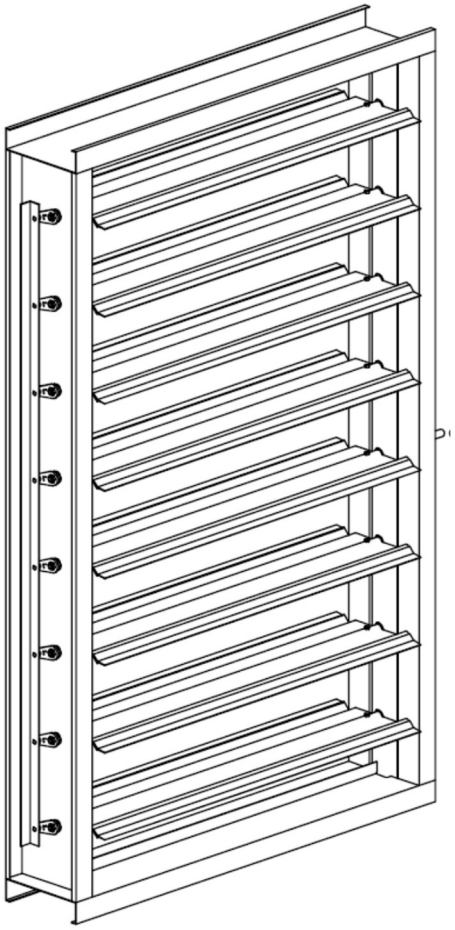
HDI, ADI & MDI Low Leakage Control Damper

Application and Design

The *HDI, ADI & MDI Control Dampers* are ruggedly built with 3-V style blades intended for application as automatic control or manual balancing dampers in low to medium pressure and velocity system. The series are all low leakage control dampers which include blade and jamb seals. A wide range of electric or handed actuators are available for these models.



Ratings

Pressure: 0 to 2 kPa (0 to 8 in. wg) pressure differential.
Velocity: 0 to 12.5 m/s (0 to 2500 fpm)
Leakage: Class 1A @ 0.25 kPa (1 in. wg)
Class 1 @ 1.0 kPa (4 in. wg)
Class 1 @ 2.0 kPa (8 in. wg)
Temperature: 0 to 49 ℃ (32 to 120 °F)

Damper Control

ADI – damper drove by OM actuator
HDI – damper drove by manual
MDI – damper drove by electrical actuator

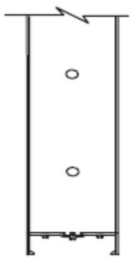
Construction

Frame Material	● Galvanized Steel ● 304 Stainless Steel
Frame Thickness	1.2 mm
Frame Type	Option
Blade Material	● Galvanized Steel ● 304 Stainless Steel
Blade Seals	EPDM
Blade Thickness	1.2 mm
Blade Type	3V
Axle	13 mm ● Zinc Casted Hex. ● 304 Stainless Steel Hex.
Axle Bearings	Bronze
Linkage Material	L-type ● Galvanized Steel ● 304 Stainless Steel
Jamb Seals	304SS

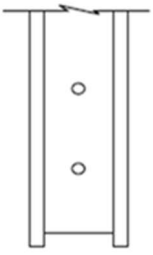
Size Limitations

W x *H*	Minimum Size	Maximum Size	
		Single Section	Multiple Section
Inches	8 × 8	36 × 48	72 × 96
mm	203 × 203	914 × 1219	1828 × 2438

Frame Type Options



Standard
Quick Connect



No-flange
Frame

ASLI Mechanical Co., Ltd.
No.2-1, Wuquan Rd., Wugu Dist., New Taipei City 24886, Taiwan (R.O.C.) TEL: 886-2-22902211 FAX: 886-2-22900988 www.asli.com.tw

HDI, ADI & MDI Low Leakage Control Damper

AMCA Certified Pressure Drop Data

ASLI Mechanical Co., Ltd., certifies that the models HDI, ADI & MDI 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 Programs. The AMCA Certified Ratings Seal applies to Air Leakage and Air Performance Ratings.

The tests for pressure drop were conducted as per ANSI/AMCA Standard 500-D, Figure 5.3 which simulate the actual site condition when installed in ventilation, supply and return air conditioning ductworks. All data has been corrected to represent standard air at a density of 1.2 kg/m^3.

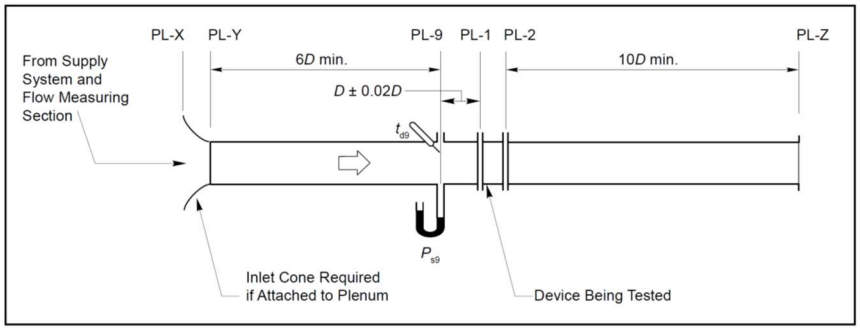


Figure 5.3 Test Device Setup with Inlet and Outlet Ducts

305mm × 305mm

Velocity (m/s)	Pressure Drop Pa
2.5	5
5.0	17
7.5	39
10.0	72
12.5	118

610mm × 610mm

Velocity (m/s)	Pressure Drop Pa
2.5	2
5.0	7
7.5	18
10.0	34
12.5	56

914mm × 914mm

Velocity (m/s)	Pressure Drop Pa
2.5	1
5.0	5
7.5	14
10.0	24
12.5	39

305mm × 1219mm

Velocity (m/s)	Pressure Drop Pa
2.5	1
5.0	6
7.5	16
10.0	29
12.5	48

1219mm × 305mm

Velocity (m/s)	Pressure Drop Pa
2.5	3
5.0	14
7.5	38
10.0	85
12.5	183

HDI, ADI & MDI Low Leakage Control Damper

AMCA Certified Leakage Data

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Air leakage is based on operation between 0 and 49℃ (32 and 120°F). The tests for leakage were conducted as per ANSI/AMCA Standard 500-D Figure 5.4 (alternate mount). All data has been corrected to represent standard air at a density of 1.2 kg/m^3.

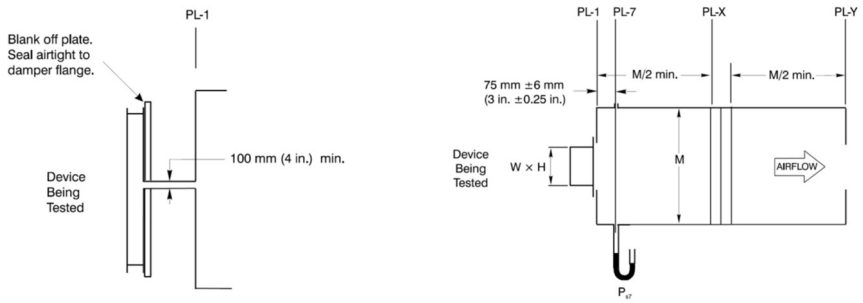

Figure 5.4 Test Damper Setup with Outlet Chamber

Leakage Class*

914mm × 914mm : Torque = 13 N · m
305mm × 1219mm : Torque = 4.5 N · m

Leakage Class				
Pressure in kPa (in. wg)				
0.25 (1.0)	0.5 (2.0)	1.0 (4.0)	1.5 (6.0)	2.0 (8.0)
1A	1	1	1	1

Data are based on a torque of 15.6 N • m/m^2 applied to close and seat the damper during the test.

*AMCA Leakage Class Definition

Class	Maximum Allowable Leakage, L/s/m^2				
	at 0.25 kPa	at 0.5 kPa	at 1.0 kPa	at 1.5 kPa	at 2.0 kPa
1A	15.2	N/A	N/A	N/A	N/A
1	20	28	40	49	57
2	51	72	102	125	144
3	203	287	406	497	574