

Application

AM-51-TD 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 and thermal dispersion airflow measurement system to provide airflow measuring along with the ability to control airflow all in one easy to install assembly. Fully encapsulated precision thermistors are paired with heating circuits and dedicated ELECTRA-flo G5 transmitters to provide a high degree of environmental protection along with state-of-the electronic airflow measurement.

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: 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.

Sensor Type: Thermal dispersion.

Sensor Capacity: 32 per transmitter.

Probe Material: 6063 anodized aluminum extrusion.

Probe Mount Location: Right.

Transmitter: ELECTRA-flo G5 with NEMA 1 enclosure.

Transmitter Output: 2 Field selectable analog outputs (0-5V, 0-10V, 4-20mA); single alarm; BACnet Modbus communicator.

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

Transmitter Power Consumption: 16-90VA at 24VAC, 16-50W at 24VDC.

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

Maximum Size: Single section: 48" x 72" (1219 x 1829)
Multiple section: 120" x 120" (3048 x 3048)

Ratings

System Velocity Range: 0-4000 FPM (0-20.32 m/s)

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

Leakage: 3.0 cfm/ft² @ 1.0 in. wg (0.02m³/s/ m² @ 0.25 kPa)
5.0 cfm/ft² @ 4.0 in. wg (0.03m³/s/ m² @ 1.0 kPa)
7.0 cfm/ft² @ 10.0 in. wg (0.04m³/s/ m² @ 2.5 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)

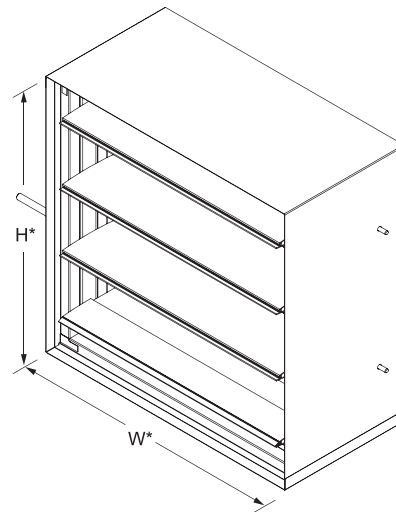
Humidity limit: 0-95%, non-condensing

Sensor Accuracy: 2% of actual flow

System Accuracy: 3% of reading over published velocity range

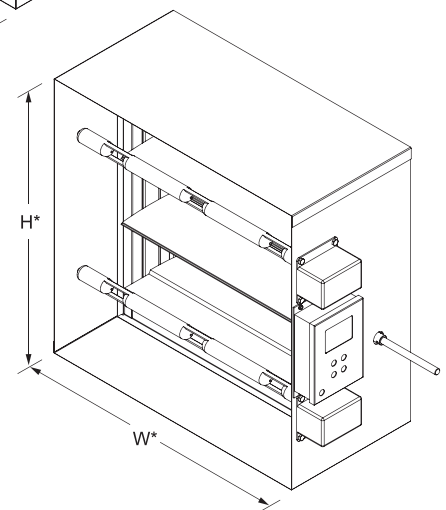
Options

- ☐ 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.
- ☐ Aluminum air straightener.
- ☐ Transmitter:
 - ☐ NIST calibration certificate



Model AM-51-TD
(standard)

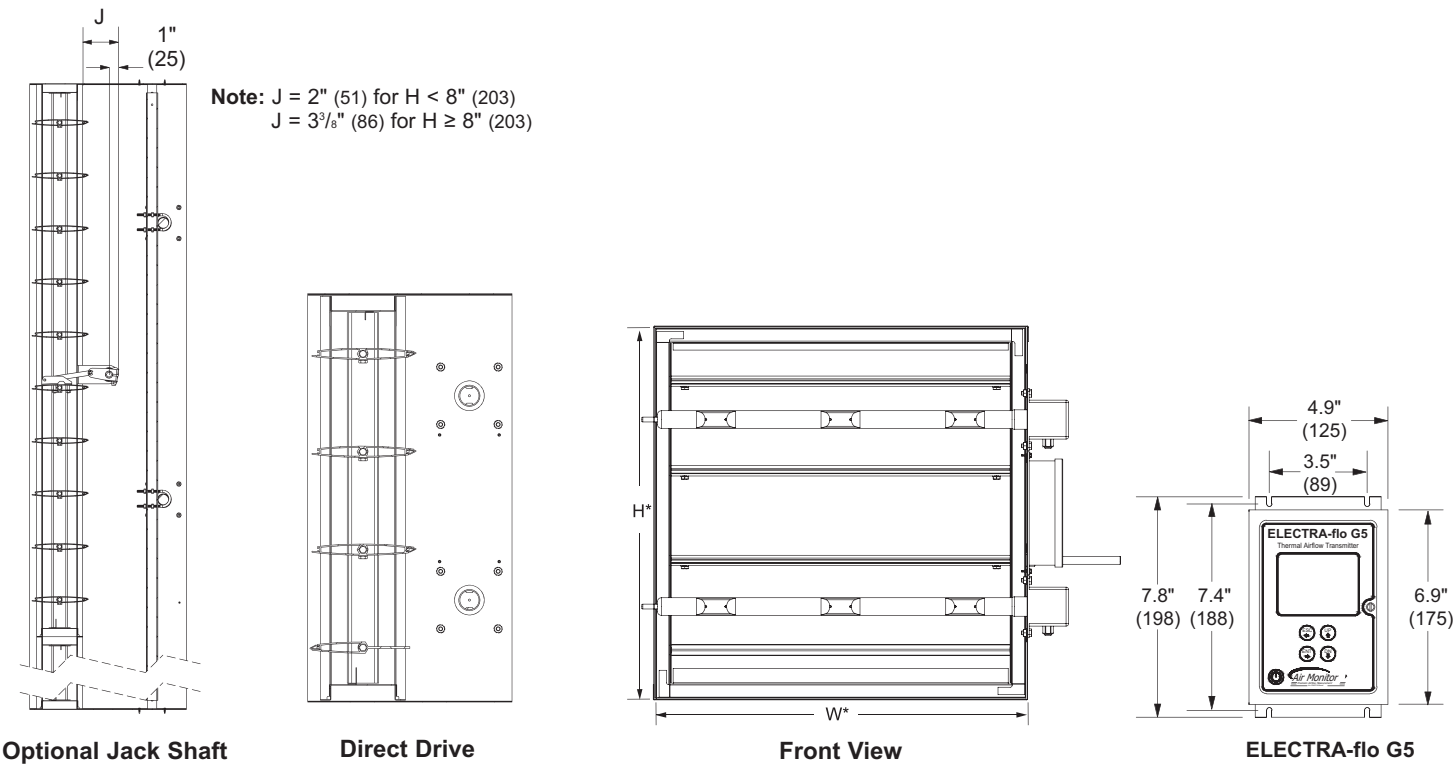
*Damper dimensions furnished approximately 1/4" (6) undersize.



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(standard)

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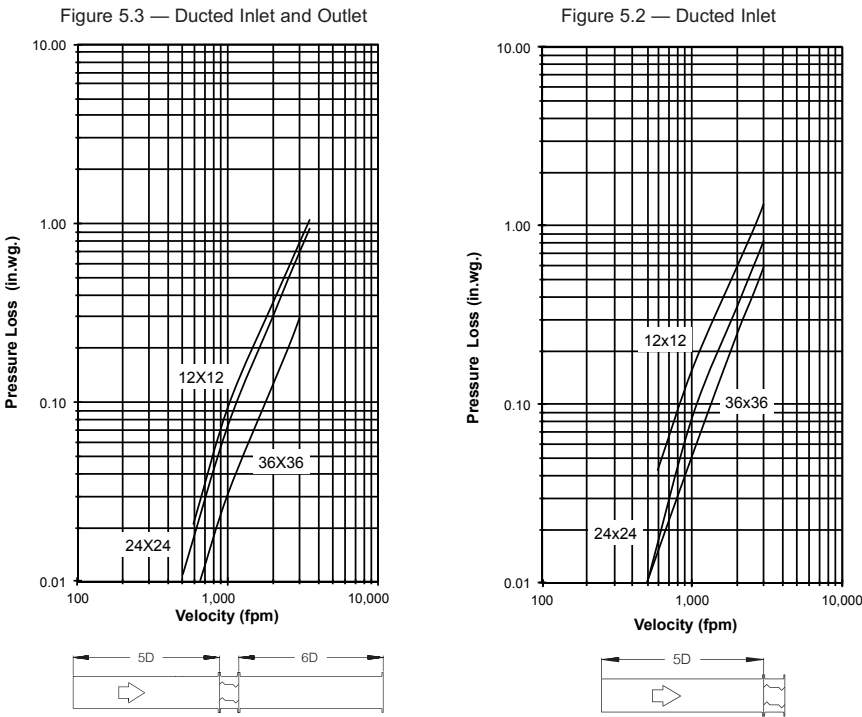
Supplemental Views/ Transmitter



Airflow Performance Data

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

Pressure Loss vs. Velocity



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.

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 5.3 because entrance losses are minimized by a straight duct run upstream of the damper.

Information is subject to change without notice or obligation.

NOTE: Dimensions in parentheses () are millimeters.