

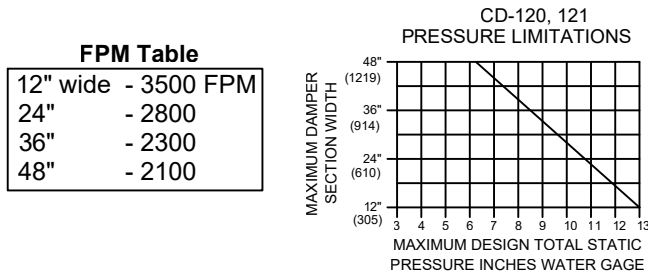
## OPPOSED BLADE - PARALLEL BLADE DAMPER

### Suggested Specifications:

Furnish and install at location shown on drawing or in accordance with schedules dampers meeting the following specifications: Rectangular damper shall have 18 gauge galvanized steel blades with galvanized steel frame. Damper to be equal to United Enertech MODEL CD-120 or CD-121.

### Ratings:

Pressure - up to 12" [305mm] w.g. - See pressure limit table



### Standard Features:

**Frame:** 4-1/2" [114mm] deep, 18ga. Formed Galv. Steel

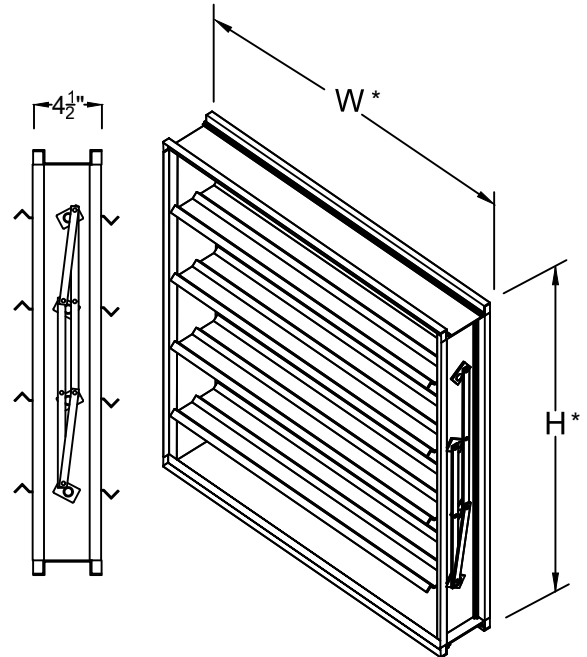
**Blades:** 6" [152mm] wide, 18ga. Formed Galv. Steel

**Bearing:** Bronze Oilite

**Linkage:** Concealed in frame

**Axles:** Ø1/2" [13mm] plated steel

**Control Shaft:** Ø1/2" x 6" [13mm x 152mm] long shaft supplied with all single section dampers for field mounted actuators. Factory-installed jackshaft supplied with all multiple section dampers



\*Undersized 1/4" [6.35mm]

Minimum Size: 6"w x 8"h [152mm x 203mm] (single blade)

Minimum Size: 6"w x 13"h [152mm x 330mm] (multiple blades)

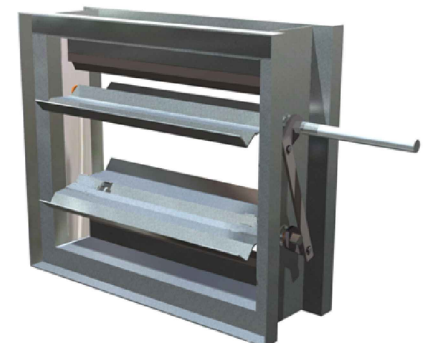
Maximum Size: 48"w x 60"h [1219mm x 1524mm] (single section)

Maximum multi-section: unlimited

### Options:

- ☐ Blade Seals PVC (180° F) [82°C]
- ☐ Compression Jamb Seals (stainless steel)
- ☐ Hand Quadrant
- ☐ Chain Operate
- ☐ Factory Installed Pneumatic or Electric Actuators (see cat. sheet K-1)
- ☐ Stand Off Bracket, 2" [51mm]
- ☐ Header Plates (end flange)
- ☐ Position Switch
- ☐ Single Flange
- ☐ Double Flange
  - ☐ Bolt holes in flange
- ☐ Heresite coated (air dry)
- ☐ Epoxy coated (powder coated)
- ☐ Stainless Steel Bushings

- ☐ 304 stainless steel construction
- ☐ 304L stainless steel construction\*
- ☐ 316 stainless steel construction\*
- ☐ 316L stainless steel construction\*
- ☐ 16ga. construction
- ☐ 14ga. construction
- ☐ 12ga. construction
- ☐ 10ga. construction
- ☐ 7-1/2" [191mm] deep frame
- ☐ Face and Bypass Damper
  - (\*304 stainless steel linkage)



|             |                                                         |              |               |
|-------------|---------------------------------------------------------|--------------|---------------|
| Job Name:   | <input type="checkbox"/> <b>MODEL CD-120 (Opposed)</b>  |              |               |
| Location:   | <input type="checkbox"/> <b>MODEL CD-121 (Parallel)</b> |              |               |
| Architect:  | DRAWN BY:                                               | DATE:        | REV. DATE:    |
| Engineer:   | CLJ                                                     | August 2008  | November 2014 |
| Contractor: | REV. NO.                                                | APPROVED BY: | DWG. NO.:     |
|             | 9                                                       | BGT          | <b>A-6</b>    |

# MODEL CD-120 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 1A         | Class 1          | Class 1        | 11.5 lbs-in           |
| 48" X 36"             | Class 1A         | Class 1          | Class 1        | 11.33 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/ft<sup>3</sup>.

## 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 1A         | Class 1          | Class 1        | 11.5 lbs-in           |
| 48" X 36"             | Class 1A         | Class 1          | Class 2        | 11.33 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 1A     | Class 1     | Class 1     | 13.97 N-m            |
| 1220 X 915                 | Class 1A     | Class 1     | Class 1     | 13.77 N-m            |

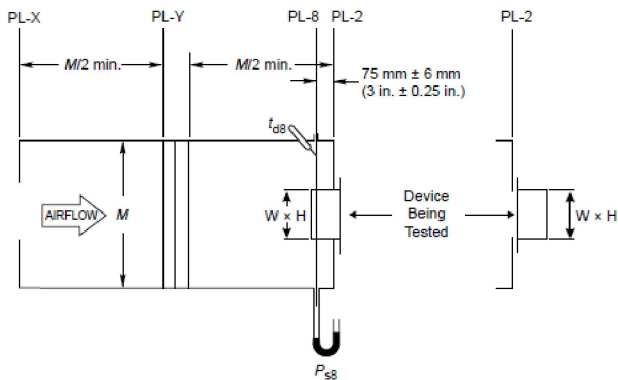
Air leakage is based on operation between 10° C to 40° C. All data corrected to represent air density of 1.201 kg/m<sup>3</sup>.

## 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 1A     | Class 1     | Class 1     | 13.97 N-m            |
| 1220 X 915                 | Class 1A     | Class 1     | Class 2     | 13.77 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/ft<sup>3</sup>. Tested per AMCA Standard 500-D (leakage), figure 5.4 Alternate.



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



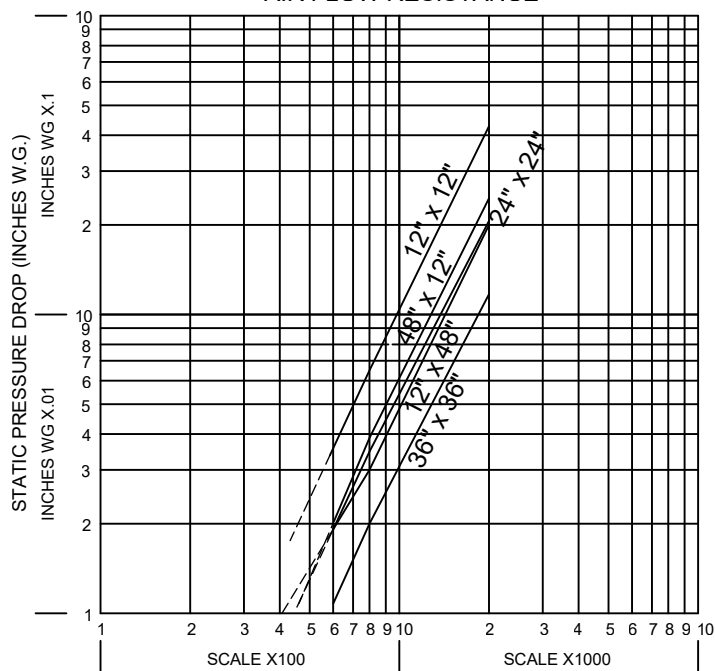
United Enertech certifies that the CD-120 is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Rating Seal applies to Air Performance and Air Leakage ratings.

|                |  | Leakage, ft <sup>3</sup> /min /ft <sup>2</sup> |     |                            |     |
|----------------|--|------------------------------------------------|-----|----------------------------|-----|
|                |  | Required Rating                                |     | Extended Ranges (optional) |     |
| Pressure Class |  | 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 |

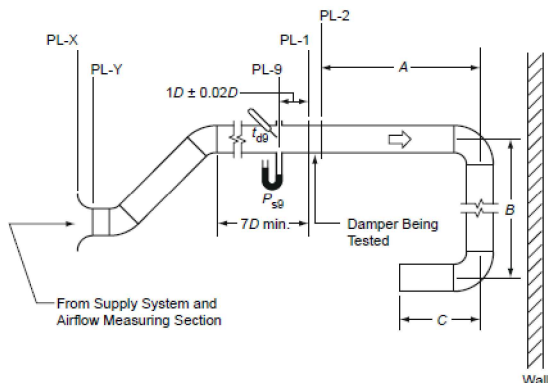
All data corrected to represent standard air at a density of 0.075 lbs/ft<sup>3</sup>

# MODEL CD-120, 121 PERFORMANCE DATA

## AIR FLOW RESISTANCE



CD-120, 121 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



United Enertech certifies that the CD-120 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 Enertech certifies that the CD-121 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.

### 12"x48" Pressure Drop

| Face Velocity |       | Pressure Drop |      |
|---------------|-------|---------------|------|
| fpm           | (m/s) | inches w.g.   | (Pa) |
| 607           | 3.10  | 0.02          | 5    |
| 802           | 4.09  | 0.03          | 8    |
| 1202          | 6.13  | 0.07          | 18   |
| 1605          | 8.19  | 0.14          | 34   |
| 2006          | 10.23 | 0.21          | 53   |

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) |
| 586           | 2.99  | 0.03          | 8    |
| 806           | 4.11  | 0.07          | 16   |
| 1206          | 6.15  | 0.15          | 38   |
| 1611          | 8.22  | 0.27          | 67   |
| 2025          | 10.33 | 0.43          | 106  |

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) |
| 598           | 3.05  | 0.02          | 5    |
| 802           | 4.09  | 0.04          | 9    |
| 1202          | 6.13  | 0.08          | 19   |
| 1594          | 8.13  | 0.14          | 34   |
| 2000          | 10.20 | 0.21          | 53   |

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) |
| 592           | 3.02  | 0.01          | 3    |
| 794           | 4.05  | 0.02          | 5    |
| 1196          | 6.10  | 0.05          | 11   |
| 1598          | 8.15  | 0.08          | 20   |
| 2006          | 10.23 | 0.12          | 30   |

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) |
| 601           | 3.07  | 0.02          | 5    |
| 804           | 4.10  | 0.04          | 9    |
| 1206          | 6.15  | 0.09          | 21   |
| 1605          | 8.19  | 0.15          | 38   |
| 2009          | 10.25 | 0.24          | 60   |

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