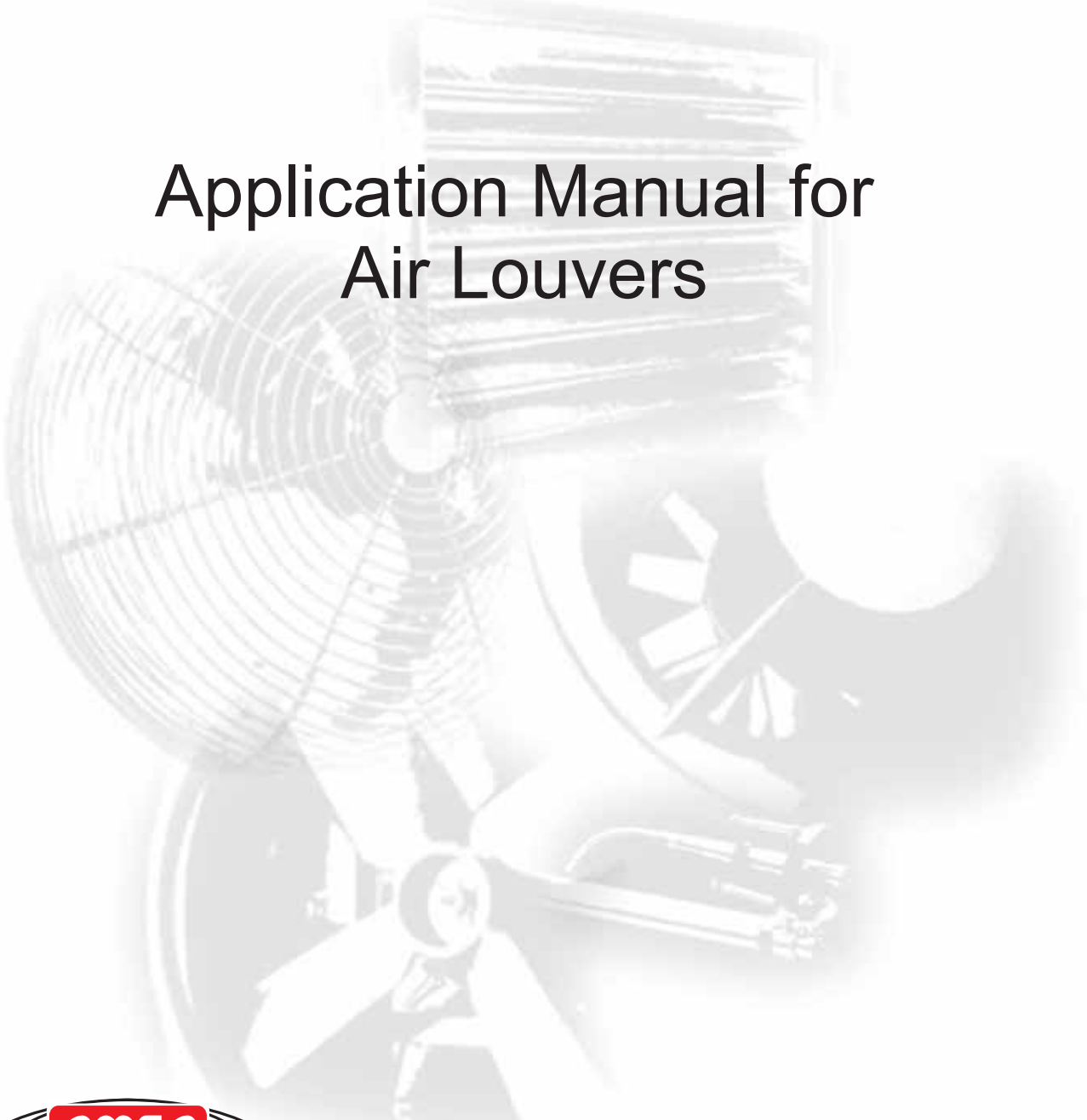
AMCA Publication 501-09

Application Manual for Air Louvers



AIR MOVEMENT AND CONTROL ASSOCIATION INTERNATIONAL, INC.

The International Authority on Air System Components

AMCA Publication 501-09

Application Manual for Louvers

Air Movement and Control Association International, Inc.
30 W. University Drive
Arlington Heights, Illinois
60004

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

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

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Related AMCA Documents

AMCA Standard 500-L	*Laboratory Methods of Testing Louvers for Rating*
AMCA Publication 511	*Certified Ratings Program for Air Control Devices*
AMCA Standard 540	*Test Method for Louvers Impacted by Wind Borne Debris*
AMCA Standard 550	*Test Method for High Velocity Wind Driven Rain Resistant Louvers*
AMCA Publication 111	*Laboratory Accreditation Program*

Contents

Application Manual for Louvers

1. Purpose

The intent of this publication is to provide information and important points to be considered when designing or specifying installations requiring louvers. It is not the purpose of this manual to be used for detailed specifications. However, it serves as a guide toward understanding the various types of louvers available and includes items to be considered to ensure their proper use.

2. Scope

This publication outlines the application of louvers including selection for pressure drop, air leakage, water penetration, and sound reduction. Examples of louver selection are included. An important section, System Effects, should not be overlooked when applying performance data (see Section 7). For information on testing, see Section 6.1; for information on certified ratings, see Section 6.2.

Common industry practices in louver construction, mounting, and suggested fastening methods for typical structures have been included to assist the installer.

3. Definitions

Actuator (Operator)
A mechanical accessory item attached to an adjustable or combination louver that moves the blade(s) to either the open or closed position, or to an intermediate position for flow modulation. Actuators may be manually, electrically, pneumatically or hydraulically powered.

Blades
A bar, slat, or vane in a louver assembly usually mounted within a frame; normally provided in multiple quantities. Blades are installed parallel to each other so that they restrict passage of water, sound, airborne materials, and/or sightlines through the louver.

Certified rating
A published performance rating which AMCA International has licensed to bear the AMCA International Seal. Certifications available include, but are not limited to: air performance, sound performance, air leakage, water penetration, wind driven rain, airflow measurement performance, or any combination thereof.

Continuous line (continuous blade)
A louver constructed with blades that present uninterrupted horizontal or vertical lines to complement or enhance architectural features.

Core area
The product of the minimum height and minimum width of the front opening in the louver assembly with the louver blades removed.

Decibel
A dimensionless number expressing, in logarithmic terms, the levels of sound power or sound pressure.

Discharge loss coefficient
A comparison of the actual flow through the louver vs. the theoretical flow through an opening the same size as the louver.

Frame
The outermost structure of a louver assembly comprising the head, sill, and jambs joined together to support the blades.

Free area velocity
Rate of airflow through the free area of the louver.

Head
The upper or highest horizontal frame member of a louver.

Jackshaft
A common shaft used to operate blades in one or more louvers.

Jamb
The vertical frame member on the sides of a louver.

Louver
A device comprising multiple blades, which, when mounted in an opening, permits the flow of air but inhibits the entrance of water or other elements.

Louver (fixed)
A louver in which the blades are firmly secured in an open position.

Louver (adjustable)
A louver in which the blades may be rotated either manually or by mechanical means.

Louver gross area (face area)
Overall width times overall height of the louver frame.