



BSR/ASHRAE Standard 195-2013R

Public Review Draft

Method of Test for Rating Air Terminal Unit Controls

**Second Public Review (May 2023)
(Draft Shows Proposed Independent Substantive
Changes to Previous Public Review Draft)**

This draft has been recommended for public review by the responsible project committee. To submit a comment on this proposed standard, go to the ASHRAE website at www.ashrae.org/standards-research--technology/public-review-drafts and access the online comment database. The draft is subject to modification until it is approved for publication by the Board of Directors and ANSI. Until this time, the current edition of the standard (as modified by any published addenda on the ASHRAE website) remains in effect. The current edition of any standard may be purchased from the ASHRAE Online Store at www.ashrae.org/bookstore or by calling 404-636-8400 or 1-800-727-4723 (for orders in the U.S. or Canada).

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FOREWORD

Standard 195 specifies instrumentation and facilities, test installation methods, and procedures for determining the accuracy and stability of airflow control systems for terminal units at various airflow setpoints.

It is intended for application in the following scenarios:

- *An HVAC system specifier indicates performance requirements for airflow control for a given project. The requirements are specified in terms of nominal flow rates, accuracy, stability, operating pressures, and other relevant conditions. Contractors or suppliers document performance of proposed equipment based on tests run and reported in accordance with this standard.*
- *A supplier of airflow controls wishing to publish the capabilities of a product executes tests and reports results in accordance with this standard. The supplier chooses the operating conditions to test and report.*

The Standard Project Committee does not envision application of this standard to field tests or acceptance tests in construction projects.

This is a review of Independent Substantive Changes that were made since the last Public Review. Text that was removed from the Public Review Draft is provided for reference but is shown in strikeout, and text that has been added is shown with underlines.

5 TEST SETUP

Figure 1 illustrates the required test setup. The following sections describe the components and their relationship.

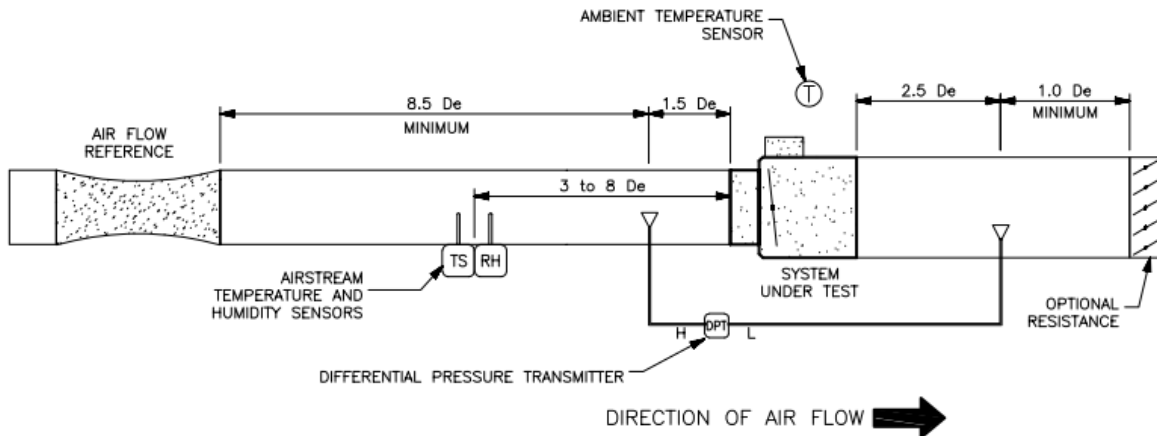


Figure 1 Required Test Setup (insert)

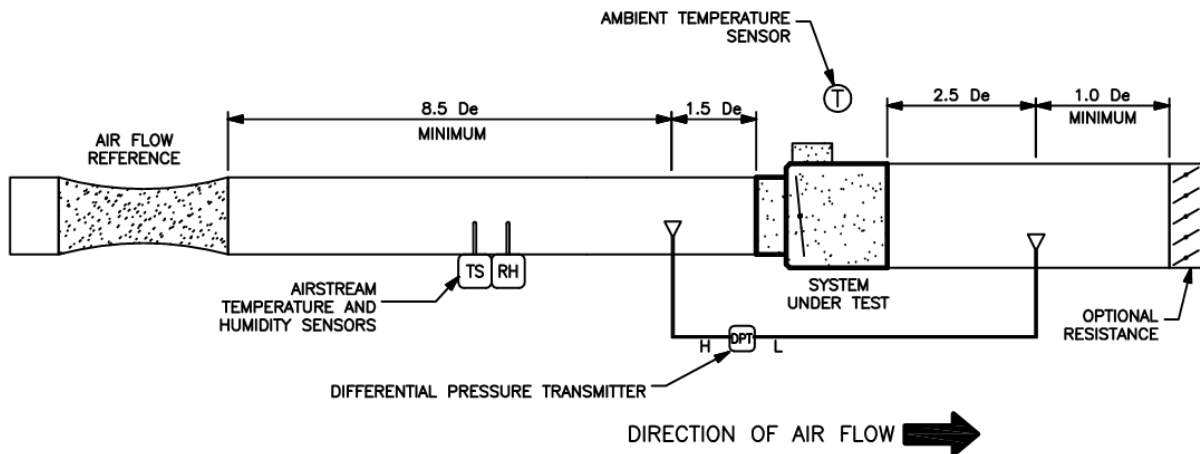


Figure 1 Required Test Setup (delete).

5.1 Inlet to Terminal

The nominal test condition is a straight, hard inlet to the terminal. Minimum of 10 duct diameters. The inlet duct dimensions shall be the same size as terminal inlet, i.e., no transitions. ~~The test specifier may designate other required inlet conditions.~~

5.5 Airstream Temperature and Humidity Sensors

The airstream temperature sensor and humidity sensor shall be located in the airstream of the air terminal. They shall be located between 3 and 40-~~8~~ diameters upstream of the air terminal.

5.8 Controller

The controller shall be mounted and connected per the manufacturer's instructions. All control and measurement tubing and connections shall be tested for leakage. Maintain integrity of tubing throughout the test.

6 TEST METHODS

6.2 System Performance Test Methods

6.2.1 Steady State Accuracy Test Method

6.2.1.1 Test Steps

2. Subtest 1 – Q_{max}:
 - a. With the static pressure difference across the terminal at setpoint (ΔSP), set the controller to Q_{max}.
 - b. Maintain the static pressure across the ~~flow control device~~ terminal within 15% of setpoint during the test.

APPENDIX B – EXEMPLARY TEST FACILITY AND GUIDANCE FOR MEASURING AIR AT LOW FLOW RATES

B.4 General Guidelines for Measuring Airflow

3. Make the test configuration a straight path, without elbows or changes in size, shape, or elevation, ~~if at all possible.~~