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**Certified Ratings Program -
Product Rating Manual for
Acoustical Duct Silencers**



**AIR MOVEMENT AND CONTROL
ASSOCIATION INTERNATIONAL, INC.**

The International Authority on Air System Components

AMCA Publication 1011-03 (R2010)

Certified Ratings Program Product Rating Manual for Acoustical Duct Silencers



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Related AMCA Documents

Related Standards

ASTM Standard E477-99

*Standard Test Method for Measuring Acoustical and Airflow Performance
of Duct Liner Materials and Prefabricated Silencers*

CONTENTS

1. Scope	1
1.1 Products	1
2. Definitions	1
3. Model Licensing Procedure	2
3.1 General procedure	2
3.2 Detailed procedure	2
4. Design Changes	4
5. Check Tests	4
5.1 General	4
5.2 Check test tolerances	4
6. Product Rating Requirements	6
6.1 Published ratings	6
6.2 Dimensional requirements	6
Annex A Reference Material (Normative)	10

Certified Ratings Program

Product Rating Manual for Acoustical Duct Silencers

1. Scope

1.1 Products

Products that can be licensed by AMCA International to bear the AMCA International Certified Ratings Seal are prefabricated acoustical duct silencers. Prefabricated acoustical duct silencers are defined as silencers that are constructed in advance, or manufactured in standard assemblies or sections ready for field installation.

The program applies to acoustical duct silencers within the scope of AMCA International for which performance rating catalogs are published and made available to the public. When performance ratings for both licensed and unlicensed products are contained in the same catalog, there must be a clear distinction made between licensed and unlicensed products, as required in Section 11 of AMCA International Publication 11, *Certified Ratings Program Operating Manual*.

When licensed products are used as component parts of a larger unit, the AMCA International Certified Ratings Seal shall not be applied to the complete unit. The seal can only be applied to the individual licensed components.

2. Definitions

AMCA International Certified Ratings Program for Acoustical Duct Silencers

A program for certifying a product's sound dynamic insertion loss, airflow generated noise and pressure drop performance ratings, as defined in this document, AMCA Publication 1011, *Certified Ratings Program – Acoustical Duct Silencers*, and ASTM Standard E-477, *Standard Test Method for Measuring Acoustical and Airflow Performance of Duct Liner Materials and Prefabricated Silencers*.

Acoustical duct silencer

A device used to attenuate sound which is transmitted through airflow systems.

Acoustic media

The sound-absorbing material used inside a silencer (if any).

Acoustic media covering

The material that is used as a facing or bagging to protect the acoustic media from moisture absorption or air erosion.

Appurtenance

Any item in or on the inlet or discharge air-stream that affects the performance of the acoustical duct silencer. An appurtenance should be considered a part of the acoustical duct silencer if it is in place when the acoustical duct silencer is tested for performance rating, and the effect of the appurtenance is included in the cataloged performance rating. Examples of appurtenances may include bird-screens, airflow measurement stations, etc.

Attenuation method

The method by which a silencer reduces sound. The most common attenuation methods include dissipative or absorptive silencers, reactive silencers and active silencers.

Catalog

A printed document that contains data and performance ratings of a model, and that meets the other requirements of the Certified Ratings Program. It is also defined as an electronic media that provides performance data for a licensed product.

Catalog data

The performance rating of each length of the model in the specific format that is to be published (see Section 3.2.6).

Face area

The cross-sectional area of the inlet or outlet of the silencer.

Free area ratio

The ratio of the passage area divided by the face area of a silencer measured at the point along the silencer length where the ratio is the lowest.

Geometry

The basic geometric shape of a silencer. Common terms used to describe silencer geometry include rectangular, circular, round, tubular, elbow, transitional, diffuser and conical.

Length

The overall length of a silencer, as shown in Section 6, Figures 1 through 4.

License

A legal contract between AMCA International and a person, firm or corporation, which authorizes participation in the AMCA International Certified Rating Seal to products listed in the appendices of the license. A separate Appendix to the License will be issued for each licensed model.