

MODEL A1

MODEL A1Y 250 • MODEL A1Y 350

LEAKAGE AND TEMPERATURE RATED SMOKE DAMPER

LEAKAGE CLASS I
TEMPERATURE CLASS 250°F OR 350°F

Damper Classified By
UNDERWRITERS LABORATORIES INC.®
As To Leakage Resistance
CLASS I

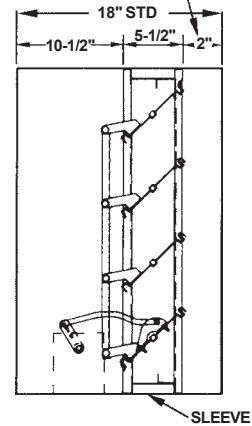


IN ACCORDANCE WITH UL STANDARD 555S
CALIFORNIA STATE FIRE MARSHAL
LISTING NO. 3230-1328:106

STANDARD MATERIALS AND CONSTRUCTION

- FRAME:** 5 1/2" x 7/8" x 16-GA galvanized steel hat channel.
For maximum free area, a flat head and sill are used for sizes less than 14" high.
- BLADES:** 16-GA galvanized steel, 8" maximum width; parallel action.
- AXLES:** 1/2"-square, plated solid steel stub.
- BEARINGS:** Oil Impregnated Bronze.
- LINKAGE:** On-blade fixed type, located within the airstream; galvanized steel angle interconnect, with plated steel brackets and pivots.
- STOPS:** 18-GA galvanized steel at head and sill.
- BLADE EDGE SEALS:** Silicone.
- COMPRESSION SIDE JAMB SEALS:** Stainless steel.
- SLEEVE:** Minimum 20 Ga. galvanized steel by 18" long.
- CAULKING:** Hardcast Irongrip 601, or UL-listed equivalent.
- FINISH:** Mill on galvanized steel.
- ACTUATOR:** Factory mounted, actuator based on damper size.

THIS DIMENSION WILL CHANGE WHEN SLEEVE LENGTH IS INCREASED



DIMENSIONAL DATA • GALVANIZED STEEL

RECTANGULAR DAMPERS

	A1Y 250	A1Y 350
Minimum Size:	16"W x 8"H (Dampers can be furnished with a duct size minimum of 16"W x 6"H using a type B enclosure pan in a factory furnished sleeve. The overall frame is 18"W x 8"H).	
Maximum Size:		
Single Panel:	36"W x 48"H or 48"W x 36"H	36"W x 48"H
Multiple Panel:	108"W x 48"H or 96"W x 36"H	108"W x 48"H

ROUND AND OVAL DAMPERS

(Type C Housing, Duct Dimensions):	Frame Width = Duct Width + 2" Frame Height = Duct Height + 2"			
Minimum Size:	Round: 14" Diameter		14" Diameter	
	Oval: 14"W x 6"H		14"W x 6"H	
Maximum Size:				
		<u>Single Panel</u>	<u>Multiple Panel</u>	<u>Single Panel</u> <u>Multiple Panel</u>
Round:	34" Diameter	46" Diameter	34" Diameter	46" Diameter
Oval:	34"W x 46"H	106"W x 46"H or 94"W x 34"H	34"W x 46"H	106"W x 46"H

DIMENSIONAL DATA • TYPE 304 and 316 STAINLESS STEEL (Optional)

CLASS I LEAKAGE

RECTANGULAR DAMPERS

Minimum Size: 16"W x 8"H (Dampers can be furnished with a duct size minimum of 16"W x 6"H using a type B enclosure pan in a factory furnished sleeve. The overall frame is 18"W x 8"H).

	A1 250	A1 350
Maximum Size:		
Single Panel:	36"W x 36"H	36"W x 36"H

ROUND AND OVAL DAMPERS

(Type C Housing, Duct Dimensions):	Frame Width = Duct Width + 2" Frame Height = Duct Height + 2"			
Minimum Size:	Round: 14" Diameter		14" Diameter	
	Oval: 14"W x 6"H		14"W x 6"H	
Maximum Size:				
		<u>Single Panel</u>	<u>Multi Panel</u>	<u>Single Panel</u> <u>Multi. Panel</u>
Round:	34" Diameter	46" Dia.	32" Diameter	46" Dia.
Oval:	34"W x 46"H	106"W x 46"H or 94"W x 34"H	32"W x 46"H	106"W x 46"H

PROJECT: _____

LOCATION: _____

ARCHITECT: _____

ENGINEER: _____

CONTRACTOR: _____

PONUMBER: _____

DATE: _____

ARROW UNITED INDUSTRIES SUBMITTAL DATA

AVAILABLE OPTIONS: (Must Be Specified)

1. Sleeves: 20 GA galvanized steel (18 GA for widths greater than 84") x 18" (minimum length is standard). Sleeves of longer lengths and heavier gauges are available. Dampers can be furnished with a duct size minimum of 16"W x 6"H using a type B enclosure pan in a factory furnished sleeve. The overall frame is 16"W x 8"H.
2. Type C Housing for round & oval ductwork.
3. 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.
4. Multiple-panel damper factory assembly.
5. Smoke Detector (minimum 18" sleeve required, damper height must be 10" minimum).
6. Stainless steel construction (in-jamb linkage when s.s. construction).

ACTUATOR SELECTION

Underwriters Laboratories requires that all UL-555S rated dampers be accompanied with their matching UL-approved factory-mounted actuators. The factors for proper actuator selection are actuator type (electric or pneumatic), voltage requirement, temperature rating, and damper size. Arrow United will ship actuators factory mounted to a side plate (standard-single panel sizes only) or factory mounted to a sleeve (optional).

ELECTRIC

	Honeywell ML4115 (120 VAC) ML8115 (24 VAC)	Honeywell MS 4209 (120 VAC) MS 8209 (24 VAC)	Honeywell MS 4120 (120 VAC) MS 8120 (24 VAC)	Siemens GGD 221 (120 VAC) GGD 121 (24 VAC) GGD 321 (230 VAC)	Belimo FSNF120 (120 VAC) FSNF24 (24 VAC)
Max Panel Size at 250°	24" x 24"	36" x 36" or 48" x 24"	36" x 48" or 48" x 36" (Sizes up to 36" x 36" rated up to 3000 FPM, 4 in. wg.)	36" x 48"	36" x 36" or 48" x 24"
Max Panel Size at 350°	24" x 24" (External mount only)	24" x 24"	36" x 48"	Contact Factory	36" x 36"

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

PNEUMATIC

	Siemens 331-4830 (25 PSI)	Siemens 331-2971 (25 PSI)	Siemens 331-2996 (22 PSI)
Max Panel Size at 250°	24" x 24"	36" x 36"	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 20" 16" x 24"

AMPDRAW

ML 4115run .18 hold .11
ML 8115run .70 hold .35
MS 4209run .25 hold .13
MS 8209run 1.0 hold .13
MS 4120run .35 hold .15
MS 8120run 1.8 hold .42
GGD 121run 1.3 hold .10
GGD 221run 6.25 hold .42
GGD 321run .65 hold .04
FSNF120run .23 hold .09
FSNF24run .23 hold .09

GENERAL NOTES

1. Flow may be from either direction.
2. Openings with multiple damper panels in both width and height require structural support (by others). It is recommended that large openings be divided with structural members such that dampers will span either the width or height of each opening between the structural members with a single panel.
3. Installation must comply with the requirements of NFPA-90A & -92A. Actuators must be arranged to operate automatically, must fail close upon loss of power, and must be controlled by a smoke detection system.
4. Smoke dampers must be installed within 24" of a smoke barrier. **Local codes may require that the damper be mounted within the smoke barrier.**
5. Dampers will be fabricated 1/4" undersize (1/2" width undersizing when two panel wide).

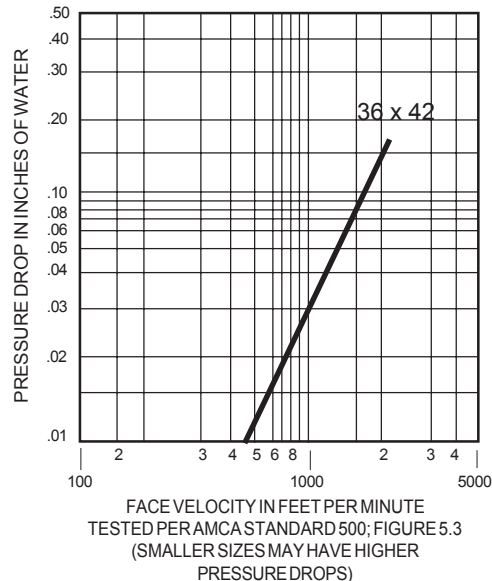
PERFORMANCE DATA

MAXIMUM DIFFERENTIAL
PRESSURE: 4 in. wg
MAXIMUM VELOCITY:
2000 / 3000 fpm based on actuator model

LEAKAGE

Definition: UL 555S Class I:
Leakage Not Greater Than:
4 CFM per sq. ft. @ 1 in. wg
8 CFM per sq. ft. @ 4 in. wg

PRESSURE DROP



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

IN THE INTEREST OF PRODUCT DEVELOPMENT, ARROW UNITED RESERVES THE RIGHT TO MAKE CHANGES WITHOUT NOTICE.