

AMCA Publication 1011-03 (R2007)

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

Certified Ratings Program - Product Rating Manual for Acoustical Duct Silencers



Air Movement and Control Association International, Inc.
30 West University Drive
Arlington Heights, IL 60004-1893

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AMCA 1011 Draft Committee

Harve McFerron	Aerosonics, Inc.
Mike Beaver	Dynasonics Systems, Inc./Transonics, Inc.
Jim Haller	JP Environmental
Chris Depies	Kinetics Noise Control
Tom Paige	Kinetics Noise Control/Vibron Group
John Gierzak	McGill Airflow Corp.
Todd Talbott	McGill Airflow Corp.
Bob Bullock	Metal Form Manufacturing Co.
Jim Meats	Rink Div. of Ruskin Mfg.
Robert Van Becelaere	Rink Div. of Ruskin Mfg.
Roger Coday	Semco
Charles Hoyle	Semco
Joseph A. Brooks	AMCA International
Timothy J. Orris	AMCA International

The following individuals contributed to the revision of Publication 1011:

Tom Paige	Kinetics Noise Control, Inc./Vibron Products Group
John Gierzak	McGill Airflow Corp.
Robert Van Becelaere	Ruskin
James Partain	P.C.I. Industries Inc.
Robert Spadafore	AMCA International

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Air Movement and Control Association International
30 West University Drive
Arlington Heights, IL 60004-1893 U.S.A.

or

AMCA International, Incorporated
c/o Federation of Environmental Trade Associations
2 Waltham Court, Milley Lane, Hare Hatch
Reading, Berkshire
RG10 9TH United Kingdom

Related AMCA Standards and Publications

AMCA International Publication 11 *Certified Ratings Program Operating Manual*

AMCA International Publication 111 *Laboratory Accreditation Program*

ASTM Standard E477-99 *Standard Test Method for Measuring Acoustical and Airflow Performance of Duct Liner Materials and Prefabricated Silencers*

Application and Submittal Forms Used With AMCA International Publication 1011

AA 1 Application and Agreement for Air Movement Testing Services

CRP 10 Application for Air Movement Certified Ratings Seal

CRP B For Brand Named Products

CRP L For Products Manufactured under License

LRP 2 Application for Registration of Laboratory

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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 – 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 for details.)

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 Product Rating Requirements Subsection A 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.