

## Application

AC-41 and AC-42 control dampers employ triple-V blades and a rugged hat channel frame for automatic air control and manual balancing in medium pressure and velocity 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. Low profile head and sill are used on sizes less than 13" (330) high.

**Blades:** 6" x 16 gauge (152 x 1.5) galvanized steel — triple-V. Parallel (model AC-41) or opposed (model AC-42) action.

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

**Linkage:** Concealed in frame.

**Bearings:** Synthetic

**Control Shaft:** 1/2" x 6" (13 x 152) round drive axle with outboard shaft support bracket and bearing supplied on all single section dampers for field installation. Factory installed jackshaft supplied with all multiple section dampers: 1/2" (13) dia. for W>48" (1219) or H>72" (1829), 3/4" (19) dia. for W >96" (2438).

**Minimum Size:** Model AC-41 (one blade): 6" x 5" (152 x 127)  
Model AC-41 and AC-42 (two blades): 6" x 10" (152 x 254)

**Maximum Size:** Single section: 48" x 72" (1219 x 1829)  
Multiple sections: Unlimited

## Options

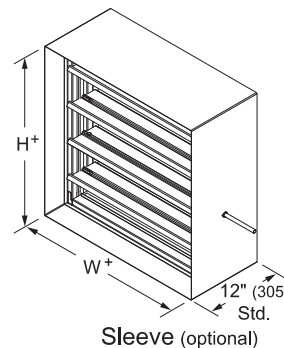
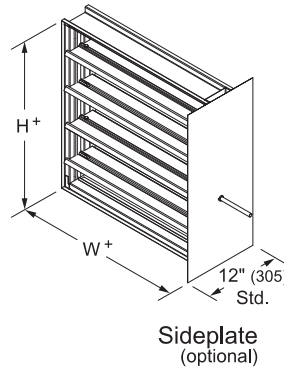
- Factory installed actuators:
  - Manual locking quadrant (supplied loose)
  - 24 VAC  120 VAC  230 VAC
    - Pneumatic  Modulating
  - External mount (requires sleeve or sideplate option)
  - Internal mount (requires jackshifting)
- Factory installed sleeve.  Factory installed side plate.
  - Gauge:  20 (1.0)  16 (1.6)
  - Length:  16" (406)  24" (610)  Other \_\_\_\_\_
- Transitions (sleeve required):  Flanged
  - Round  Oval
  - Duct connections:  DM-25  DM-35  S & Drive
- Flanged frame:  One side  Both sides
- Low leakage seals: PVC blade edge and flexible stainless steel jamb.
- PI-50 – Dual position indicator switch package.
- Actuator/Quadrant standoff bracket — accommodates up to 3" (76) thick insulated duct.
- Stainless steel oilite sleeve-type bearings.
- Type-304 stainless steel construction.
- Jackshifting (required with internal mounted actuators and standard on all multiple section dampers).
- Vertical mounted blades.
- Face and by-pass assemblies:
  - Model MDFBR  Model MDFBH  Model MDFBV

## Ratings

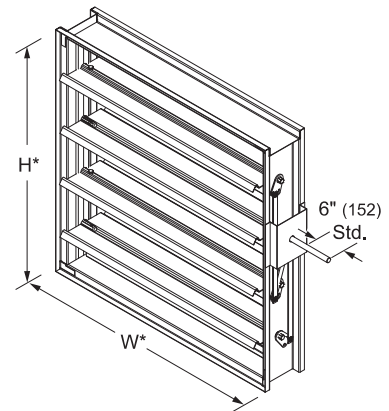
Damper Width	Maximum System Pressure	Maximum System Velocity
12" (305)	5.0 in. wg (1.2 kPa)	3000 fpm (15.2 m/s)
24" (610)	4.0 in. wg (1.0 kPa)	3000 fpm (15.2 m/s)
36" (914)	3.0 in. wg (0.8 kPa)	2500 fpm (12.7 m/s)
48" (1219)	2.5 in. wg (0.6 kPa)	2000 fpm (10.2 m/s)

**Leakage (with seals):** 8.0 cfm/ft<sup>2</sup> @ 4 in. wg (0.04m<sup>3</sup>/s/ m<sup>2</sup> @ 1.00 kPa)  
4.0 cfm/ft<sup>2</sup> @ 1 in. wg (0.02m<sup>3</sup>/s/ m<sup>2</sup> @ 0.25 kPa)

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

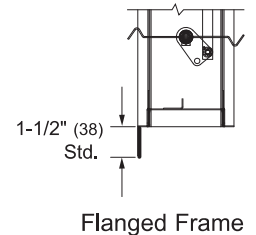
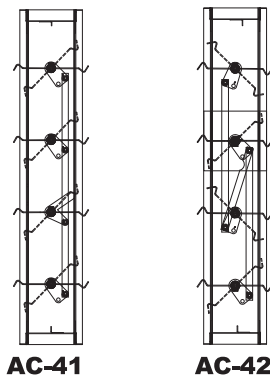


\*Damper dimensions furnished approximately 1/4" (6) undersize (sleeve thickness not included).

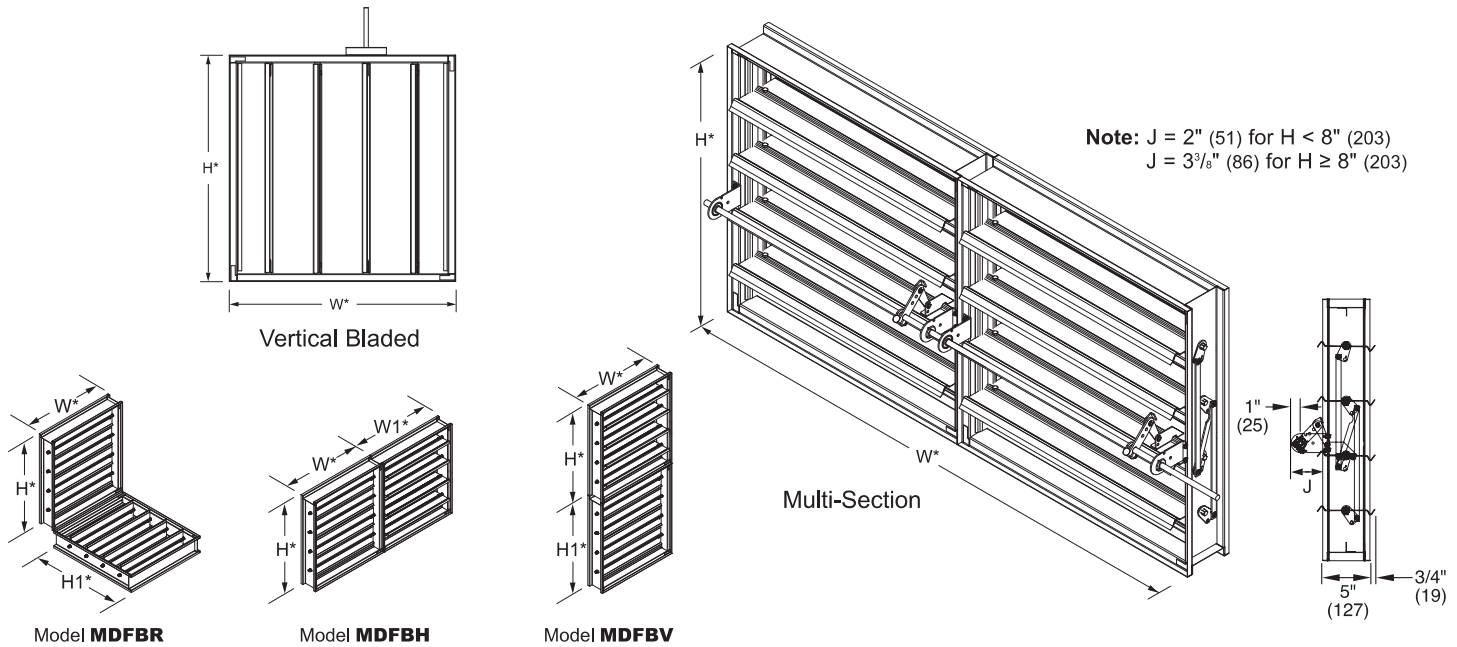


### Model AC-42 (standard)

\*Damper dimensions furnished approximately 1/4" (6) undersize. (Drive axle supplied loose for field installation)



# 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 5.3 — Ducted Inlet and Outlet

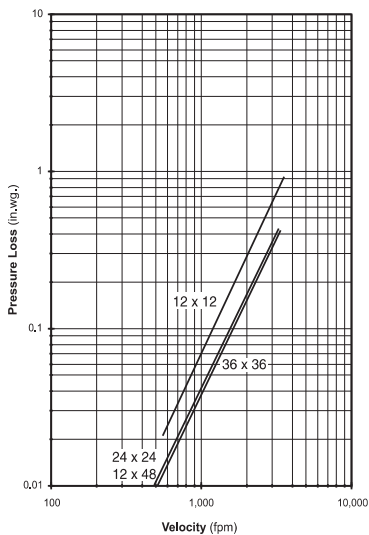


Figure 5.2 — Ducted Inlet

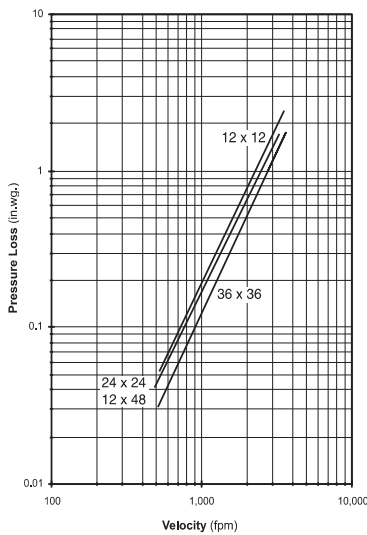
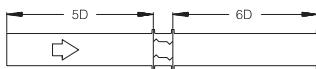
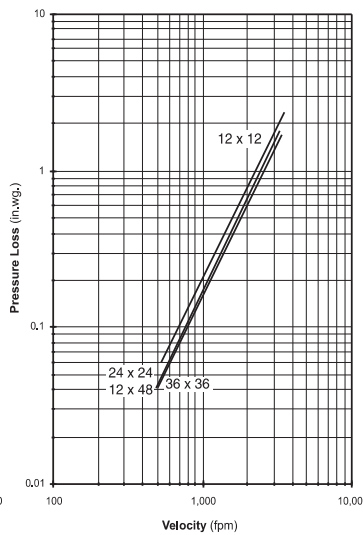
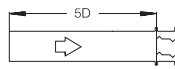


Figure 5.5 Plenum Mount



#### Ducted Inlet and Outlet

AMCA Figure 5.3 illustrates a fully ducted damper. This configuration represents the lowest pressure drop of the three test configurations because entrance and exit losses are minimized by straight duct runs upstream and downstream of the damper.



#### Ducted Inlet

AMCA Figure 5.2 illustrates a ducted damper exhausting air into an open area. This configuration has a lower pressure drop than Figure 5.5 because entrance losses are minimized by a straight duct run upstream of the damper.



#### 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.