

Commercial Control Dampers

Hat Shape



CVSA 
DAMPER SERIES

Reference:

Client:

Project:

Consultant:

Location:

Contractor:

Date:

Submitted by:



Manufacturing Excellence

Model CDH-125 Series

Control Dampers

3V Blade

Manual Quadrant/Motorised

Application:

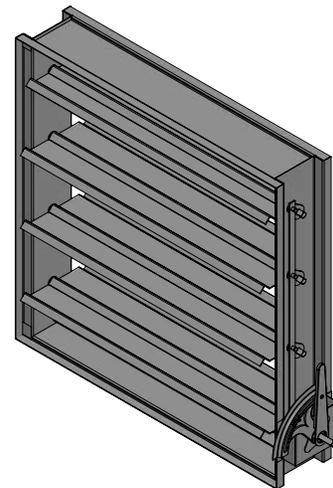
The CVS control damper models CDH-125-3V-Q and CDH-125-3V-M are intended for low to high pressure and velocity applications and can be provided in opposed or parallel blade orientations.

The model CDH-125-3V-Q (manual quadrant) is a general purpose commercial control damper for use in manual balancing control applications where tight sealing is not of primary importance.

The model CDH-125-3V-M (motorised) is a general purpose commercial control damper for use in automatic balancing control applications where tight sealing is a primary requirement.

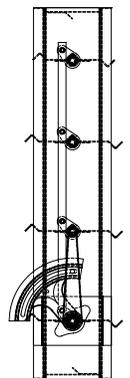
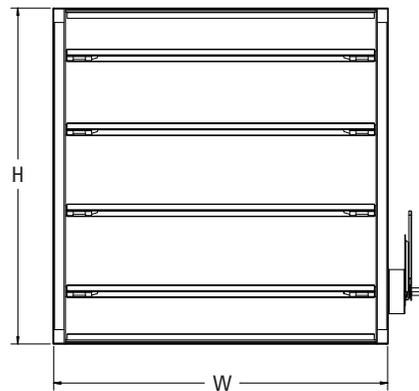
Standard Construction:

	Standard	Optional
Frame Material	20 gauge thick roll formed galvanized steel hat shape frame	Multiple gauges galvanized steel or stainless steel flanged frame (only for roll formed frame)
Frame Depth	127mm	Other depths available (only for roll formed frames)
Blade Material and Type	16 gauge galvanized steel roll formed 3V shape profile	Multiple gauges of galvanized steel & stainless steel roll formed 3V shape profile
Blade Seal	Q - None M - Foam Type	Q - Foam Type, Neoprene, EPDM, Silicon Rubber M - Neoprene, EPDM, Silicon Rubber
Blade Operator	Q - Manual Quadrant M - Electric Actuator (On/Off Type)	M - Electric Actuator (Modulating type)
Dimensions	Actual - 6mm	Actual
Axle Material	Zinc plated steel	Stainless steel
Axle Bearings	Nylon	Brass, Bronze, Stainless steel
Type of Blade Operation	Parallel	Opposed
Jamb Seal	Q - None M - SS301	Q - SS301

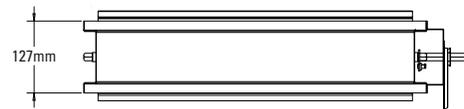


Front View

Section View



Top View



Minimum & Maximum Sizes:

Model	Minimum Single Section	Maximum Single Section	Maximum Multi Section
CDF-125-3V-Q (Manual quadrant)	4" x 4" (101 x 101)	36" x 48" (914 x 1219)	Unlimited Size (Please consult factory)
CDF-125-3V-M (Motorised)			

All dimensions shown in inches, parentheses () indicate millimeters.

Optional Construction:

Operators:

Actuators: 24V 230V
Spring Return Non-Spring Return
On/Off Modulating

Manual Quadrant

As part of our continuous improvement program, we reserve the right to make further improvements without notice.

Submittal

Reference:

Client:

Project:

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Contractor:

Date:

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Model CDH-125 Series

Control Dampers

Airfoil Blade

Manual Quadrant/Motorised

Application:

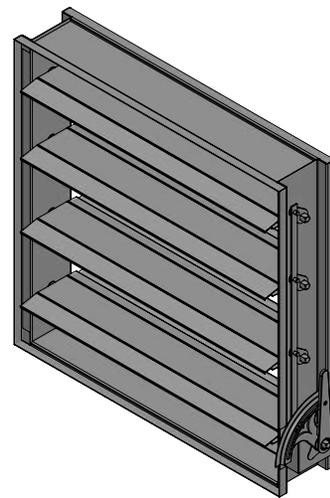
The CVS control damper models CDH-125-AF-Q and CDH-125-AF-M are intended for low to high pressure and velocity applications and can be provided in opposed or parallel blade orientations.

The model CDH-125-AF-Q (manual quadrant) is a general purpose commercial control damper for use in manual balancing control applications where tight sealing is not of primary importance.

The model CDH-125-AF-M (motorised) is a general purpose commercial control damper for use in automatic balancing control applications where tight sealing is a primary requirement.

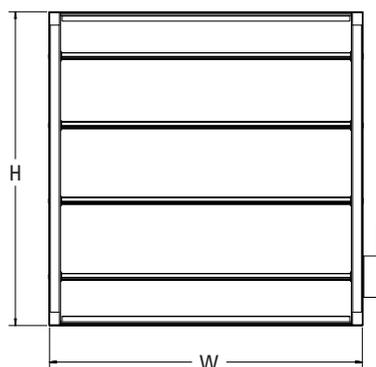
Standard Construction:

	Standard	Optional
Frame Material	20 gauge thick roll formed galvanized steel hat shape frame	Multiple gauges galvanized steel or stainless steel hat shape frame (only for roll formed frames)
Frame Depth	127mm	Other depths available (only for roll formed frames)
Blade Material and Type	16 gauge galvanized steel roll formed airfoil shape double skin profile (Type 2)	1.4 mm thick extruded aluminum 6063-T6 airfoil shape (Type 1)
Blade Seal	Q - None M - Foam Type	Q - Foam Type, Neoprene, EPDM, Silicon Rubber M - Neoprene, EPDM, Silicon Rubber
Blade Operator	Q - Manual Quadrant M - Electric Actuator (On/Off Type)	M - Electric Actuator (Modulating type)
Dimensions	Actual - 6mm	Actual
Axle Material	Zinc plated steel	Stainless steel
Axle Bearings	Nylon	Brass, Bronze, Stainless steel,
Type of Blade Operation	Parallel	Opposed
Jamb Seal	Q - None M - SS301	Q - SS301

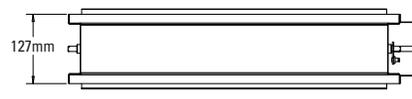


Front View

Section View



Top View



Minimum & Maximum Sizes:

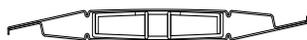
Model	Minimum Single Section	Maximum Single Section	Maximum Multi Section
CDH-125-AF-Q (Manual quadrant)	4" x 6" (101 x 152)	36" x 48" (914 x 1219)	Unlimited Size (Please consult factory)
CDH-125-AF-M (Motorised)			

All dimensions shown in inches, parentheses () indicate millimeters.

Airfoil Blade - Type 1



Airfoil Blade - Type 2



Optional Construction:

Operators:

Actuators: 24V 230V
Spring Return Non-Spring Return
On/Off Modulating

Manual Quadrant

Airfoil Blade Construction: Type 1

As part of our continuous improvement program, we reserve the right to make further improvements without notice.

Submittal

Reference:

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Date:

Submitted by:



Model CDH-150 Series

Control Dampers
3V Blade

Manual Quadrant/Motorised

Application:

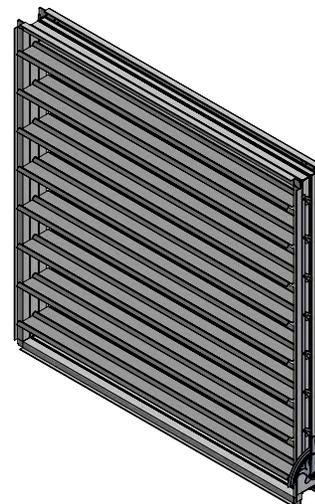
The CVS control damper models CDH-150-3V-Q and CDH-150-3V-M are intended for low to high pressure and velocity applications and can be provided in opposed or parallel blade orientations.

The model CDH-150-3V-Q (manual quadrant) is a general purpose commercial control damper for use in manual balancing control applications where tight sealing is not of primary importance.

The model CDH-150-3V-M (motorised) is a general purpose commercial control damper for use in automatic balancing control applications where tight sealing is a primary requirement.

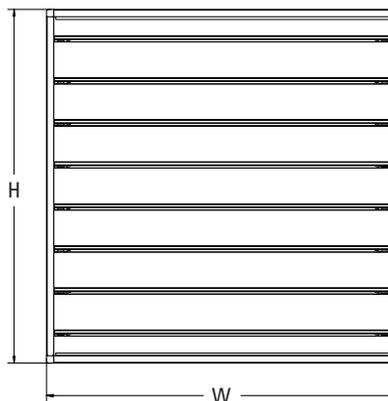
Standard Construction:

	Standard	Optional
Frame Material	3.2 mm thick extrude aluminum 6063-T6, hat shape frame	Multiple gauges galvanized steel or stainless steel flanged frame (only for roll formed frame)
Frame Depth	127mm	Other depths available (only for roll formed frames)
Blade Material and Type	16 gauge galvanized steel roll formed 3V shape profile	Multiple gauges of galvanized steel & stainless steel roll formed 3V shape profile
Blade Seal	Q - None M - Foam Type	Q - Foam Type, Neoprene, EPDM, Silicon Rubber M - Neoprene, EPDM, Silicon Rubber
Blade Operator	Q - Manual Quadrant M - Electric Actuator (On/Off Type)	M - Electric Actuator (Modulating type)
Dimensions	Actual - 6mm	Actual
Axle Material	Zinc plated steel	Stainless steel
Axle Bearings	Nylon	Brass, Bronze, Stainless steel
Type of Blade Operation	Parallel	Opposed
Jamb Seal	Q - None M - SS301	Q - SS301



Front View

Section View



Top View



Minimum & Maximum Sizes:

Model	Minimum Single Section	Maximum Single Section	Maximum Multi Section
CDH-150-3V-Q (Manual quadrant)	4" x 4" (101 x 101)	36" x 48" (914 x 1219)	Unlimited Size (Please consult factory)
CDH-150-3V-M (Motorised)			

All dimensions shown in inches, parentheses () indicate millimeters.

Optional Construction:

Operators:

Actuators: 24V 230V
Spring Return Non-Spring Return
On/Off Modulating

Manual Quadrant

3V Blade Construction

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Submittal

Reference:

Client:

Project:

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Location:

Contractor:

Date:

Submitted by:



Manufacturing Excellence

Model CDH-150 Series

Control Dampers

Airfoil Blade

Manual Quadrant/Motorised

Application:

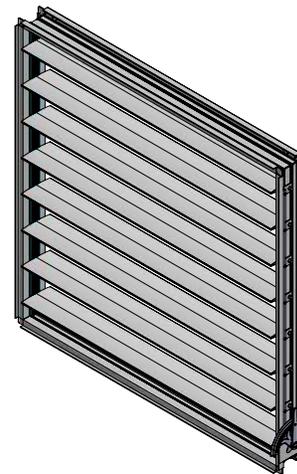
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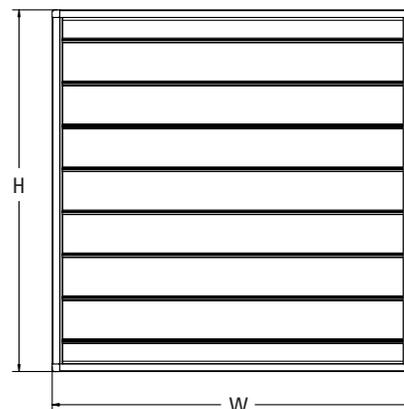
Standard Construction:

	Standard	Optional
Frame Material	3.2 mm thick extrud aluminum 6063-T6, hat shape frame	Multiple gauges galvanized steel or stainless steel hat shape frame (only for roll formed frames)
Frame Depth	127mm	Other depths available (only for roll formed frames)
Blade Material and Type	1.85 mm thick extrude aluminum 6063-T6 airfoil shape	-----
Blade Seal	Q - None M - EPDM	Q - EPDM
Blade Operator	Q - Manual Quadrant M - Electric Actuator (On/Off Type)	M - Electric Actuator (Modulating type)
Dimensions	Actual - 6mm	Actual
Axle Material	Zinc plated steel	Stainless steel
Axle Bearings	Acetal Copolymer, Polycarbonate	Nylon
Type of Blade Operation	Parallel	Opposed
Jamb Seal	Q - None M - SS301	Q - SS301



Front View

Section View



Top View



Minimum & Maximum Sizes:

Model	Minimum Single Section	Maximum Single Section	Maximum Multi Section
CDH-150-AF-Q (Manual quadrant)	4" x 6" (101 x 152)	36" x 48" (914 x 1219)	Unlimited Size (Please consult factory)
CDH-150-AF-M (Motorised)			

All dimensions shown in inches, parentheses () indicate millimeters.

Optional Construction:

Operators:

Actuators: 24V 230V
 Spring Return Non-Spring Return
 On/Off Modulating

Manual Quadrant

3V Blade Construction

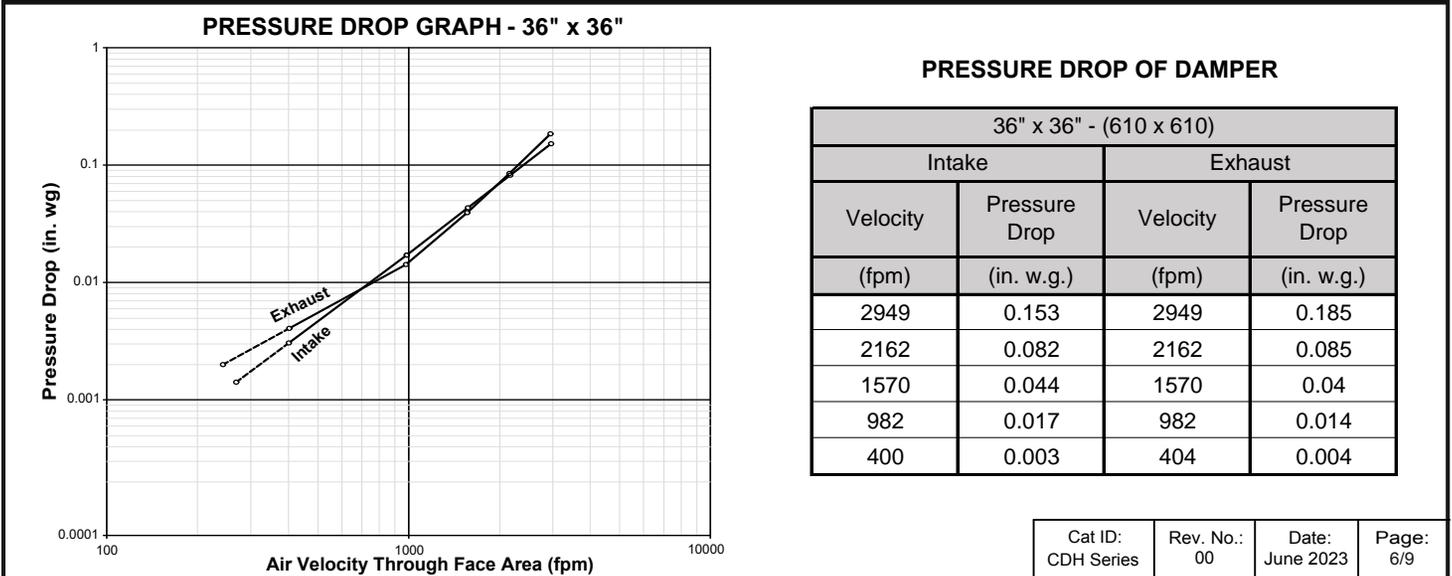
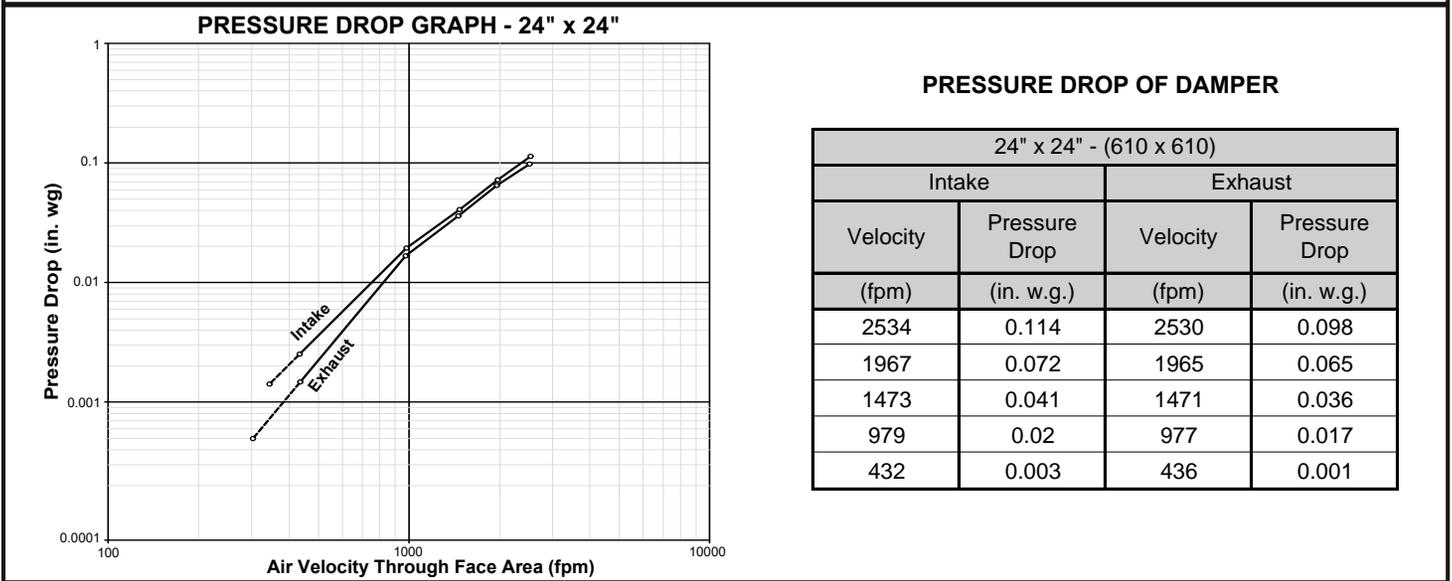
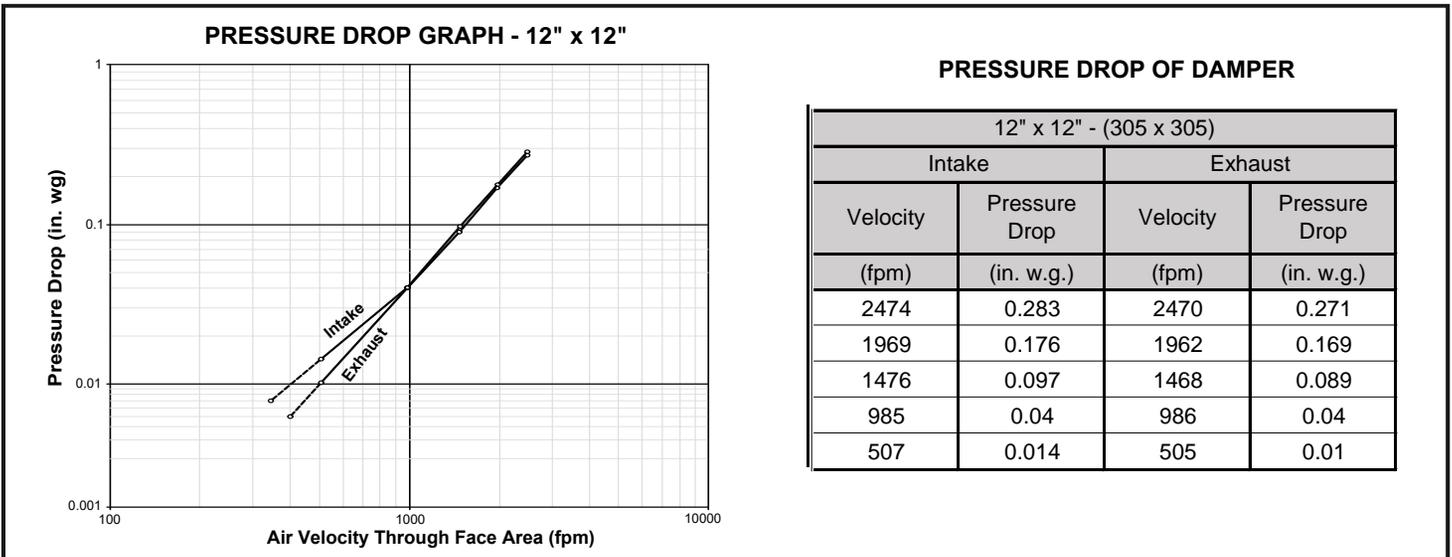


As part of our continuous improvement program, we reserve the right to make further improvements without notice.

Submittal

PRESSURE DROP - INTAKE AND EXHAUST:

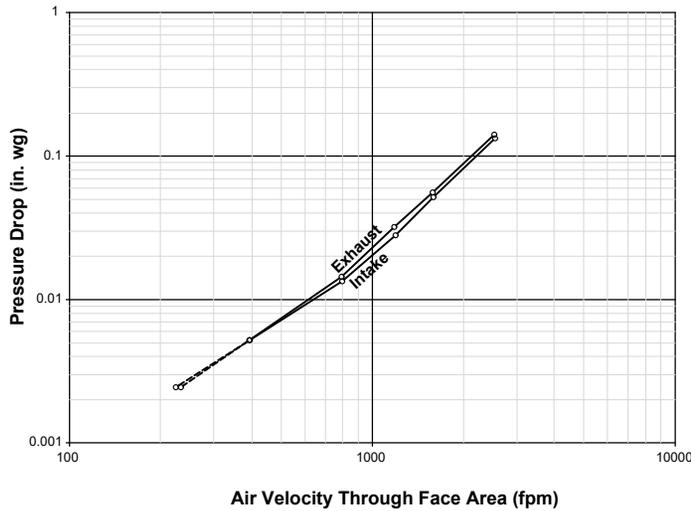
Air Performance testing has been performed in accordance with Test Method as per latest version of ANSI/AMCA Standard 500-D, Figure 5.3 (Duct Upstream and Downstream).



PRESSURE DROP - INTAKE AND EXHAUST:

Air Performance testing has been performed in accordance with Test Method as per latest version of ANSI/AMCA Standard 500-D, Figure 5.3 (Duct Upstream and Downstream).

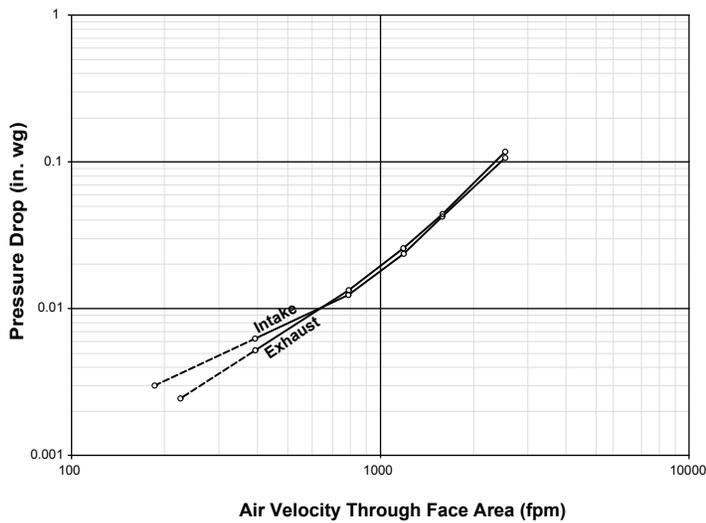
PRESSURE DROP GRAPH - 12" x 48"



PRESSURE DROP OF DAMPER

12" x 48" - (305 x 1219)			
Intake		Exhaust	
Velocity (fpm)	Pressure Drop (in. w.g.)	Velocity (fpm)	Pressure Drop (in. w.g.)
2534	0.133	2533	0.142
1589	0.052	1588	0.056
1188	0.028	1187	0.032
792	0.013	791	0.014
394	0.005	394	0.005

PRESSURE DROP GRAPH - 48" x 12"



PRESSURE DROP OF DAMPER

48" x 12" - (1219 x 305)			
Intake		Exhaust	
Velocity (fpm)	Pressure Drop (in. w.g.)	Velocity (fpm)	Pressure Drop (in. w.g.)
2532	0.107	2531	0.118
1587	0.043	1587	0.045
1189	0.024	1187	0.026
789	0.012	789	0.013
394	0.006	394	0.005

CVSA
DAMPER SERIES



SUGGESTED SPECIFICATION:

Central Ventilation Systems certifies that the Hat Shape VCD Models CDH Series as shown herein are 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 Programs.

The AMCA Certified Ratings Seal applies to air performance and air leakage ratings only.

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AIR LEAKAGE

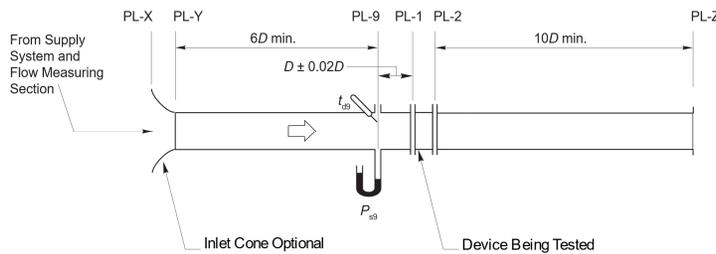
Tested for air leakage at standard air density in accordance with latest version of ANSI/AMCA Standard 500-D, Figure 5.4.

Data are based on a torque of 44in.-lbs./ft² applied to close and seal the damper during the test. Air leakage is based on operation between 0°C-49°C (32°F-120°F).

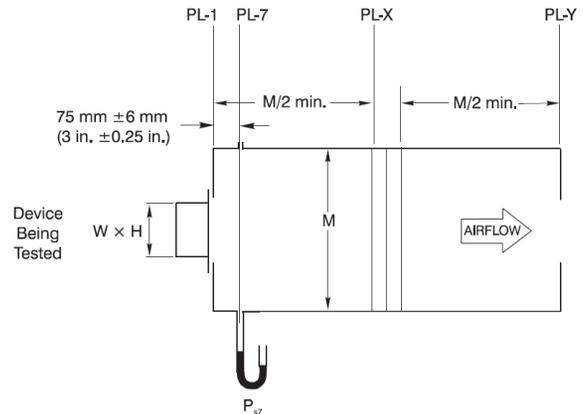
Maximum Allowable Leakage, cfm/ft ²					
Class	1 in. w.g.	2 in. w.g.	3 in. w.g.	4 in. w.g.	6 in. w.g.
1A	3	N/A	N/A	N/A	N/A
1	4	6	7	8	10
2	10	14	17	20	25

AMCA Leakage Class					
Damper Size	1 in. w.g.	2 in. w.g.	3 in. w.g.	4 in. w.g.	6 in. w.g.
36 inch. x 36 inch. (914 mm x 914 mm)	Class 1A	Class 1	Class 1	Class 1	Class 1

Test Figure 5.3 - Test Damper Setup with Inlet and Outlet Ducts



Test Figure 5.4 - Test Damper Setup with Outlet Chamber



CVSA
DAMPER SERIES



SUGGESTED SPECIFICATION:

Central Ventilation Systems certifies that the Hat Shape VCD Models CDH Series as shown herein are 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 Programs.

The AMCA Certified Ratings Seal applies to air performance and air leakage ratings only.

Cat ID: CDH Series	Rev. No.: 00	Date: June 2023	Page: 8/9
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Product Range

- ▶ Fire-Resisting Ductwork (BS & EN)
- ▶ Fire-rated Insulation (ASTM & UL)
- ▶ Sound Attenuators (ASTM & BS)
- ▶ VAV Boxes (AHRI)
- ▶ Life Safety Dampers (UL)
- ▶ Control Dampers (AMCA & BS)
- ▶ Access Doors (BS & EN)
- ▶ Louvers (AMCA)
- ▶ Smoke Exhaust, Building, Car Park & Tunnel Ventilation Fans (AMCA & EN)
- ▶ Domestic and Industrial Ventilation Fans
- ▶ AHU, FAHU, FCU, RTU, ERV & Ecology Units (Eurovent, TUV & AHRI)
- ▶ Electrostatic Precipitators (ESPs) & UL Listed Air Filters (UL)

Our Brands



Non-Coated Fire-Resisting Ductwork & Life Safety Dampers



Smoke Exhaust, Car Park & Tunnel Ventilation



Control Dampers, Louvers, Sound Attenuators & VAV Boxes



Fire-rated Insulation



Coated Fire-Resisting Ductwork



General Ventilation



AHU, FCU, RTU, ERV & Ecology Units

U.A.E

Industrial Area 2,
Al Wasit Road,
Sharjah, UAE

K.S.A

Dammam 2nd
Industrial City,
Dammam 31952,
K.S.A

Egypt

Al Minya Industrial Zone,
Al Minya Governorate
2427606, Egypt

Qatar

Street 9 Industrial Area,
Doha, Qatar



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