

# AHRI Standard 880 (I-P)

## 2017 Standard for Performance Rating of Air Terminals



2111 Wilson Boulevard, Suite 500  
Arlington, VA 22201, USA  
[www.ahrinet.org](http://www.ahrinet.org)  
PH 703.524.8800  
FX 703.562.1942

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## IMPORTANT

### ***SAFETY DISCLAIMER***

AHRI does not set safety standards and does not certify or guarantee the safety of any products, components or systems designed, tested, rated, installed or operated in accordance with this standard/guideline. It is strongly recommended that products be designed, constructed, assembled, installed and operated in accordance with nationally recognized safety standards and code requirements appropriate for products covered by this standard/guideline.

AHRI uses its best efforts to develop standards/guidelines employing state-of-the-art and accepted industry practices. AHRI does not certify or guarantee that any tests conducted under its standards/guidelines will be non-hazardous or free from risk.

Note:

For SI ratings, see AHRI Standard 881 (SI)-2017.

This Standard supersedes AHRI Standard 880 (I-P)-2011 with Addendum 1.

### **AHRI CERTIFICATION PROGRAM PROVISIONS**

The current scope of the Variable Air Volume Terminal (VAV) Certification Programs can be found on AHRI website [www.ahrinet.org](http://www.ahrinet.org). The scope of the Certification Programs should not be confused with the scope of the standard, as the standard also includes ratings for products that are not covered by a certification program.

### **USE OF THE SOUND RATINGS**

Sound power level data generated by use of this standard with Air Terminals are directly applicable to AHRI Standard 885, a procedure for using published sound ratings in the estimating of Sound Power Levels in occupied spaces.

### **Foreword**

Units tested and rated in accordance with AHRI Standard 880 (I-P) are required to be tested in a reverberation room that meets the broadband requirements of ANSI/AHRI Standard 220. Units certified in accordance with the AHRI Standard 880 (I-P) Certification Program are required to be verified by a test in a reverberation room that meets both the broadband and pure tone qualification requirements of ANSI/AHRI Standard 220.

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# PERFORMANCE RATING OF AIR TERMINALS

## Section 1. Purpose

**1.1** *Purpose.* The purpose of this standard is to establish for Air Terminals: definitions; classifications; test requirements; rating requirements; minimum data requirements for Published Ratings; marking and nameplate data; and voluntary conformance conditions.

**1.1.1** *Intent.* This standard is intended for the guidance of the industry, including manufacturers, engineers, installers, contractors and users.

**1.1.2** *Review and Amendment.* This standard is subject to review and amendment as technology advances.

## Section 2. Scope

**2.1** *Scope.* This standard applies to air control devices used in air distribution systems. These devices provide control of air volume with or without temperature control by one or more of the following means and may or may not include a fan:

- 2.1.1** Fixed or adjustable directional vanes (i.e. Bypass Air Terminal)
- 2.1.2** Pressure dependent volume Air Valves (including air induction nozzles)
- 2.1.3** Pressure independent (compensated) volume Air Valves (including air induction nozzles)
- 2.1.4** Integral heat exchange
- 2.1.5** On/off fan control
- 2.1.6** Variable speed fan control
- 2.1.7** Integral Diffuser Air Terminals

**2.2** *Exclusions.* This standard does not apply to registers, diffusers and grilles that do not include an Air Valve or to products specifically covered by ANSI/AHRI Standard 410 or ANSI/AHRI Standard 440.

## Section 3. Definitions

All terms in this document will follow the standard industry definitions in the ASHRAE Terminology website (<https://www.ashrae.org/resources--publications/free-resources/ashrae-terminology>) unless otherwise defined in this section.

**3.1** *Acoustic Test Duct.* Duct used to convey the sound of the unit configuration under test to the reverberation room during a ducted discharge test. A Duct End Correction ( $E_1$ ) shall be added to the sound data measured in the reverberation room to account for the presence of an open-ended duct termination.

**3.2** *Acoustically Isolated.* The specimen under test shall have a sound pressure level at least 10 dB higher than any extraneous sound sources, such as sound generated from the air supply or duct walls, to insure that the test specimen is the sole contributor to the sound level being measured.

**3.3** *Air.*

**3.3.1** *Primary Air.* Air supplied to an air terminal inlet under positive static gage pressure, normally from an air handling unit.

**3.3.2** *Secondary Air.* Air drawn into an Air Terminal by means of induction and discharged through the air terminal outlet.