

**MA1**

# Combination Fire/Smoke Damper

Class I • 250°F or 350°F • 1½ Hour • Galvanized Steel • Airfoil Blade

**STANDARD CONSTRUCTION**

- FRAME:** 5½" x 7⅞" x 16-GA galvanized steel hat channel
- BLADES:** 20-GA galvanized steel double skinned (equal to 14-GA); Parallel action
- AXLES:** Plated solid steel stub
- BEARINGS:** Oil impregnated bronze
- LINKAGE:** Plated steel angle and crank plates with stainless steel pivots; In-jamb type
- STOPS:** 18-GA galvanized steel at head and sill
- BLADE SEALS:** Silicone
- JAMB SEALS:** Stainless steel
- SLEEVE:** Minimum 20-GA galvanized steel by 18" long (sizes greater than 84" wide or 84" high require minimum 18-GA)
- CAULKING:** Hardcast Irongrip 601 or UL-listed equivalent
- FINISH:** Mill on galvanized steel
- ACTUATOR:** Electric with heat response device (EHRD) or pneumatic with heat response device (PHRD); Factory-installed for Power-Open/Spring-Close (fail close) operation; External left hand mounted as viewed from jackshaft side of damper

**OPTIONS**

- Right hand and/or internal actuator mounting locations (restrictions apply)
- Integral Dual Position Indication (IDPI) switches
- Sensotherm re-openable heat response device (ESOT) for electric actuator
- Sensotherm re-openable heat response device (PSOT) for pneumatic actuator
- Model SM-501 Flow-rated smoke detector (10" minimum damper height)
- Model 2151 No-flow smoke detector (12" minimum damper height)
- Remote Test Box
- Tab-Lock retaining angles
- Stainless steel bearings
- Copper tubing (for pneumatic actuators)
- Sleeves of various depths and gauge thicknesses
- No sleeve or sideplate only (restrictions apply)
- Round or oval transitions
- Short-width (<12") and/or short-height (<8") transitions

**NOTES**



1. Damper frames are provided approximately ¼" undersized. The addition of a sleeve will increase the size of the assembly.
2. Damper with smoke detector must have a minimum sleeve of 19" (10.5" on the actuator side and 3" on the non-actuator side).
3. Dampers for horizontal installation can only be mounted in a fire barrier constructed of masonry/concrete materials.

**DAMPER SIZES**

Orientation	Hor & Ver	Horizontal (floor)			Vertical (wall)	
		Min Panel	Max Panel	Max Assy	Max Panel	Max Assy
Rectangular	4"Wx4"H (12"Wx8"H frame)	32"Wx48"H	96"Wx96"H	32"Wx48"H	128"Wx96"H	
Round	4" dia. (12"Wx8"H frame)	30" dia.	81" dia.	30" dia.	81" dia.	
Oval	4"Wx4"H (12"Wx8"H frame)	30"Wx46"H	45 sq. ft. 94"W 94"H	30"Wx46"H	45 sq. ft. 106"W 94"H	

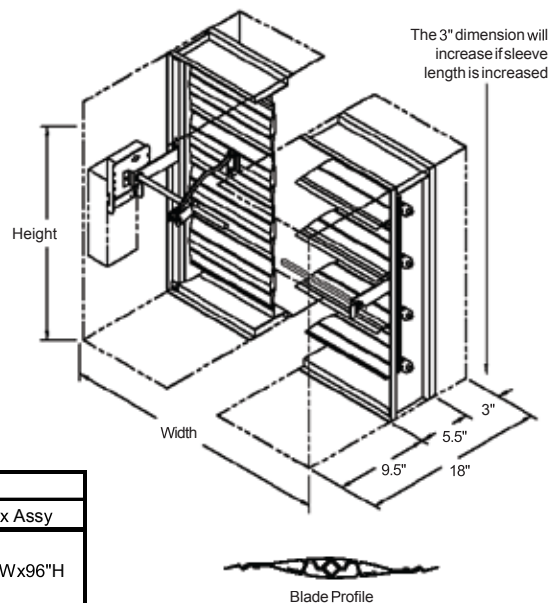
\*Dampers smaller than minimum frame size require a transtion. Reference SD-TRFS.

**UNDERWRITERS LABORATORIES INC.®**  
CLASSIFIED DYNAMIC FIRE AND SMOKE DAMPER  
FIRE RESISTANCE RATING 1½ HR  
LEAKAGE RESISTANCE CLASS I

This combination fire/smoke damper meets the construction and performance requirements of:

- Underwriters Laboratories Inc. Standards 555 and 555S
- National Fire Protection Association Standards 80 and 90A
- ICC's International Building Code
- New York City MEA Listing #111-99-M
- California State Fire Marshal Listing #3225-1328:118
- Underwriters Laboratories Inc. Approved for dual direction airflow and dynamic conditions.
- Underwriters Laboratories Inc. Classified for use in fire resistive ratings of less than 3 hours.
- Underwriters Laboratories Inc. Classified for use in smoke control systems for Leakage Class I and 250°F or 350°F.
- Actuators must be arranged to operate automatically, must fail closed upon loss of power, and must be controlled by a smoke detection system.



# MA1

## Combination Fire/Smoke Damper

Class I • 250°F or 350°F • 1½ Hour • Galvanized Steel • Airfoil Blade

### Operations Ratings:

Maximum Differential Pressure: 4 in. wg

Maximum Velocity: 2000 fpm

### Leakage Ratings:

UL Class I

4 cfm per sq. ft. maximum @ 1 in. wg

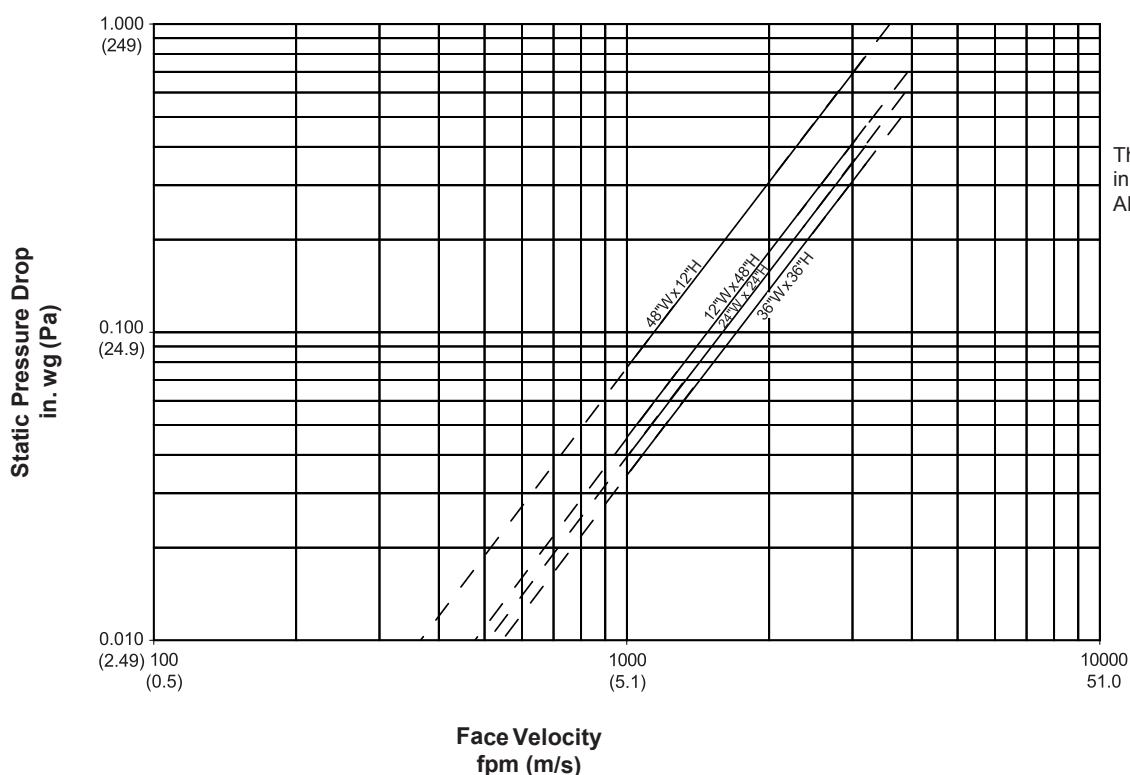
8 cfm per sq. ft. maximum @ 4 in. wg

### Sound Ratings:

None Available

### Pressure Drop Ratings:

The pressure drop data shown below is based on laboratory conditions. The test setup does not take into account elbows or other duct fittings that are part of every actual duct system. The configuration of the actual duct system immediately upstream and downstream of the damper often contributes more pressure loss than the damper itself.



# Combination Fire/Smoke Damper

# MA1

Class I • 250°F or 350°F • 1½ Hour • Galvanized Steel • Airfoil Blade

## Expanded Pressure & Velocity Ratings

MA1 - 1-1/2 HR Fire Resistance Rating, Leakage class I , Galvanized Airfoil, Combination Fire/Smoke Damper.

DAMPER STYLE	TEMP. RATING (°F)	VELOCITY & PRESSURE	HORIZONTAL & VERTICAL	HORIZONTAL (FLOOR MOUNT)		VERTICAL (WALL MOUNT)	
			Min Panel	Max Panel	Max Assy	Max Panel	Max Assy.
No Transition	250°F or 350°F	2000 fpm, 4" w.g	12"x 8" frame	32" x 48" frame	96"x 96" frame	32" x 48" frame	128" x 96" frame
		3000 fpm, 4" w.g		24" x 36" frame - or - 32" x 24" frame	96"x72" frame	24" x 36" frame - or - 32" x 24" frame	96" x 72" frame
		4000 fpm, 4" w.g		24"x 36 frame - or - 32"x 24"frame	96"x 36" frame	24" x 36"frame - or - 32" x 24"frame	96" x 36" frame
C-Round -or- C-Square	250°F or 350°F	2000 fpm, 4" w.g	4" Dia duct - or - 4"x4" duct (12" x 8" frame )	30" dia duct - or - 30"x 30" duct	81" dia duct - or - 81" x 81" duct	30" dia duct - or - 30" x 30" duct	81" dia duct - or - 81" x 81" duct
		3000 fpm, 4" w.g		22" dia duct - or - 22" x 22" duct	70" dia duct - or - 70" x 70" duct	22" dia duct - or - 22" x 22" duct	70" dia duct - or - 70" x 70" duct
		4000 fpm, 4" w.g		22" dia duct - or - 22" x 22" duct	34" dia duct - or - 34" x 34" duct	22" dia duct - or - 22" x 22" duct	34" dia duct - or - 34" x 34" duct
C-Oval -or- C-Rectangle	250°F or 350°F	2000 fpm, 4" w.g	4"x4" duct (12"x 8" frame)	30" x 46" duct	70" x 94" duct - or - 94" x 70" duct	30" x 46" duct	70" x 94" duct - or - 94" x 70" duct
		3000 fpm, 4" w.g		22" x 34" duct - or - 30" x 22" duct	94" x 70" duct	22" x 34" duct - or - 30" x 22" duct	94" x 70" duct
		4000 fpm, 4" w.g		22" x 34" duct - or - 30" x 22" duct	94" x 34" duct	22" x 34" duct - or - 30" x 22" duct	94" x 34" duct

All Dimensions are shown as width x height

 For , **NO TRANSITION**, order size = frame size = duct size

With Transitions, duct size = order size

With Transitions, damper frame size = order width + 2" x order height +2"