

Application

AM-51-PD airflow measuring stations employ a low leakage control damper with highly accurate airflow measuring equipment in a single compact assembly. The C&S AC-51 control damper is factory mounted with a modulating 24V actuator, multi-point self-averaging pressure sensing probes, and VELTRON DPT 2500-plus transmitter to provide airflow measuring along with the ability to control airflow all in one easy to install assembly.

Standard Construction

Damper Frame: 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.

Damper Blades: Damper Blades: 6" (152) heavy gauge, dual wall extruded aluminum - airfoil. Parallel action.

Sleeve: 16" x 20 gauge (406 x 1.0) galvanized steel.

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

Damper Linkage: Concealed in frame.

Damper Bearings: Synthetic.

Seals: PVC blade edge seals. Flexible metal jamb seals.

Damper Actuator: Modulating 24V, spring close, external mount.

Air Straightener: Aluminum honeycomb.

Sensor Type: Pressure differential.

Sensor Capacity: 32 per transmitter.

Probe Material: 6063 anodized aluminum extrusion.

Probe Mount Location: Right.

Transmitter: VELTRON DPT 2500-plus.

Transmitter Output: Single output linear to pressure, flow, or massflow configurable via jumper to 0-5V, 0-10V, or 4-20mA.

Transmitter Power Supply: Standard 24VAC (16-30VAC) or 24VDC (16-40VDC).

Transmitter Power Consumption: 8VA at 24VAC, 6VA at 24VDC.

Minimum Size: 8"x6" (203 x 152)

Maximum Size: Single section: 48" x 72" (1219 x 1829)
Multiple section: 144" x 144" (3658 x 3658)

Ratings

System Velocity Range: 120-4000 FPM (0.61-20.32 m/s)

Maximum System Pressure: 2 in. wg (0.50 kPa)

Leakage: 3.0 cfm/ft² @ 1.0 in. wg (0.015m³/s/ m² @ 0.25 kPa)
4.0 cfm/ft² @ 1.0 in. wg (0.02m³/s/ m² @ 0.25 kPa)
8.0 cfm/ft² @ 4.0 in. wg (0.041m³/s/ m² @ 1.0 kPa)
9.7 cfm/ft² @ 6.0 in. wg (0.049m³/s/ m² @ 1.5 kPa)

Leakage data based on Test Method per ANSI/AMCA Standard 500-D-07, Figure 5.4 Alternate

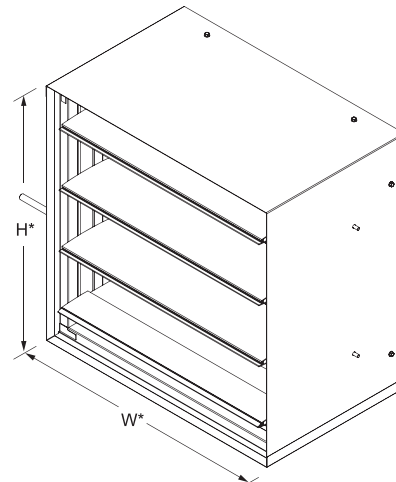
Temperature: -20°F to 140°F (-29°C to +60°C)

Humidity limit: 0-95%, non-condensing

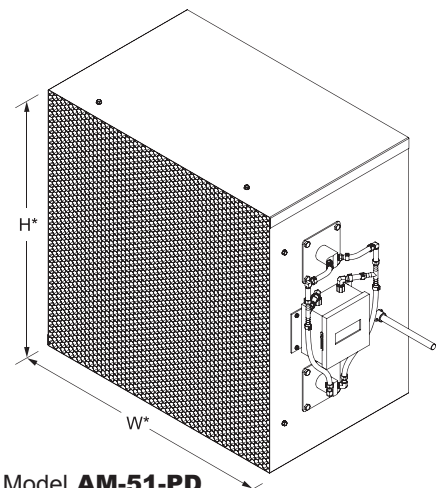
Accuracy: 2% of actual flow

Options

- ☐ Factory installed actuators:
 - ☐ Control shaft (not available with jackshafting)
 - ☐ Manual locking quadrant (supplied loose)
 - ☐ Internal mount (requires jackshafting)
- ☐ Factory installed sleeve.
 - Gauge: ☐ 20 (1.0) ☐ 16 (1.6)
 - Length: ☐ 16" (406) ☐ 24" (610) ☐ Other _____
- ☐ Duct connections: ☐ Flanged
 - ☐ DM-25 ☐ DM-35 ☐ S & Drive
- ☐ Actuator/Quadrant standoff bracket — accommodates up to 3" (76) thick insulated duct
- ☐ Stainless steel oilite sleeve-type bearings.
- ☐ Jackshafting (required with internal mounted actuators and standard on all multiple section dampers).
- ☐ Bottom probe mount location.
- ☐ No air straightener.
- ☐ Transmitter:
 - ☐ NEMA 4 enclosure
 - ☐ NEMA 12 enclosure
 - ☐ NIST calibration certificate

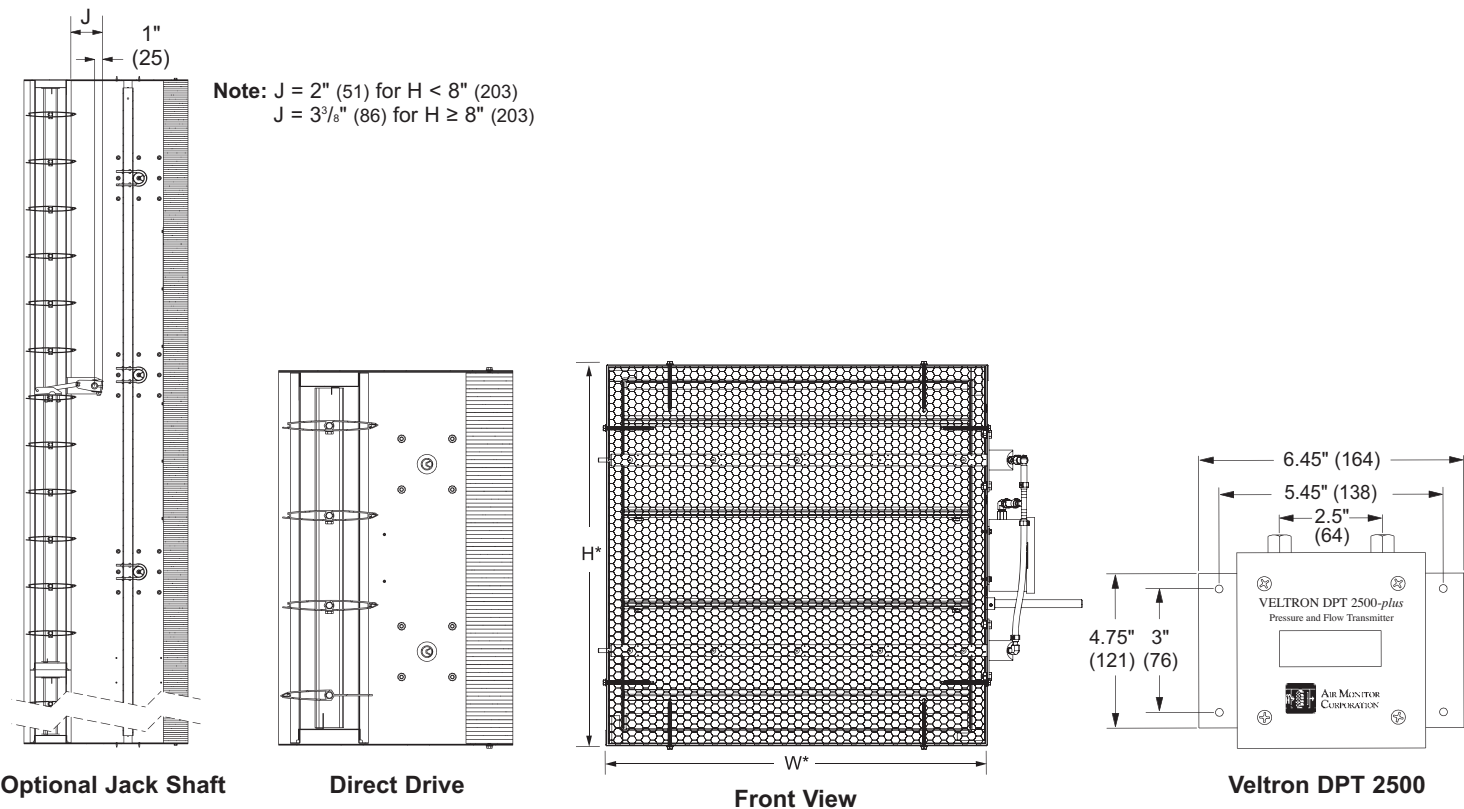


Model AM-51-PD
(standard)
*Damper dimensions furnished approximately 1/4" (6) undersize.



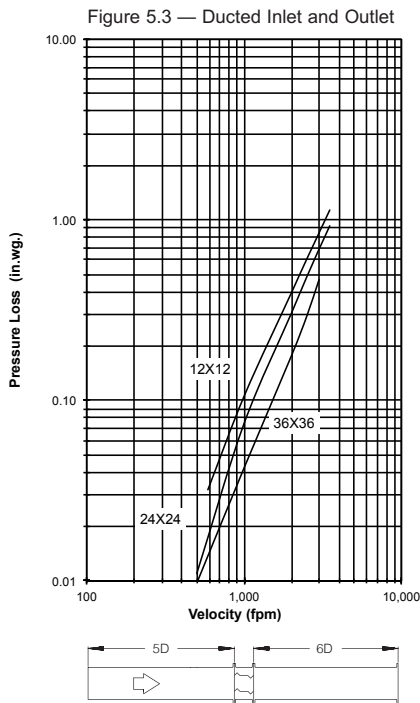
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Supplemental Views/ Transmitter



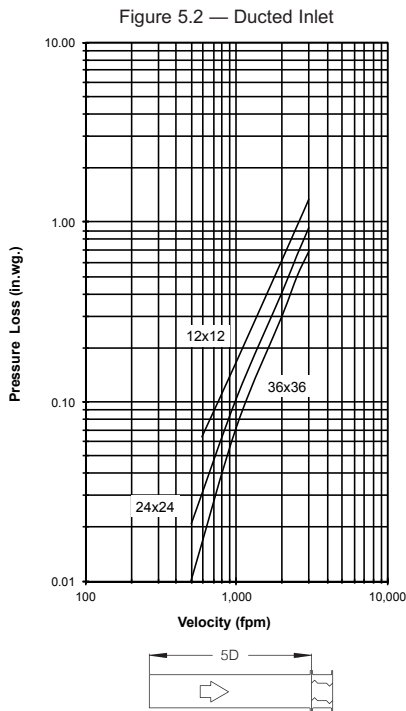
Airflow Performance Data
Pressure Loss vs. Velocity

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



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.

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.

Information is subject to change without notice or obligation.

NOTE: Dimensions in parentheses () are millimeters.