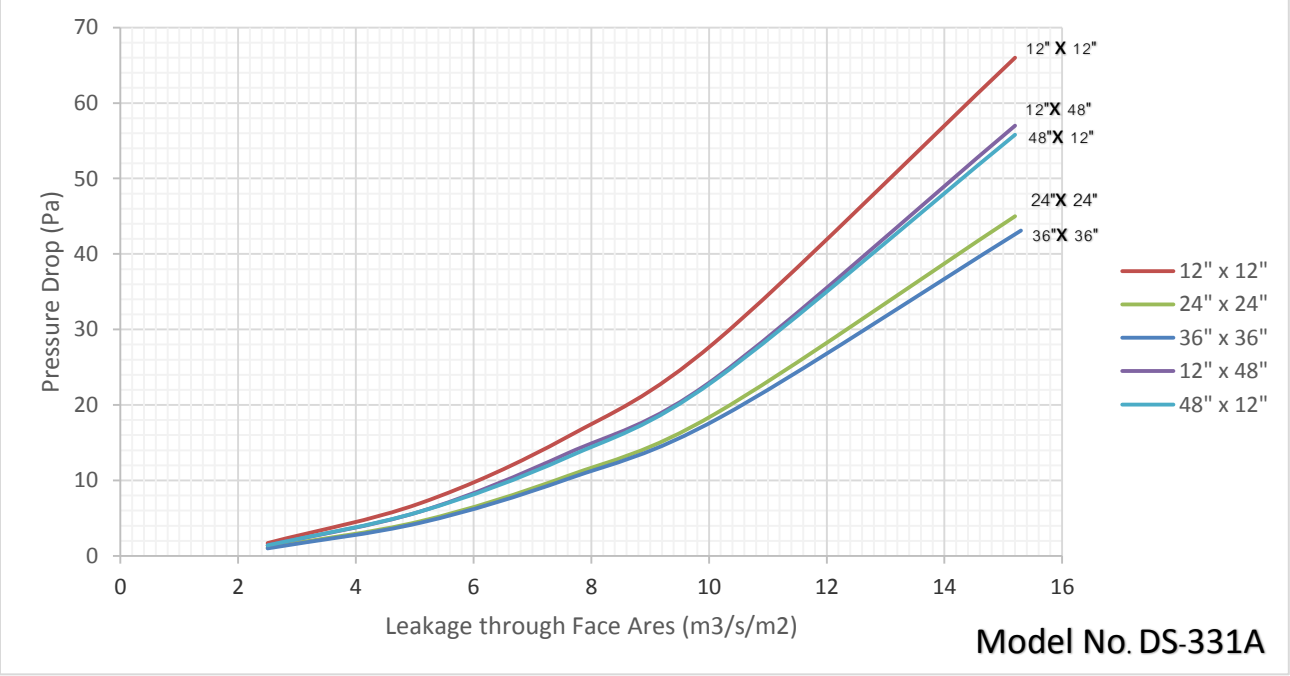
Data are based on a torque of 5.4 N.m/ m² applied to close and seat the damper during the test

Tested for air leakage in accordance with ANSI/AMCA Standard 500-D, Figure 5.4 Alternate

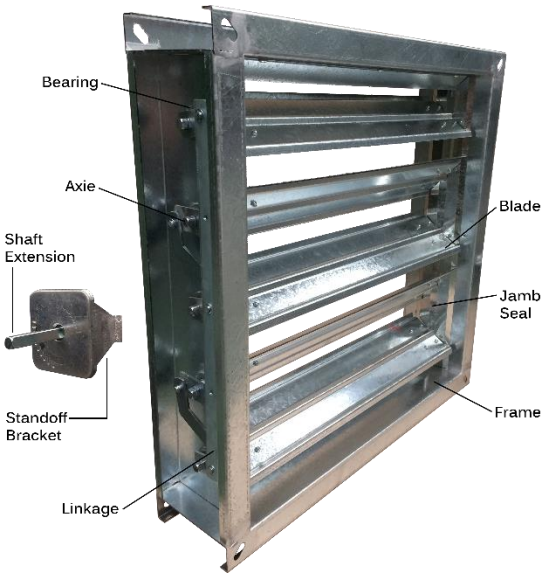
Leakage Performance

	Leakage Class Test Results				
Width x Height	250 Pa	500 Pa	1000 Pa	1500 Pa	2000 Pa
305 x 1220 mm	3	3	3	3	3
1220 x 914 mm	3	3	3	3	3

Tested for air performance in accordance with ANSI/AMCA Standard 500-D, Figure 5.3



Design and construction features

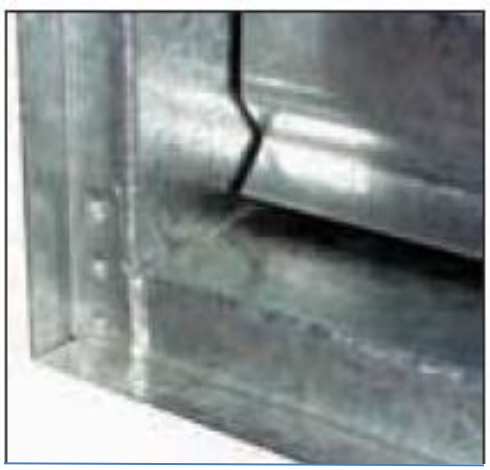


Rectangular dampers are usually used in buildings to control the flow of air in HVAC system. They can be used for air intake, air exhaust, or mixed air applications depending on requirement of each specific project.
There are two categories of control dampers:

- Balancing
- Volume Control

@ Advantage

ESCO damper- control damper utilize a 127 mm x 35 mm channel frame. Each frame is built with four separate pieces of material and assembled together.

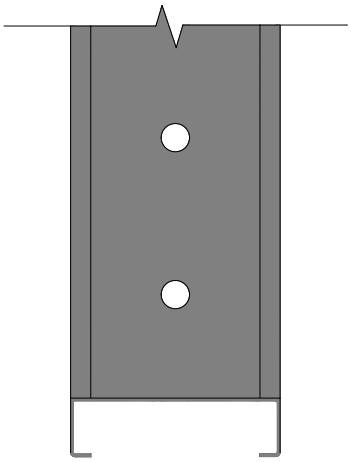


ESCO damper's frames have great corrosion resistance by coating the galvanized steel sheet. Square frame for easier install-using four separate frame components. (top, bottom, and two sides),This ensures that each Esco damper is square and provides optimum performance in the field.

Frame attribute:

There are frame options available:

- channel (Standard)-allows damper to be insert mounted into an opening or duct
- single flange or single reverse flange-can be insert mounted or directly mounted to wall or mating surfaces such as a plenum wall.
- double flange-when you are not sure which side you need a flange
- quick connect designed to match up to a TDC,TDF, or duct mate connection



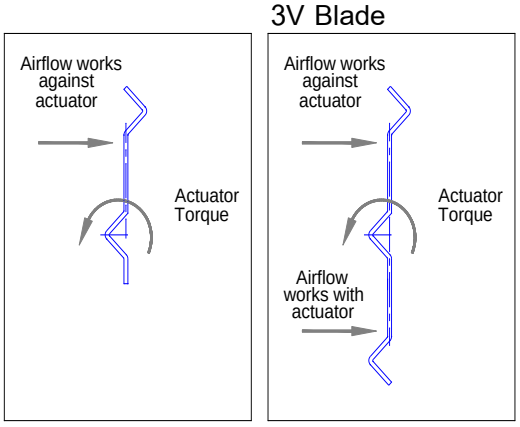
C-Channel Frame

Blade attribute

- fabricated from a single thickness galvanized Steel or stainless steel
- three V-type grooves running the full length of the blade to increase strength
- low to medium velocity and pressure applications

Variable symmetric blade design (VSB)

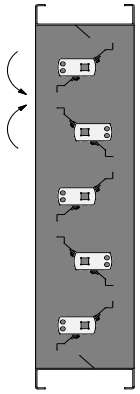
- blades are symmetric about their axis
- combination of 4, 5, 6,7 and 8 in. (102, 127, 152,178 and 203 mm) Blade widths are used in a single damper
- reduces the need for closure strips which optimize pressure drop performances
- damper can be mounted in either direction of flow
- through extensive testing of our dampers, we have determined using various blade sizes reduces required actuator torque which reduces the size and quantity of actuator used on dampers. this reduces first costs for the building owner and on-going electrical power consumption.



Opposed blade operation

ESCO damper- control dampers are offered with opposed blades, which has distinguishing characteristics in regard to the type of operation required.

- opposed blade operation – adjacent damper blades rotate opposite one another under opposed blade configuration. opposed blade configuration is typically used on dampers that modulate airflow.



opposed blades

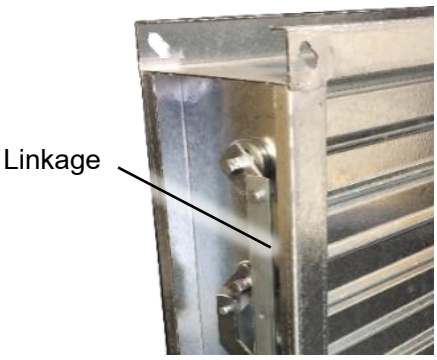
Seals

seals are used for low leakage applications.

- blade seals : Thermoplastic Elastomer (TPE) is Standard. for extreme temperature, select silicone seals.
- sweep seals: Sweep seals are used on bottom of damper blades to eliminate the use of closure strips (Size dependent).
- jamb seals: Jamb seals are constructed of 304 jamb seal to help reduce leakage along the blade edges. The ICD series have silicone jamb seals available for cold temperature applications.

Linkage

ESCO damper –control dampers have blade linkages concealed in frame to prevent additional pressure drop and unwanted noise. The linkage is engineered to accurately control each and every blade without need for adjustment.



Bush couple

Synthetic-Standard on DS-331A series

304-optional, used for extreme temperatures or environment

Synthetic