

Application

BD-40 backdraft dampers employ gravity operated triple-V blades and a rugged hat channel frame to restrict reverse airflow and to permit the forward flow of air in the intended direction. The BD-40 damper may be mounted vertically or horizontally in either exhaust or intake installations for low to medium velocity and pressure applications.

Standard Construction

Frame: 5" x 1" (127 x 25) galvanized steel hat channel with interlocking corner gusset. Equivalent to 13 gauge (2.4) channel frame.

Blades: 6" x 0.063" (152 x 1.5) aluminum — triple-V.

Axles: 1/2" (13) diameter plated steel hex.

Linkage: Concealed in frame.

Bearings: Synthetic.

Seals: Neoprene blade edge seals — open cell.

Minimum Size: 6" x 6" (152 x 152)

Maximum Size: Single Section: 40" x 60" (1016 x 1524)
Multiple sections: Unlimited

Options

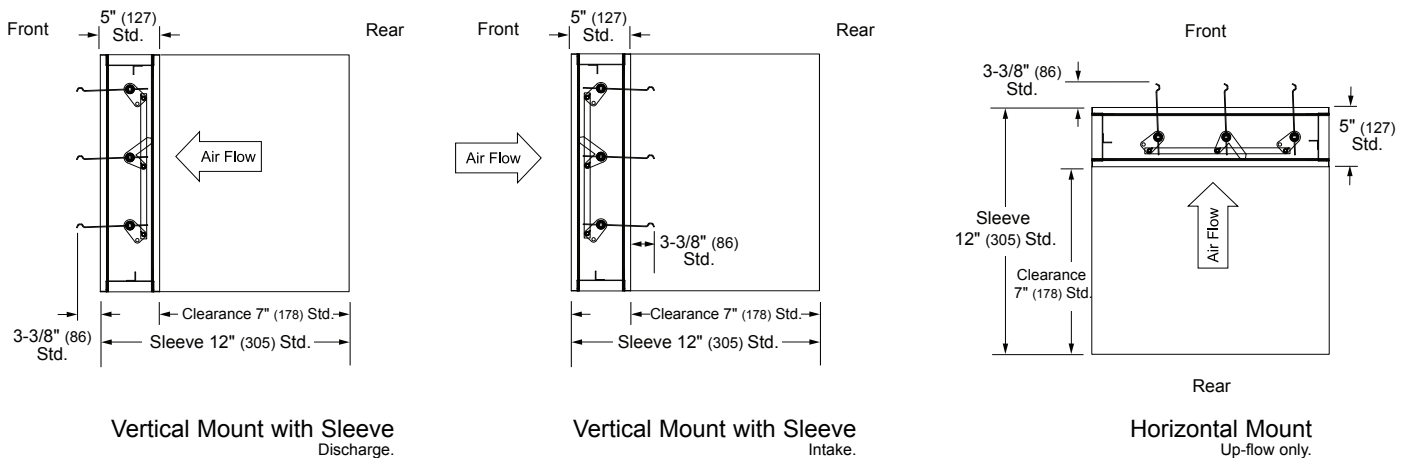
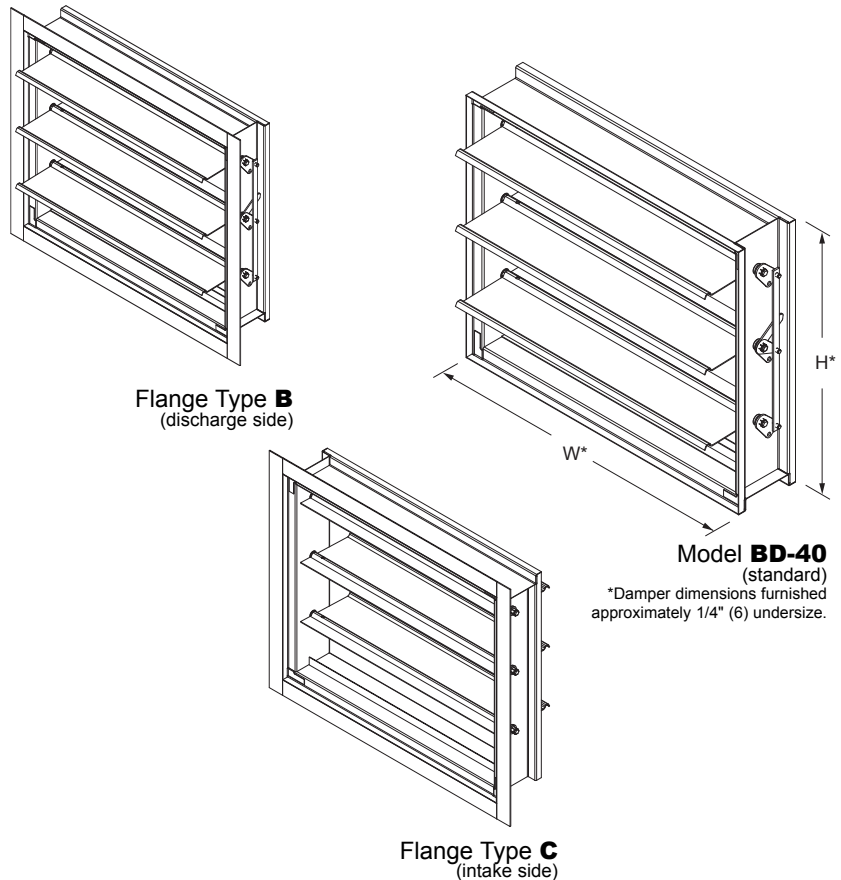
- 1" (25) mounting flange:
 - Type B (discharge side) Type C (intake side)
- Factory installed sleeve.
 - Gauge: 20 (1.0) 16 (1.5)
 - Length: 12" (305) 24" (610) Other _____
- Transitions (sleeve required): Flanged
Round: AR Oval: AO
- Closed cell neoprene blade edge seals.
- Stainless steel oilite sleeve-type bearings.
- Type-304 stainless steel construction.
- Aluminum frame construction with stainless steel oilite sleeve-type bearings.

Ratings

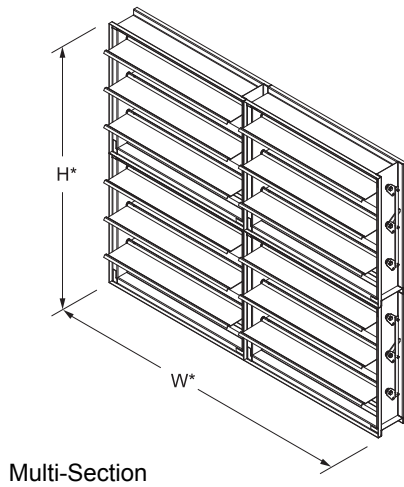
Damper Width	Maximum System Pressure	Maximum System Velocity
12" (305)	6.0 in. wg (1.5 kPa)	2500 fpm (12.7 m/s)
24" (610)	5.0 in. wg (1.2 kPa)	2500 fpm (12.7 m/s)
36" (914)	4.0 in. wg (1.0 kPa)	2500 fpm (12.7 m/s)
40" (1016)	3.0 in. wg (0.8 kPa)	2500 fpm (12.7 m/s)

Leakage: 80 cfm/ft² @ 4 in. wg. (0.41 m/s @ 1.00 kPa) with no jamb seals
40 cfm/ft² @ 1 in. wg. (0.21 m/s @ 0.25 kPa) with no jamb seals

Temperature: -25°F to 180°F (-32°C to 83°C)



Typical Damper Dimensional Details



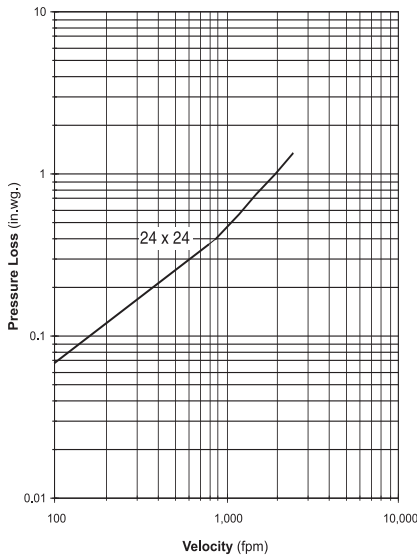
Dampers are designed to be self-supporting in the maximum single section size. When dampers are installed in multiple section assemblies, bracing may be required to support the weight of the dampers and to ensure structural integrity against system pressures. It is recommended that multiple sections be appropriately braced. In horizontal installations, it is recommended that suitable supports be installed every 8 feet of damper width. Dampers installed in vertical multiple assemblies and/or higher system pressures, may require additional bracing.

*Damper dimensions furnished approximately 1/4" (6) undersize.

Airflow Performance Data

Pressure Loss vs. Velocity

Figure 5.5 — Plenum Mount



Pressure drop testing was performed in accordance with AMCA Standard 500-D using the three configurations shown. All data has been corrected to represent air density of 0.075 lb/ft. Actual pressure drop in any ducted HVAC system is a combination of many elements. This information, along with analysis of other system influences, should be used to estimate actual pressure losses for a damper installed in a given HVAC system.

Note: Damper blades start to open at 0.05" w.g. (12.4 Pa). Damper blades are fully open at 0.70" w.g. (174 Pa).



Plenum Mount

AMCA Figure 5.5 illustrates a plenum mounted damper. This configuration has the highest pressure drop because of extremely high entrance and exit losses due to the sudden changes of area in the system.

Pressure Limitations

