




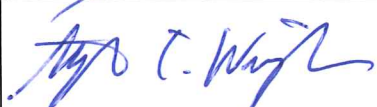

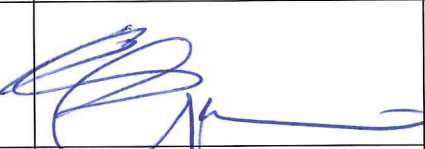

Standard Operating Procedure

SOP #: 8.008 Rev. 3

Operational Procedure for Duct Leakage Test

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Approval

Approving Authority	Name	Signature	Date
Process Systems Manager	Michael Delgado		3/26/15
Quality Assurance Manager	Steve Washington		3/26/15
V.P. Engineering	Steve Rusconi		3/30/15
Operations Manager	Steve Hansen		3/26/15
President	Joseph Parisi		3/31/15

Revision History

Revision #	Description of Change	Effective Date	DCR#
0	Original	3/3/1997	
1	Modification	5/7/1997	
2	Data Modification	11/19/01	01010
3	Data Modification	3/31/2015	15003

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1 Purpose

- 1.1 To establish a standard procedure for performing duct leakage testing.

2 Scope

- 2.1 This procedure applies to the all supply, return, makeup, exhaust, and relief, galvanized, stainless duct and fittings. Manufactured equipment and apparatus, such as fans, coils, and VAV boxes are excluded.

3 Reference

- 3.1 SMACNA HVAC Air Duct Leakage Test Manual, Current Edition.
- 3.2 NEBB Testing Adjusting Balancing Manual for Technicians, Current Edition.
- 3.3 NEBB Procedural Standards for Testing Adjustment and Balancing of Environmental Systems, Current Edition.

4 Definition

- 4.1 CFM Cubic Feet per Minute
- 4.2 FPM Feet Per Minute
- 4.3 HVAC Heating, Ventilating, and Air Conditioning
- 4.4 NEBB National Environmental Balancing Bureau
- 4.5 TAB Test, Adjust, and Balance
- 4.6 VAV Variable Air Volume

5 Responsibility

- 5.1 TAB technician(s) shall record all test readings on Form FN 8.008.1 Air Duct Leakage Test Summary.
- 5.2 The TAB Department Manager shall monitor and manage the retention of completed testing records.



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- 5.3 All test equipment utilized shall be in calibration in accordance with NEBB Standards and traceable to the National Institute of Standards and Technology (NIST).
- 6 Materials Requirement
 - 6.1 Temporary seals, sheet metal, plastic plugs or equivalent
- 7 Test Equipment
 - 7.1 Calibrated Orifice Tube / Air Flow Measuring Device of equal accuracy
 - 7.2 Blower with Volume Control
 - 7.3 Duct Test Pressure Manometer
 - 7.4 Orifice Differential Pressure Manometer.
- 8 Procedures
 - 8.1 Isolate the duct section to be tested with temporary seals, blank offs, plates, or equivalent.
 - 8.2 Attach a calibrated orifice tube with blower to the duct.
 - 8.3 Connect the duct test pressure manometer to the test section.
 - 8.4 Start the blower on low speed and slowly open the inlet damper until the test pressure is achieved.
 - 8.5 Connect the orifice differential pressure manometer (air) to the orifice tube and record the pressure. Determine the flow rate from the calibration chart for the orifice tube utilized.
 - 8.6 Compare with the maximum percent of allowable leakage. If it does not meet the rate of allowable leakage, repair all audible and other significant leaks. Re-test until the leakage rate is acceptable.
 - 8.7 Record all data on the Form FN 8.008.1 Air Duct Leakage Test Summary.
 - 8.8 Remove all temporary seals and blank offs.



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9 Review and Approval

- 9.1 Return the Form FN 8.008.1 Air Duct Leakage Test Summary to the TAB Department for review.
- 9.2 TAB Department Manager shall have responsibility to review and accept completed reports. Reviews and acceptance of reports may be delegated to the manager's staff.
- 9.3 Upon acceptance of test summary, the TAB Department shall file the original documents and distribute copies as needed.