

## General

The following guidelines provide basic assembly and installation instructions for models BD-130, BD-230, CBD-130 and CBD-230 backdraft dampers.

Carefully lift the dampers by their frames using multiple lifting points if necessary. **Do not apply excessive force to a single point and NEVER LIFT UNITS BY DAMPER BLADES OR BLADE LINKAGE.**

## Preparation

### Dampers

1. Locate all crates, boxes, cartons, etc.
2. Remove dampers from packaging, inspect for damage and confirm quantities and sizes with packing list.
3. Notify your C&S representative immediately of any shortages or shipping damage.

### Openings

1. Inspect openings to ensure they are square and free from any debris.
2. Verify that the damper will properly fit into the opening or into the duct so that it can be installed square and will not be racked.

## Installation for Dampers with Standard Frame (Fig. 1)

1. Verify that the backdraft damper is square, plumb and not racked.
2. Backdraft damper is approximately 1/4" (6.4) smaller than specified duct/opening.
3. Insert entire backdraft damper into duct/opening. Bottom of damper frame must sit flat on bottom of duct/opening to prevent twisting, sagging or uplifting.
4. Install units using mounting clips or angles [3/8" (9.5) high (max.) x 1" (25) wide (min.) x 20 ga. (1.0) thick (min.)]. Arrange clips against the perimeter of the front and back of the damper frame, securing the clips to duct work.
5. Minimum of two fasteners per side to be used (top, bottom, left and right jamb). Fasteners should be spaced 12" (305) on center. (For alternate fastening method securing the frame directly to the duct/opening, see Multiple Section Installation details).

## Dampers with Front or Rear Flange (Fig.2)

1. Verify that the backdraft damper is square, plumb and not racked.
2. Inserted frame of backdraft damper is approximately 1/4" (6.4) smaller than specified duct/opening size.
3. Make sure that the backdraft damper's is flat and level when being attached.
4. Secure backdraft damper's flange using appropriate fasteners.

5. Pre-drill fastener holes in the backdraft damper flange before placing over opening to reduce twisting and binding.
6. It is recommended that a minimum of two fasteners per side be used (top, bottom, left and right jamb). Fasteners should be spaced 12" (305) on center.
7. Do not over tighten fasteners. Over tightening may damage or twist the backdraft damper.



Fig.1 Standard Frame (no flange)

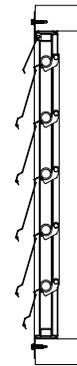


Fig. 2 Front and Rear Flange



## Installation for Multi-Sectioned Dampers (Fig. 3)

Dampers larger than the maximum single section size are manufactured and shipped for field assembly.

Assemble sections together using #10 TEK screws 2" (51) min. long as shown.

1. Place first horizontal screw in between the top blade and the second blade. See Detail 1. (Subsequent horizontal screws should be spaced in between every other blade). See Detail 2.
2. Vertical screws should be placed a maximum distance of 8" (203) from edge of frame and from center to center of each screw. See Detail 3.

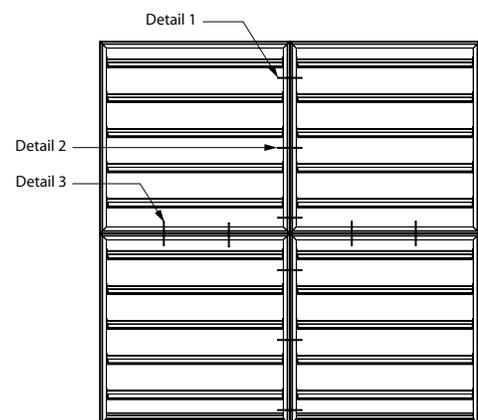


Fig. 3 Multi-Section Dampers

### Installation for Multi-Sectioned Dampers

(continued)

3. Make sure fasteners DO NOT interfere with linkage, axles or blade linkage. See Fig 4 and Detail 4.
4. Dampers are designed to be self-supporting in the maximum single section size. When dampers are installed in multiple section assemblies, bracing may be required to support the weight of the dampers and to ensure structural integrity against system pressures.

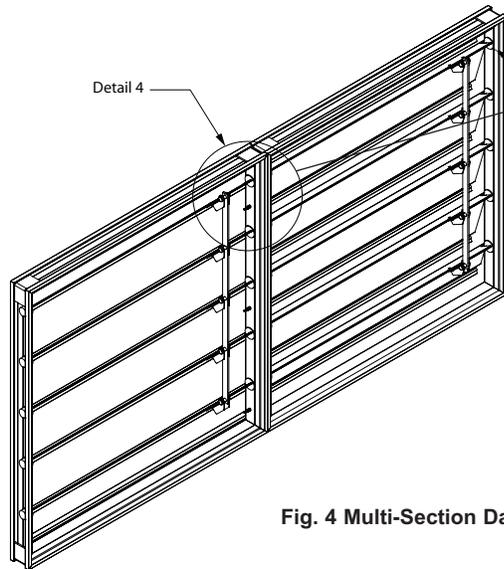
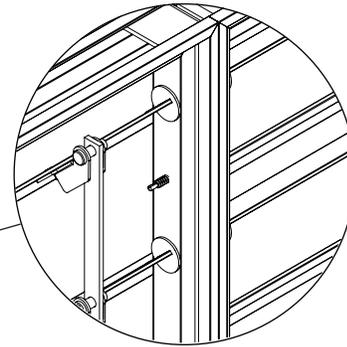


Fig. 4 Multi-Section Damper



Detail 4

### Counterweight Adjustment for CBD-130, CBD-230

1. In order to maximize the counterweight effect, the counterweights should be adjusted away from the blade pivot point or towards the blade pivot point. (Counterweights are to be field adjusted.)
2. **Horizontal Airflow and Vertical Airflow Up:**  
Moving the counterweights away from the blade pivot point will allow the blades to open with less air pressure. Make sure that the blades still close when there is no pressure. If the blades do not close then move the counterweights closer to the blade pivot point. See Fig. 5.
3. **Vertical Airflow Down:**  
Moving the counterweights closer to the blade pivot point will allow the blades to open with less air pressure. Make sure that the blades close when there is no pressure. If the blades do not close when there is no air pressure then move the counterweight away from the blade pivot point to allow the blades to close. See Fig. 6.

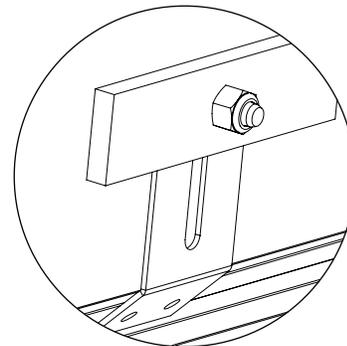


Fig. 5 Horizontal Airflow and Vertical Airflow Up

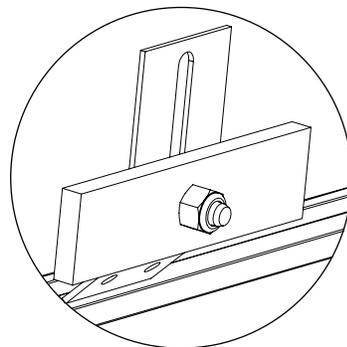


Fig. 6 Vertical Airflow Down