

STANDARD CONSTRUCTION

- FRAME:** 5½" x 7⁄8" x 16 GA. galvanized steel hat channel. A flat head and sill are used for sizes through 13" high.
- 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.
- CAULKING:** Hardcast Irongrip 601 or UL- listed equivalent.
- FINISH:** Mill.
- ACTUATOR:** 24VAC/DC electric with heat response device (EHRD) factory-installed for Power-Open/Spring-Close (fail close) operation. External left hand mounted as viewed from jack shaft side of damper.

OPTIONS

- Exact size (no undercut)
- Sleeve - Transitions
- Right hand and/or internal actuator mounting locations (Restrictions apply)
- Dual Position Indication (DPI) Switches
- Sensotherm Re-openable Heat Response Device (ESOT)
- Model SM-501 Flow-rated smoke detector
- Model 2D51 No-flow smoke detector (12" minimum damper height)
- Remote test box
- Momentary test switch
- Transformers
- Tab-Lock retaining angles
- Stainless steel bearings
- Stainless steel axle
- Security bars
- Short-width (less than 8") and/or short-height (less than 6") transitions.

NOTES

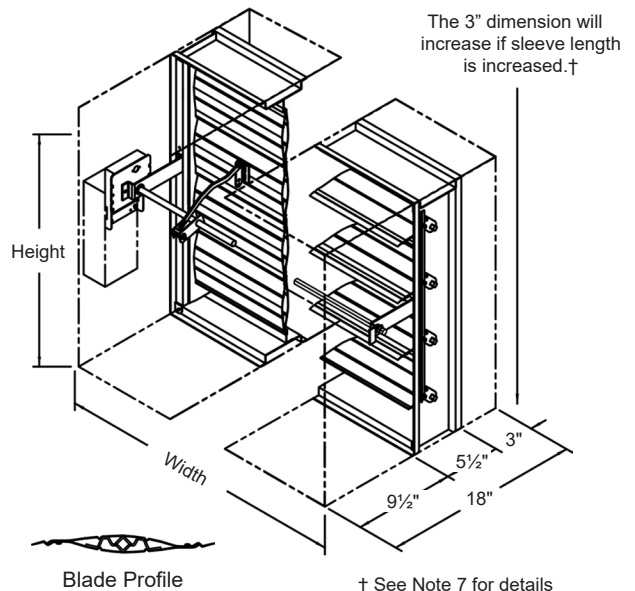
1. Damper frames are provided approximately ¼" undersized. The addition of a sleeve will increase the size of the assembly.
2. Damper less than or equal to 12" in height with factory mounted SM-501 smoke detectors require a minimum 19" deep sleeve (10½" on the actuator side). Detectors will be mounted on the side of damper opposite actuator.
3. Damper less than 12" in height with factory mounted SM-501 smoke detectors require a minimum 20" deep sleeve (11½" on the actuator side). Detectors will be mounted on the bottom or top of damper.
4. Smoke detectors can be ordered for field mounting with standard 18" deep sleeve.
5. Dampers for horizontal installation can only be mounted in a fire constructed of masonry/ concrete materials.
6. Actuator control signal is 2 - 10 VDC or with addition of 500 ohm resistor (by others) is 4 - 20 mA.
7. Unless ordered with a smoke detector, the 3" sleeve setback on the non-jackshaft side will increase when sleeve lengths greater than 18" are ordered. Custom non-jackshaft side setback dimensions must be specified on order. When ordered with a smoke detector, additional sleeve length is added to jackshaft side. If ordered with smoke detector and additional sleeve length (beyond requirements of notes 2 and 3), additional sleeve length will be added to jackshaft side unless custom setback dimension is otherwise specified on order.

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

FILE # R16591

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, 90A, 92, 101, 105
- 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 II 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.



† See Note 7 for details

DAMPER SIZES

Damper Style	Temp. Rating	Velocity & Pressure	Horizontal & Vertical		
			Min. Panel	Max Panel	
No Transition	250°F	2000 fpm, 4" in. w.g.	8" x 6" frame	24" x 24" frame	96" x 48" frame
C - Round or C-Square			4" dia. duct or 4" x 4" duct (8" x 6" frame)	22" dia. duct or 22" x 22" duct	46" dia. duct or 46" x 46" duct
C - Oval or C - Rectangle			4" dia. duct (8" x 6" frame)	22" x 22" duct	94" x 46" duct

All dimensions are shown as width x height.

For no transition, the size you order will equal the damper's frame size, which should equal the duct size. Unless otherwise noted, the size you order will equal the size of your duct work.

For transition, the damper size should equal the following: width + 2" x height + 2".

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

For handwritten orders, use the schedule block on page 2.

In the interest of product development, Louvers & Dampers reserves the right to make changes without notice.

Model MA2M

Combination Fire/Smoke Damper • 1½ Hr. Rated • Airfoil Blade • Leakage Class II • 250°F or 350°F Rated • Modulating • Galvanized Steel

OPERATIONAL RATINGS

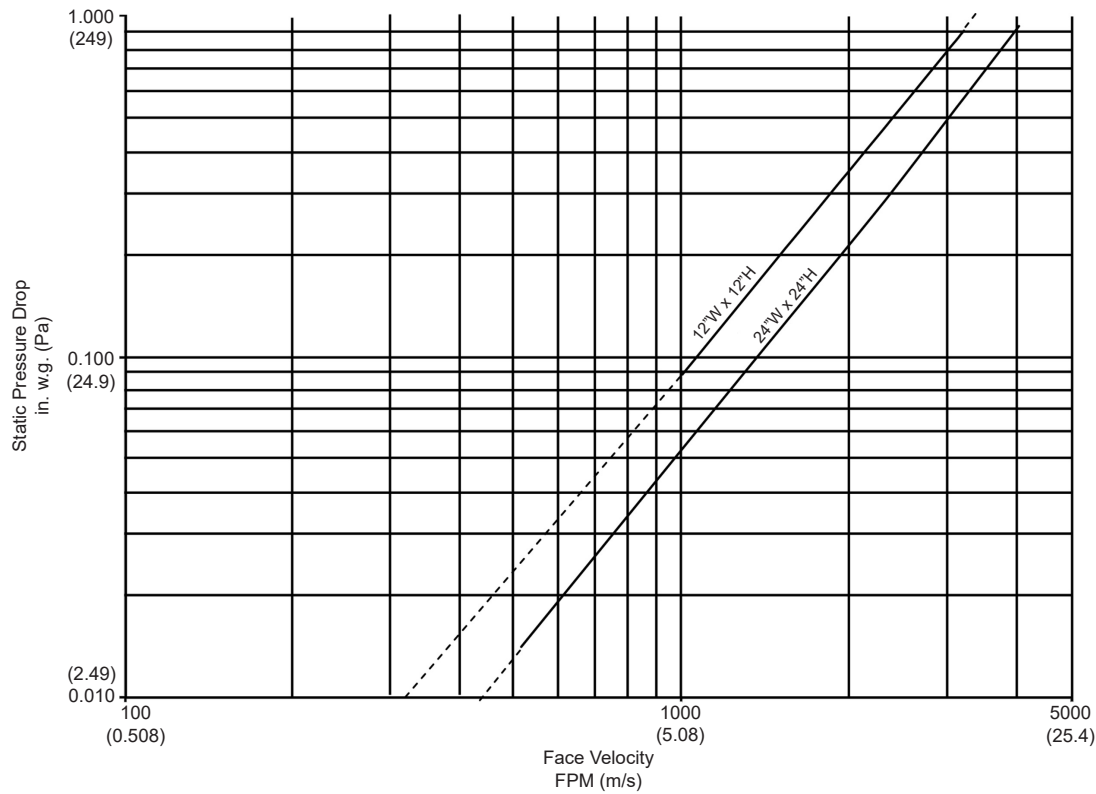
Maximum Differential Pressure: 4 in. w.g.
Maximum Velocity: 2000 fpm

LEAKAGE RATINGS

UL Leakage Class II
10 cfm per sq. ft. maximum @ 1 in. wg
20 cfm per sq. ft. maximum @ 4 in. wg

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.



This product was tested in accordance with AMCA Standard 500D, Figure 5.3.
Intake air converted to standard air density.



Louvers & Dampers certifies that the MA2M damper shown here is licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to Air Performance Ratings only.

										
Item #	Qty	Damper Size	Horizontal	Vertical	250°F	350°F	Velocity	Pressure		
			Orientation		Temp. Rating		Operational Rating		Union Made	
Arch. / Eng.:					EDR:		ECN:		Job:	
Contractor:										
Project:					Date:		DWN:		DWG:	