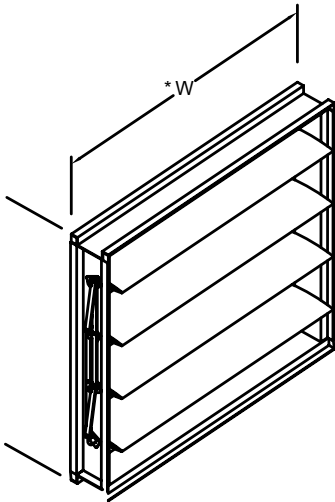


## Model CD-200-AF-AL & CD-201-AF-AL Damper



\* Undersized 1/4"  
Standard



**Min. Size** 8" w x 8" h  
**Max. Size** 48" w x 60" h (single section)  
9" h and under - single blade  
Multi-section: unlimited

### Suggested Specifications

Furnish and install at location shown on drawing, or in accordance with schedules, dampers meeting the following specifications: Rectangular damper shall have 3/8" thick nose hollow airfoil blade and .081 extruded aluminum top and bottom frames. Damper to have thrust bushings and meet the low pressure drop and low leakage equal to MAT's model CD-200 or CD-201. Damper bears the AMCA seal for air performance and leakage.

### Standard Construction

- Frame: .081 Extruded Aluminum (6063-T5)
- Blades: Hollow Airfoil with .375" thick end nose (6063-T5) Extruded Aluminum
- Extended Shaft: 1/2" diameter
- Bearing: Bronze Oilite
- Linkage: Concealed in frame
- Pivot Axles: Zinc with Thrust Bushings
- Blade Seals: Removable EPDM (250° F)
- Jamb Seals: Stainless steel (compression)

### Options

- .125 Extruded Aluminum Box Frame
- .125 Extruded Aluminum Flanged Frame
- Insulated (Foam-filled blades)
- Header Plates (End Flange)
- Hand Quadrant
- Factory Actuators
- Stand Off Bracket, 2"
- Face and By-pass Damper
- Chain Operate
- Position Switch
- Stainless Steel Bearings
- Air Dry Heresite Coated
- Powder Coated - Epoxy



### Model CD-200-AF-AL (opposed) & CD-201-AF-AL (parallel)

6235 South Oak Park Avenue Chicago, IL 60638 USA  
Toll free: 800.585.7686 +1.708.552.4040  
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Represented by:

## Model CD-200-AF-AL & CD-201-AF-AL Damper Performance Data

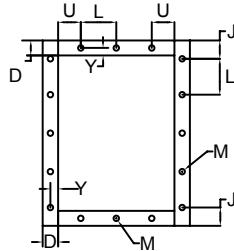
### Frame Construction Options

Flange (D dim): Standard 2"

Options 1-1/2 to 4"

Bolt Holes - base design does not include holes. See dim L in table for options.

Bolt hole dia. (M dim): 7/16". See table for options.



Dim.	Standard (Min./Max)	Description
J	(D/2 min.)	First/Last Space in Jamb
F	(1 min.)	No. of holes in Jamb
L	6" (2"/12")	Hole Spacing
M	7/16" (1/4"/11/16")	Mounting hole Diameter
U	(3/4" min.)	First/Last Space in Head/Sill
V	(1 min.)	No. of holes in Head/Sill
Y	D/2M (3/4"/D-3/4")	Centerline of bolt hole from inside edge of frame

### AMCA Standards

Pressure Class	Leakage, ft <sup>3</sup> /min /ft <sup>2</sup>			
	Required Rating		Extended Ranges (optional)	
	1"	4"	8"	12"
1A	3	n/a	n/a	n/a
1	4	8	11	14
2	10	20	28	35
3	40	80	112	140



Metropolitan Air Technology certifies that the CD-200-AF-AL, 201-AF-AL 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 Rating Seal applies to Air Performance and Air Leakage ratings.

Air leakage is based on operation between 50° F to 104° F. All data corrected to represent air density of 0.075 lbs/ft.<sup>3</sup>

### Leakage Performance

Imperial Units (CD-200-AF-AL Opposed Blade, Forward Flow)

Damper Width X Height	1 in. w.g.	4 in. w.g.	8 in. w.g.	*Torque (per sq. ft.)
36" X 36"	Class 1A	Class 1C	Class 1	10 lbs-in
12" X 48"	Class 1	Class 1	Class 1	17.5 lbs-in
48" X 36"	Class 1A	Class 1	Class 2	10 lbs-in
60" X 36"	Class 1A	Class 2		10 lbs-in

\*Torque applied to close and seat damper in during the test.

Imperial Units (CD-200-AF-AL Opposed Blade, Reverse Flow)

Damper Width X Height	1 in. w.g.	4 in. w.g.	8 in. w.g.	*Torque (per sq. ft.)
36" X 36"	Class 1A	Class 1C	Class 1	10 lbs-in
12" X 48"	Class 1A	Class 1C	Class 1	17.5 lbs-in
48" X 36"	Class 1A	Class 1	Class 2	10 lbs-in
60" X 36"	Class 1A	Class 1		10 lbs-in

\*Torque applied to close and seat damper in during the test.

Imperial Units (CD-201-AF-AL Parallel Blade, Forward Flow)

Damper Width X Height	1 in. w.g.	4 in. w.g.	8 in. w.g.	*Torque (per sq. ft.)
36" X 36"	Class 1	Class 1C	Class 1	32.5 lbs-in
12" X 48"	Class 1	Class 1	Class 1	32.5 lbs-in
48" X 36"	Class 1A	Class 1	Class 2	32.5 lbs-in
60" X 36"	Class 1A	Class 2		16 lbs-in

\*Torque applied to close and seat damper in during the test.

Imperial Units (CD-201-AF-AL Parallel Blade, Reverse Flow)

Damper Width X Height	1 in. w.g.	4 in. w.g.	8 in. w.g.	*Torque (per sq. ft.)
36" X 36"	Class 1A	Class 1C	Class 1	32.5 lbs-in
12" X 48"	Class 1C	Class 1C	Class 1	32.5 lbs-in
48" X 36"	Class 1A	Class 1	Class 2	32.5 lbs-in
60" X 36"	Class 2C	Class 2		16 lbs-in

\*Torque applied to close and seat damper in during the test.

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## Model CD-200-AF-AL & CD-201-AF-AL Damper Performance Data

### AMCA Standards

		Leakage, L / s / m <sup>2</sup>			
		Required Rating		Extended Ranges (optional)	
Class	Pressure	0.25 kPa	1.0 kPa	2.0 kPa	3.0 kPa
	1A		15.2n	/a	n/an
1		20	41	56	71
2		51	102	142	178
3		203	406	569	711

All data corrected to represent standard air at a density of 1.2 kg/m<sup>3</sup>



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 Rating Seal applies to Air Performance and Air Leakage ratings.

Air leakage is based on operation between 50° F to 104° F. All data corrected to represent air density of 0.075 lbs/ft.<sup>3</sup>

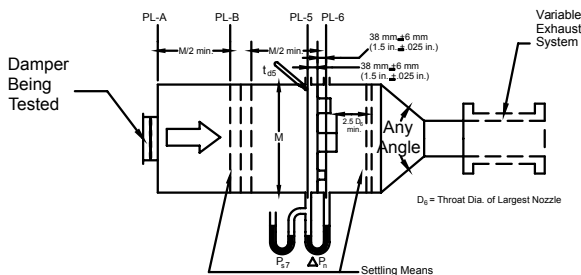


Figure 6.3- Airflow Rate Measurement Setup- Multiple Nozzle Chamber on Fan Inlet

### Leakage Performance

Metric Units (CD-200-AF-AL Opposed Blade, Forward Flow)

Damper Width X Height (mm)	0.25 kPa	1.0 kPa	2.0 kPa	*Torque (per sq. m.)
915 X 915	Class 1A	Class 1C	Class 1	12 N-m
305 X 1220	Class 1	Class 1	Class 1	22 N-m
1220 X 915	Class 1A	Class 1	Class 2	12 N-m
1524 X 915	Class 1A	Class 2		12 N-m

\*Torque applied to close and seat damper in during the test.

Metric Units (CD-200-AF-AL Opposed Blade, Reverse Flow)

Damper Width X Height	0.25 kPa	1.0 kPa	2.0 kPa	*Torque (per sq. m.)
915 X 915	Class 1A	Class 1C	Class 1	12 N-m
305 X 1220	Class 1A	Class 1C	Class 1	22 N-m
1220 X 915	Class 1A	Class 1	Class 2	12 N-m
1524 X 915	Class 1A	Class 1		12 N-m

\*Torque applied to close and seat damper in during the test.

Metric Units (CD-201-AF-AL Parallel Blade, Forward Flow)

Damper Width X Height	0.25 kPa	1.0 kPa	2.0 kPa	*Torque (per sq. m.)
915 X 915	Class 1	Class 1C	Class 1	40 N-m
305 X 1220	Class 1	Class 1	Class 1	40 N-m
1220 X 915	Class 1A	Class 1	Class 2	40 N-m
1524 X 915	Class 1A	Class 2		20 N-m

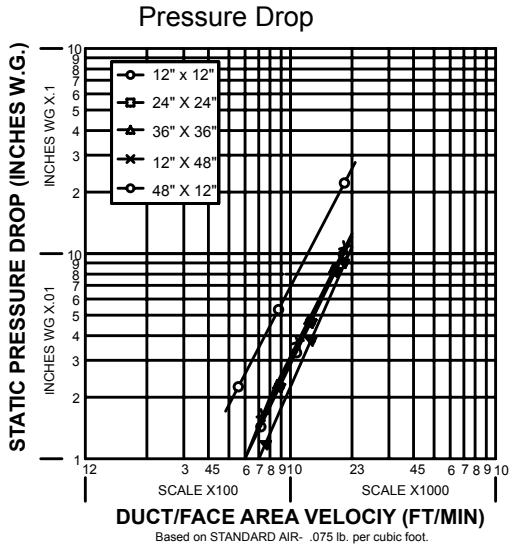
\*Torque applied to close and seat damper in during the test.

Metric Units (CD-201-AF-AL Parallel Blade, Reverse Flow)

Damper Width X Height	0.25 kPa	1.0 kPa	2.0 kPa	*Torque (per sq. m.)
915 X 915	Class 1A	Class 1C	Class 1	40 N-m
305 X 1220	Class 1C	Class 1C	Class 1	40 N-m
1220 X 915	Class 1A	Class 1	Class 2	40 N-m
1524 X 915	Class 2C	Class 2		20 N-m

\*Torque applied to close and seat damper in during the test.

## Model CD-200-AF-AL & CD-201-AF-AL Damper Performance Data



CD-200-AF-AL, 201-AF-AL sizes: 12" x 12", 24" x 24", 48" x 12", 12" x 48", 36" x 36" (305 x 305mm, 610 x 610mm, 1219 x 305mm, 305 x 1219mm, 914 x 914mm)

Pressure drop test per AMCA Standard 500-D, Figure 5.3.

12" x 12" (305mm x 305mm)

Face Velocity ft/min (m/s)	Pressure Drop in. w.g. (Pa)
1000 (5.08)	0.07 (17)
1500 (7.62)	0.16 (39)
2000 (10.16)	0.28 (69)

24" x 24" (610mm x 610mm)

Face Velocity ft/min (m/s)	Pressure Drop in. w.g. (Pa)
1000 (5.08)	0.03 (8)
1500 (7.62)	0.07 (18)
2000 (10.16)	0.13 (32)

48" x 12" (1219mm x 305mm)

Face Velocity ft/min (m/s)	Pressure Drop in. w.g. (Pa)
1000 (5.08)	0.03 (8)
1500 (7.62)	0.07 (17)
2000 (10.16)	0.12 (31)

12" x 48" (305mm x 1219mm)

Face Velocity ft/min (m/s)	Pressure Drop in. w.g. (Pa)
1000 (5.08)	0.03 (8)
1500 (7.62)	0.07 (18)
2000 (10.16)	0.13 (32)

36" x 36" (914mm x 914mm)

Face Velocity ft/min (m/s)	Pressure Drop in. w.g. (Pa)
1000 (5.08)	0.03 (7)
1500 (7.62)	0.06 (15)
2000 (10.16)	0.11 (27)

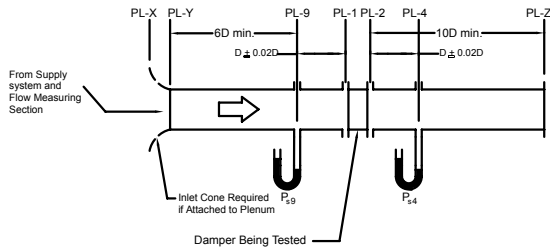
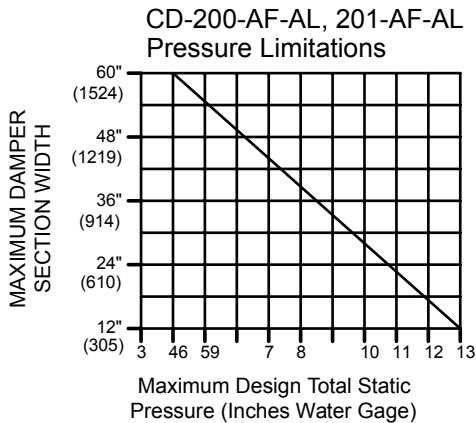


Figure 5.3- Test Device Setup with Inlet and Outlet Ducts



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