Control Dampers

Model FDCB (Opposed Blade)  
FDHB (Parallel Blade)  
Aluminum Low Leakage Control Dampers

▼ Standard Specifications
Frame: .081 extruded aluminum  
Blades: .125 extruded aluminum  
Bearings: bronze oilite  
Linkage: *concealed in frame  
Axles: 1/2”Ø cast zinc with thrust bushing  
Control Shaft: 1/2” x 6” long outboard support bearing supplied with all single section dampers for field mounted actuators. Factory-installed jackshaft supplied with all multi-section dampers.

Leakage Performance
Leakage - L/s/m² (ft³/min/ft²)

<table>
<thead>
<tr>
<th>Damper Width x Height</th>
<th>1 in. w.g. Class</th>
<th>4 in. w.g. Class</th>
<th>8 in. w.g. Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>12” x 12”</td>
<td>3.6 (Class 1A)</td>
<td>7.6 (Class 1A)</td>
<td>10.3 (Class 1A)</td>
</tr>
<tr>
<td>36” x 36”</td>
<td>0.5 (Class 1A)</td>
<td>5.6 (Class 1A)</td>
<td>20.8 (Class 1A)</td>
</tr>
</tbody>
</table>

Note: At 1” w.g. 12” x 12” damper leaks 3.6 cfm per square foot.  
Note: At 1” w.g. 36” x 36” damper leaks 0.5 cfm per square foot.  
Note: Blade and jamb seals are required to meet the leakage rates shown above.

Model FDNB (Opposed Blade)  
FDQB (Parallel Blade)  
Galvanized 3V Blade Control Dampers

▼ Standard Specifications
Frame: roll formed galvanized steel  
Blades: 4” - 7” wide, 16 gauge galvanized steel  
Bearings: nylon  
Linkage: concealed in frame  
Axles: 3/8” square plated steel  
Control Shaft: Ø1/2” x 4-1/2” long shaft supplied with all single section dampers for field mounted actuators. Factory-installed jackshaft supplied with all multiple section dampers.

Leakage Performance

<table>
<thead>
<tr>
<th>Damper Width x Height</th>
<th>1 in. w.g. Class</th>
<th>4 in. w.g. Class</th>
<th>8 in. w.g. Class</th>
<th>*Torque (per sq. ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>36” x 36”</td>
<td>Class III</td>
<td>Class III</td>
<td>Class III</td>
<td>5.55 lbs-in</td>
</tr>
</tbody>
</table>

*Torque applied to hold damper in closed position.
Control Dampers

Model FAAA (Opposed Blade)  
FABA (Parallel Blade)  
Aluminum Airfoil Blade Control Dampers

Standard Specifications
- 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 Axels: zinc with thrust bushings
- Blade Seals: removable EPDM (250°F)
- Jamb Seals: stainless steel (compression)

Options
- Insulated Blades (Foam Filled Blades)

Leakage Performance (Forward Flow)

<table>
<thead>
<tr>
<th>Damper Width x Height</th>
<th>1 in. w.g. Class</th>
<th>4 in. w.g. Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>12&quot; x 12&quot;</td>
<td>Class I</td>
<td>Class II</td>
</tr>
<tr>
<td>24&quot; x 24&quot;</td>
<td>Class I</td>
<td>Class I</td>
</tr>
<tr>
<td>36&quot; x 36&quot;</td>
<td>Class I</td>
<td>Class I</td>
</tr>
<tr>
<td>12&quot; x 48&quot;</td>
<td>Class III</td>
<td>Class III</td>
</tr>
<tr>
<td>48&quot; x 12&quot;</td>
<td>Class I</td>
<td>Class I</td>
</tr>
<tr>
<td>60&quot; x 36&quot;</td>
<td>Class II</td>
<td>Class II</td>
</tr>
</tbody>
</table>

Model FACA (Opposed Blade)  
FADA (Parallel Blade)  
Galvanized Airfoil Blade Control Dampers

Standard Specifications
- Frame: rollformed galvanized steel
- Blades: 5"-7" wide galvanized steel airfoil (double skin construction of 14 ga equivalent thickness)
- Extended Shaft: 1/2" diameter
- Bearing: nylon
- Linkage: concealed in frame
- Axels: zinc plated
- Blade Seals: PVC (175°F)
- Jamb Seals: stainless steel (compression)

Options
- Insulated Blades (1/2" Fiberglass)

Leakage Performance (Forward Flow)

<table>
<thead>
<tr>
<th>Damper Width x Height</th>
<th>1 in. w.g. Class</th>
<th>4 in. w.g. Class</th>
<th>8 in. w.g. Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>12&quot; x 12&quot;</td>
<td>Class I</td>
<td>Class II</td>
<td>Class II</td>
</tr>
<tr>
<td>24&quot; x 24&quot;</td>
<td>Class I</td>
<td>Class I</td>
<td>Class I</td>
</tr>
<tr>
<td>36&quot; x 36&quot;</td>
<td>Class II</td>
<td>Class II</td>
<td>Class II</td>
</tr>
<tr>
<td>12&quot; x 48&quot;</td>
<td>Class III</td>
<td>Class III</td>
<td>Class II</td>
</tr>
<tr>
<td>48&quot; x 12&quot;</td>
<td>Class I</td>
<td>Class I</td>
<td>Class I</td>
</tr>
<tr>
<td>60&quot; x 36&quot;</td>
<td>Class II</td>
<td>Class II</td>
<td>Class II</td>
</tr>
</tbody>
</table>
Model FAEA
Model FAEA is an ideal manual balancing damper for duct up to 36” x 12”.

- Standard Specifications
  - Frame: .081” aluminum, 4-1/2” deep
  - Blades: .125” aluminum
  - Bearing: nylon 6/6
  - Hand Quadrant: 1/2” cast zinc
  - Maximum Velocity: 2000 fpm

Model FAFA
The model FAFA is a G-90 galvanized steel damper with factory mounted heavy duty locking hand quadrant designed especially for manual balancing applications. It is easy to install, seal and becomes part of the duct work.

- Standard Specifications
  - Shaft: 1/2” round solid aluminum (thru 30”)
    3/4” round solid steel (32” thru 40”)
  - Bearing: molded synthetic nylon 6/6

<table>
<thead>
<tr>
<th>Diameter</th>
<th>Length</th>
<th>Body &amp; Blade</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 - 10”</td>
<td>8”</td>
<td>20 ga.</td>
</tr>
<tr>
<td>12 - 18”</td>
<td>8”</td>
<td>20 ga.</td>
</tr>
<tr>
<td>20 - 30”</td>
<td>8”</td>
<td>20 ga.</td>
</tr>
<tr>
<td>32 - 40”</td>
<td>8”</td>
<td>18 ga.</td>
</tr>
</tbody>
</table>
Model FAHA
Round Control Dampers

- **Standard Specifications**
  - **Shaft:**
    - 1/2" round solid aluminum (thru 30")
    - 3/4" round solid steel (32" thru 46")
  - **Bearing:**
    - Bronze oilite (175°F)
  - **Blade Seals:**
    - Crosslinked closed cell (200°F)
  - **Mounting Plate:**
    - 20 ga. galvanized steel

<table>
<thead>
<tr>
<th>Diameter</th>
<th>Length</th>
<th>Body &amp; Blade</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 - 10&quot;</td>
<td>8&quot;</td>
<td>24 ga.</td>
</tr>
<tr>
<td>12 - 18&quot;</td>
<td>8&quot;</td>
<td>20 ga.</td>
</tr>
<tr>
<td>20 - 30&quot;</td>
<td>8&quot;</td>
<td>20 ga.</td>
</tr>
<tr>
<td>32 - 46&quot;</td>
<td>8&quot;</td>
<td>18 ga.</td>
</tr>
</tbody>
</table>

Model FAJA
Round Butterfly Backdraft Dampers

- **Standard Specifications**
  - EDPM rubber gasket in closed position for minimum leakage
  - Aluminum spring loaded butterfly damper (.025" alum. blades)
  - Requires .04 to .08 inches w.c. to begin to open
  - May be installed in any position

**Sizes Available**
4", 5", 6", 7", 8", 9", 10", 12", 14", 16" & 18"

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Maximum Velocity (FPM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter</td>
<td>Length</td>
</tr>
<tr>
<td>8&quot;</td>
<td></td>
</tr>
</tbody>
</table>
Counterbalanced Backdraft Dampers

Model FAKA (Aluminum)

![Diagram of FAKA (Aluminum)]

The FAKA is a vertical or horizontal mounted backdraft damper that is designed to allow airflow and prevent reverse airflow.

**Ratings**
- **Pressure:** 3.5" w.g.
- **Velocity:** 4000 fpm
- **Temperature:** 180°F

**Standard Specifications**
- **Frame:** .060" thick extruded alum.
- **Blades:** .060" thick extruded alum. w/counterbalance weights
- **Blade Seal:** EPDM rubber
- **Linkage:** 1/2" x 1/8" aluminum bar (in airstream)
- **Axles:** zinc plated steel
- **Brushings:** nylon

**Size Limitations**
- **Minimum Size:** 6"w x 6"h
- **Maximum Single Section Size:** 48"w x 48"h
- **Multiple Panel Maximum Size:** unlimited

### Damper Performance

<table>
<thead>
<tr>
<th>Damper Width</th>
<th>Max. Back Pressure</th>
<th>Max. System Velocity</th>
<th>% of Max. Flow</th>
<th>CFM/ Sq. Ft.</th>
<th>Blades Start to Open</th>
<th>Blades Fully Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>48&quot; (1219)</td>
<td>4.0&quot; w.g.</td>
<td>4000 FPM</td>
<td>.61</td>
<td>15</td>
<td><strong>.01&quot; w.g.</strong></td>
<td><strong>.05&quot; w.g.</strong></td>
</tr>
<tr>
<td>36&quot; (914)</td>
<td>8.0&quot; w.g.</td>
<td>4000 FPM</td>
<td>.6</td>
<td>15</td>
<td><strong>.01&quot; w.g.</strong></td>
<td><strong>.05&quot; w.g.</strong></td>
</tr>
<tr>
<td>24&quot; (610)</td>
<td>12.0&quot; w.g.</td>
<td>4000 FPM</td>
<td>.72</td>
<td>18</td>
<td><strong>.01&quot; w.g.</strong></td>
<td><strong>.05&quot; w.g.</strong></td>
</tr>
<tr>
<td>12&quot; (305)</td>
<td>16.0&quot; w.g.</td>
<td>4000 FPM</td>
<td>1</td>
<td>24</td>
<td><strong>.01&quot; w.g.</strong></td>
<td><strong>.05&quot; w.g.</strong></td>
</tr>
</tbody>
</table>

*Leakage information based on pressure differential of 1" w.g. tested per AMCA Std. 500.
**Set at least resistant to open.*
Backdraft Dampers and Motorized Dampers

Model JDHAA (Backdraft Damper)
JDHAM (Motorized Damper)

▼ Standard Specifications
Frame: .036” (1.6mm) 6063T6 aluminum
Blades: 24 gauge aluminum with double stiffening breaks
Finish: mill aluminum
Bearings: self lubricating nylon
Blade Pivots: 3/16” (5mm) plated steel
Linkage: galvanized steel; double linkage for width exceeding 20” (508mm)
Seals: felt between blades and polyurethane sponge at sill
Maximum Panel Size: 50”w x 72”h (1270mm x 1829mm)
Maximum Velocity: 1500 FPM (8 M/S)
Maximum Differential Pressure: 1” WG (250 N/M²)
Maximum Temperature: Damper 250°F (95°C); Motor 130°F (55°C)

The JDHAA and JDHAM dampers can be installed either vertically or horizontally.

DAMPER QUICK SHIP
All models of Carnes dampers (except models JDHAA and JDHAM) are available on a 6 day and 10 day quick ship.

LQS6  Lover and Damper 6 Day Quick Ship
LQS10 Lover and Damper 10 Day Quick Ship

Carnes - A Damper Design For Every Application.