ANSI/AHRI Standard 880 (I-P) with Addendum 1

2011 Standard for

Performance Rating of Air Terminals

Approved American National Standard

ANSI

Approved by ANSI on October 27, 2011

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ANSI/AHRI STANDARD 880 (I-P)-2011 WITH ADDENDUM 1, *PERFORMANCE RATING OF AIR TERMINALS*

June 2012

Note: This addendum was approved by ANSI November 29, 2012.

Addendum 1 (dated June 2012) of ANSI/AHRI Standard 880 (I-P)-2011 modifies ANSI/AHRI Standard 880 (I-P)-2011 as follows. The following changes have been incorporated (additions are shown by shading and deletions are shown by ~~strikethroughs~~) into the second sentence of Section 6.1.3.4 of the already published 2011 version of ANSI/AHRI Standard 880 (I-P)-2011. Also, ANSI/AHRI Standard 260-2011 has been added to Appendix A.

The changes include:

6.1.3.4 Discharge *Sound Power*. To determine discharge Sound Power Level, the Air Terminal shall be installed in accordance with Figures 9.1 through 9.3 of ASHRAE Standard 130. The test duct shall be flush with the inside wall of the reverberation room and shall be constructed in accordance with Section 4.5.1 of ANSI/AHRI Standard 260. Alternatively, for Integral Diffuser Air Terminals, the discharge Sound Power Level may be determined in accordance with Figure 9.4 of ASHRAE Standard 130. For Modulating Diffuser Air Terminals, the discharge Sound Power Level shall be determined in accordance with Figures 5 and 6 of ANSI/ASHRAE Standard 70.

APPENDIX A. REFERENCES – NORMATIVE

A1 Listed here are all standards, handbooks, and other publications essential to the formation and implementation of the standard. All references in this appendix are considered as part of this standard.

A1.1 AHRI Standard 220-2007, *Reverberation Room Qualification and Testing Procedures for Determining Sound Power of HVAC Equipment*, 2007, Air-Conditioning, Heating, and Refrigeration Institute, 2111 Wilson Boulevard, Suite 500, Arlington, VA 22201, U.S.A.

A1.2 AHRI Standard 410-2001, *Forced Circulation Air-Cooling and Air-Heating Coils*, 2001, Air-Conditioning, Heating, and Refrigeration Institute, 2111 Wilson Blvd., Suite 500, Arlington, VA 22201, U.S.A.

A1.3 AHRI Standard 440-2008, *Performance Rating of Room Fan-Coils*, 2008, Air-Conditioning, Heating, and Refrigeration Institute, 2111 Wilson Blvd., Suite 500, Arlington, VA 22201, U.S.A.

A1.4 AHRI Standard 885-2008 (with Addendum 1 dated March 2011) , *Procedure for Estimating Occupied Space Sound Levels in the Application of Air Terminals and Air Outlets*, 2008, Air-Conditioning, Heating, and Refrigeration Institute, 2111 Wilson Blvd., Suite 500, Arlington, VA 22201, U.S.A.

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A1.5 ANSI/AHRI Standard 260-2011, *Sound Rating of Ducted Air Moving and Conditioning Equipment*, 2011, Air-Conditioning, Heating, and Refrigeration Institute, 2111 Wilson Boulevard, Suite 500, Arlington, VA 22201, U.S.A.

A1.6 ANSI/ASHRAE 70-2006 (R2011), *Method of Testing for Rating the Performance of Air Outlets and Inlets*, 2006, American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc., 1791 Tullie Circle N.E., Atlanta, GA 30329, U.S.A.

A1.7 ASHRAE 130-2008, *Methods of Testing for Rating Ducted Air Terminal Units*, 2008, American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc., 1791 Tullie Circle N.E., Atlanta, GA 30329, U.S.A.

A1.8 ASHRAE *Terminology of Heating, Ventilation, Air Conditioning, & Refrigeration*, 1991, Second Edition, American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc., 1791 Tullie Circle N.E., Atlanta, GA 30329, U.S.A.

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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.

AHRI CERTIFICATION PROGRAM PROVISIONS

Scope of the Certification Program

The certification program includes all Air Terminals as defined in Section 3.

Exclusion: This certification program does not apply to the rating and testing of retrofit units.

Certified Ratings

The following certification program ratings are verified by test at the standard rating conditions (Section 7.2):

Primary Airflow, cfm
Induced or Fan Airflow, cfm
Electrical Power Input, watts
Minimum Operating Pressure, in H_2O
Radiated Sound Power Level, dB (125 to 4000 Hz octave band)
Discharge Sound Power Level, dB (125 to 4000 Hz octave band)

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 levels in occupied spaces.

Note:

For SI ratings, see ANSI/AHRI Standard 881 (SI)-2011.

This Standard supersedes AHRI Standard 880-2008 and differs in the following way. Clarification that sound measurements shall be performed in one-third octave band levels and all corrections for background noise and duct end reflection, if applicable, shall be applied to the one-third octave band test data. A Duct End Correction shall be calculated using the actual test duct dimensions, and shall be added to the discharge sound ratings.

Foreword

Units tested and rated in accordance with ANSI/AHRI Standard 880 (I-P) are required to be tested in a reverberation room that meets the broadband requirements of AHRI Standard 220. Units certified in accordance with the ANSI/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 AHRI Standard 220.

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Printed in U.S.A.

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Figure 3. Acoustically Isolated (Lagged) Duct 7

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