

MODEL AA2

MODEL AA2 250 • MODEL AA2 350 LEAKAGE AND TEMPERATURE RATED AIRFOIL BLADE SMOKE DAMPER

LEAKAGE CLASS II
TEMPERATURE CLASS 250°F or 350°F


U.L. Approved for Dual Directional Air Flow

STANDARD MATERIALS AND CONSTRUCTION

- FRAME:** 5 1/2" x 7/8" x 16-GA galvanized steel hat channel.
- BLADES:** 20-GA Double-skinned galvanized steel. (Equal to 14-GA), parallel action.
- STOPS:** 18-GA galvanized steel at head and sill.
- SEALS:** Silicone blade edges, and stainless steel compression type at jambs.
- AXLES:** Square plated steel.
- BEARINGS:** Oil Impregnated Bronze.
- LINKAGE:** Concealed in-jamb, plated steel tie bar, stainless steel pivots
- SLEEVE:** Minimum 20-GA galvanized steel by 20" long. 18-GA is standard for sizes over 84" wide.
- CAULKING:** Hardcast Irongrip 601, or UL-listed equivalent.
- FINISH:** Mill on galvanized steel.

Damper Classified By
UNDERWRITERS LABORATORIES INC.®
AS TO LEAKAGE RESISTANCE
CLASS II

R4708



This smoke damper meets the construction and performance requirements of:

- Underwriters Laboratories Inc. Standard 555S
- National Fire Protection Association Standards 90A, 92A, 92B
- ICC's International Building Code
- ICBO's Uniform Building Code
- SBCCI's Standard Building Code
- BOCA's National Building Code
- New York City MEA Listing #112-99-M
- California State Fire Marshall Listing #3230-1328:111

DIMENSIONAL DATA

RECTANGULAR DAMPERS

Minimum Size: 8"W x 8"H

NOTE: Dampers can be furnished with a duct size minimum of 4"W x 4"H using a type B or C enclosure in a factory furnished sleeve. The overall frame is 8"W x 8"H.

Maximum Size:

Single Section: 36"W x 48"H
Multiple Section: 108"W x 48"H

ROUND AND OVAL DAMPERS

(Type C Housing, Duct Dimensions)

Frame Width = Duct Width + 2"

Frame Height = Duct Height + 2"

(For small sizes, see **NOTE** above)

Minimum Size:

Round: 4" Diameter

Maximum Size: Single Panel

Round: 34" Diameter

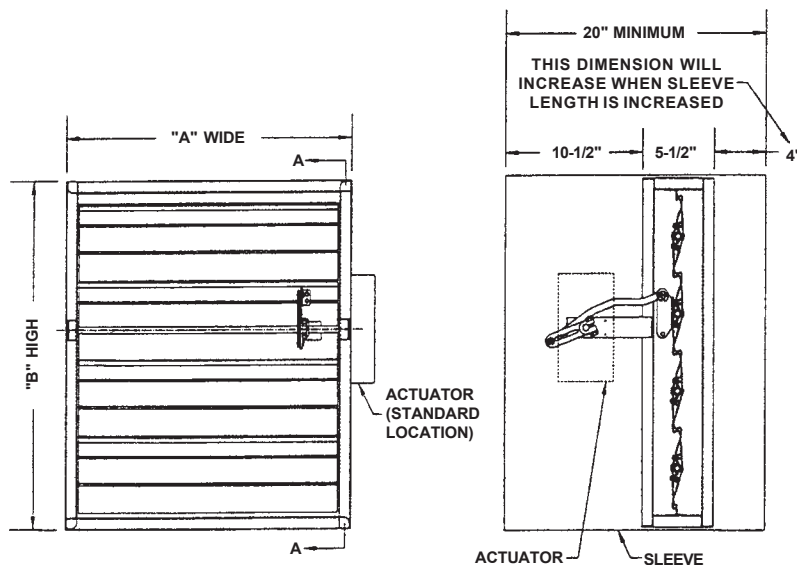
Oval: 34"W x 46"H

Multiple Panel

Round: 46" Diameter

Oval: 106"W x 46"H

NOTE: Dampers 13" high and less have a single blade.



NOTES:

1. Approved for vertical and horizontal installation.
2. Outside of damper frame (inside of sleeve) will be fabricated 1/4" undersize.

PROJECT: _____

LOCATION: _____

ARCHITECT: _____

ENGINEER: _____

CONTRACTOR: _____

PONUMBER: _____

DATE: _____

ARROW UNITED INDUSTRIES SUBMITTAL DATA

ACTUATOR SELECTION

Underwriters Laboratories requires that all UL-555S rated dampers be accompanied with their matching UL-approved factory supplied actuators. The factors for proper actuator selection are actuator type (electric or pneumatic), voltage requirement, temperature rating, and damper size. Arrow United will factory install actuators for all combination fire/smoke dampers.

ELECTRIC

	Honeywell ML4115 (120VAC) ML8115 (24VAC)	Honeywell MS 4209 (120 VAC) MS 8209 (24 VAC)	Honeywell MS 4120 (120 VAC) MS 8120 (24 VAC)
Max Panel Size at 250°	24" x 16"	36" x 24" (Sizes up to 24" x 24" rated up to 3000 FPM, 4 in. wg.)	36" x 48"
Max Panel Size at 350°	Contact Factory	24" x 24"	36" x 48"

Min. size for Internal mount: 12" x 12" 12" x 12" 12" x 20"

PNEUMATIC

	Siemens 331-2997	Siemens 331-2996
Max Panel Size at 250°	24" x 24" (@20 PSI)	36" x 48" (@20PSI)
Max Panel Size at 350°	24" x 24" (@25 PSI)	36" x 48" (@20PSI)

Min. size for Internal Mount: 12" x 20" 16" x 24"

AMP DRAW

ML4115—run .18 hold .11
ML8115—run .70 hold .35
MS 4209—run .25 hold .13
MS 8209—run 1.0 hold .13
MS 4120—run .35 hold .15
MS 8120—run 1.8 hold .42

AVAILABLE OPTIONS: (Must Be Specified)

- Normally, actuators are externally mounted on the right side of the sleeve, as viewed from the jackshaft side of the damper. Actuators may be mounted on the left side at no additional charge, if specified on the order, except where two actuators are used on multiple panel assemblies.
- Sleeve thicknesses heavier than 20 gauge are available.
- Sleeve lengths longer than the standard 20" are available.
- Dual position indication package. Optional auxiliary blade position indication switches are rated at 11A, 1/3HP, 125VAC. These snap action switches are intended to make or break a circuit and will not provide variable or proportional resistance.
- Smoke detector (damper height must be 10" minimum).

GENERAL NOTES

- Underwriters Laboratories Inc. classified leakage damper for use in smoke control systems designed for Leakage Class II and Temperature Class 250°F or 350°F, in accordance with UL Standard 555S.
- Refer to UL-approved Installation Instructions for detailed operational information.
- Smoke dampers must be installed within 24" of a smoke barrier. Some codes require that the smoke damper be installed within the smoke barrier.

PERFORMANCE

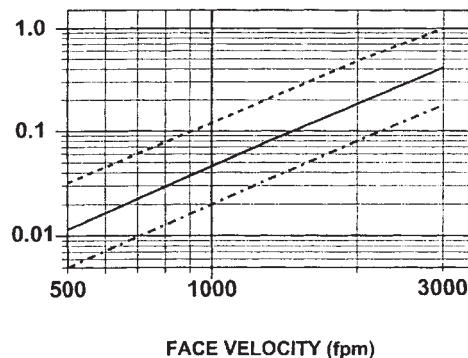
LEAKAGE

Definition: UL 555S **Class II:**
 Leakage Not Greater Than:
 10 CFM per sq. ft. @ 1 in. wg
 20 CFM per sq. ft. @ 4 in. wg

MAXIMUM DIFFERENTIAL PRESSURE: 4 in. wg.
MAXIMUM VELOCITY:
 2000 / 3000 FPM Based on Actuator Model

PRESSURE DROP IN INCHES OF WATER

PRESSURE DROP



FACE VELOCITY IN FEET PER MINUTE
TYPICAL PERFORMANCE CURVE
 TESTED PER AMCA STANDARD 500-D; FIGURE 5.3:
 (IN-DUCT MOUNT)
 SMALLER SIZES WILL HAVE HIGHER PRESSURE DROPS

----- 12x12
 _____ 24x24
 - - - - - 36x36



Arrow United Industries
 A Division of Mestek, Inc.
 314 Riverside Drive • Wyalusing, PA 18853
 Ph: (570)-746-1888 Fax: (570)-746-9286
 www.arrowunited.com

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