

Suggested Specifications:

Furnish and install at location shown on drawing or in accordance with schedules dampers meeting the following specifications: Rectangular damper shall have double thick, galvanized steel (equivalent to 14 gauge) blades with galvanized steel frame. Damper to meet the low pressure drop and low leakage equal to United Energetech Model CD-170, 171.

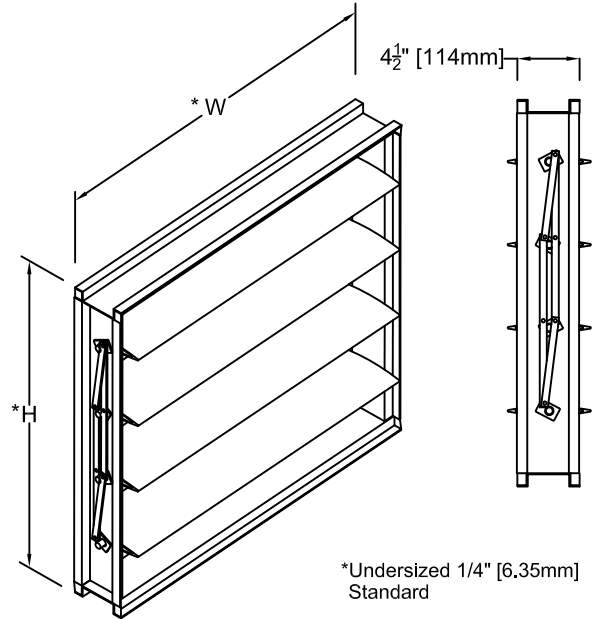
Standard Construction:

- Frame:** 16 ga. formed galvanized Steel
- Blade:** 6" [152mm] wide galvanized steel airfoil (double skin construction of 14 ga equivalent thickness)
- Extended shaft:** 1/2" [12.7mm] diameter
- Bearing:** Nylon
- Linkage:** Concealed in frame
- Axles:** Zinc plated
- Blade seals:** PVC (175° F) [79°C]
- Jamb seals:** Stainless steel (compression)

Options:

- Hand quadrant
- Chain operated
- Factory Installed Pneumatic or Electric Actuators (see cat. sheet H-1)
- Position switch
- Stand Off Bracket, 2" [51mm]
- Side plate (end flange)
- Stainless steel bearings
- Face and By-pass damper
- Single Flange
- Double Flange
 - Bolt Holes in Flange
- 6-1/2" [165mm] deep frame
- 304 stainless steel construction
- 304L stainless steel construction*
- 316 stainless steel construction*
- 316L stainless steel construction*
- 12ga. construction
- 10ga. construction
- Heresite coated (air dry)
- Epoxy coated (powder coated @ 415°[213°C])
- Insulated (Foam Filled Blades)

(*304 stainless steel linkage)



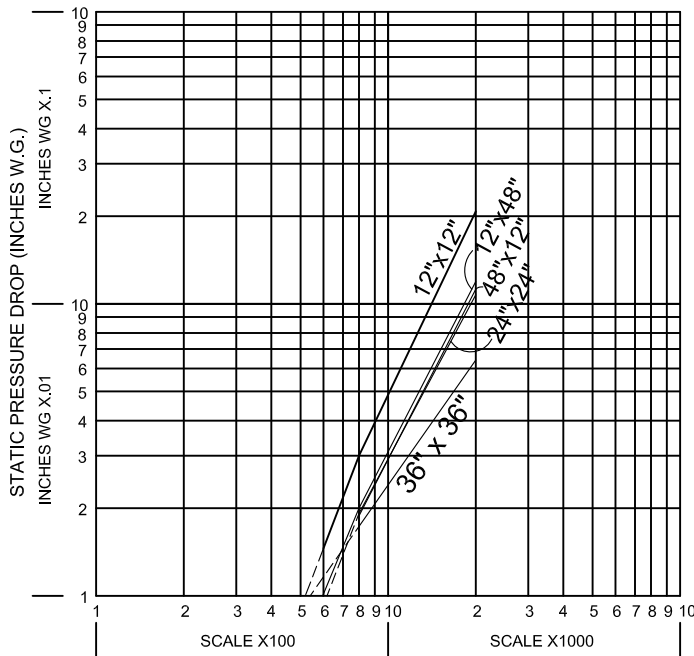
Minimum Size: 8"w x 6"h [203mm x 152mm]
 Maximum Size: 48"w x 60"h [1219mm x 1524mm] (single section)
 9" [228mm]h and under - single blade
 Maximum multi-section: unlimited



Job Name:	<input type="checkbox"/> MODEL CD-170 (Opposed)		
Location:	<input type="checkbox"/> MODEL CD-171 (Parallel)		
Architect:	DRAWN BY: CLJ	DATE: SEPTEMBER 2008	REV. DATE: MARCH 2014
Engineer:	REV. NO. 11	APPROVED BY: BGT	DWG. NO.: A-17
Contractor:			

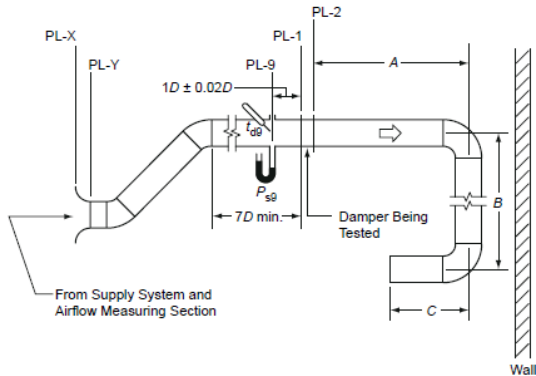
MODEL CD-170, 171 PERFORMANCE DATA

AIR FLOW RESISTANCE



CD-170, 171 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)
 Data corrected to standard air density

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



AMCA Figure 5.3 Pressure Drop

12"x48" Pressure Drop			
Face Velocity		Pressure Drop	
fpm	(m/s)	inches w.g.	(Pa)
592	3.02	0.01	2
793	4.04	0.02	5
1191	6.07	0.04	10
1591	8.11	0.08	20
2002	10.21	0.12	30

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

12"x12" Pressure Drop			
Face Velocity		Pressure Drop	
fpm	(m/s)	inches w.g.	(Pa)
587	2.99	0.02	4
801	4.09	0.03	8
1208	6.16	0.08	21
1608	8.20	0.14	34
2023	10.32	0.22	55

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

24"x24" Pressure Drop			
Face Velocity		Pressure Drop	
fpm	(m/s)	inches w.g.	(Pa)
599	3.05	0.009	2
796	4.06	0.02	5
1196	6.10	0.04	10
1596	8.14	0.07	18
1998	10.19	0.11	28

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

36"x36" Pressure Drop			
Face Velocity		Pressure Drop	
fpm	(m/s)	inches w.g.	(Pa)
598	3.05	0.006	1
797	4.06	0.01	2
1195	6.09	0.02	5
1596	8.14	0.04	10
2005	10.23	0.06	16

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

48"x12" Pressure Drop			
Face Velocity		Pressure Drop	
fpm	(m/s)	inches w.g.	(Pa)
592	3.02	0.008	2
796	4.06	0.02	4
1191	6.07	0.04	10
1592	8.12	0.07	18
2001	10.21	0.11	28

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



United Energeth certifies that the CD-170 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.



United Energeth certifies that the CD-171 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 ratings only.

MODEL CD-170 PERFORMANCE DATA

Imperial Units (Forward Flow)

Damper Width X Height	1 in. w.g. Class	4 in. w.g. Class	8 in. wg Class	*Torque (per sq. ft.)
12" X 48"	Class 1	Class 1	Class 2	27.5 lbs-in
36" X 36"	Class 1A	Class 1	Class 1	10 lbs-in
48" X 36"	Class 1A	Class 1	Class 2	9 lbs-in

Air leakage is based on operation between 50° F to 104° F. All data corrected to represent air density of 0.075 lbs/ft³.

Imperial Units (Reverse Flow)

Damper Width X Height	1 in. w.g. Class	4 in. w.g. Class	8 in. wg Class	*Torque (per sq. ft.)
12" X 48"	Class 1	Class 1	Class 1	27.5 lbs-in
36" X 36"	Class 1A	Class 1	Class 2	10 lbs-in
48" X 36"	Class 1A	Class 1	Class 2	9 lbs-in

*Torque applied to hold damper in closed position

Standard International Units (Forward Flow)

Damper Width X Height (mm)	250 Pa Class	1 KPa Class	2 KPa Class	*Torque (per sq. m.)
305 X 1220	Class 1	Class 1	Class 2	33.58 N-m
915 X 915	Class 1A	Class 1	Class 1	12.15 N-m
1220 X 915	Class 1A	Class 1	Class 2	10.94 N-m

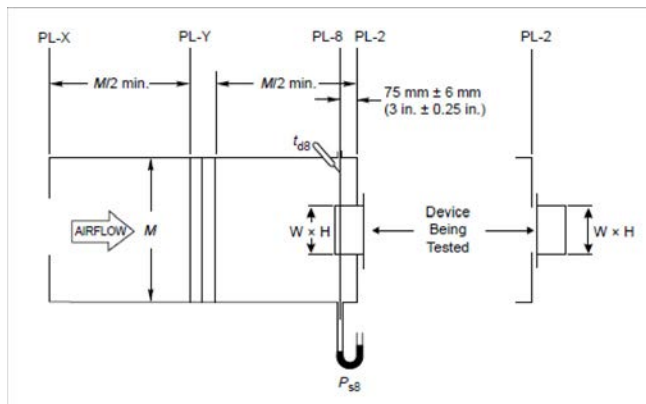
Air leakage is based on operation between 10° C to 40° C. All data corrected to represent air density of 1.201 kg/m³.

Standard International Units (Reverse Flow)

Damper Width X Height (mm)	250 Pa Class	1 KPa Class	2 KPa Class	*Torque (per sq. m.)
305 X 1220	Class 1	Class 1	Class 1	33.58 N-m
915 X 915	Class 1A	Class 1	Class 2	12.15 N-m
1220 X 915	Class 1A	Class 1	Class 2	10.94 N-m

*Torque applied to hold damper in closed position

Air leakage is based on operation between 50° F to 104° F. All data corrected to represent air density of 0.075 lbs/ft³. Tested per AMCA Standard 500-D (leakage), figure 5.4 Alternate.



AMCA Standard 500-D (leakage), figure 5.4 Alternate.

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

All data corrected to represent standard air at a density of 0.075 lbs/ft³