

## STANDARD CONSTRUCTION

- FRAME:** 5½" x 7⁄8" x 16 GA. galvanized steel hat channel. Flat 16 GA. galvanized steel head and sill for maximum free area on dampers less than or equal to 13" high.
- BLADES:** 16 GA. galvanized steel single thickness, 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 or on-blade type.
- STOPS:** 18 GA. galvanized steel angles at head and sill.
- BLADE SEALS:** Silicone.
- JAMB SEALS:** Stainless steel.
- SLEEVE:** 20 GA. galvanized steel by 15" long (1½" grille clearance) or 17" long (3½" grille clearance) with ¼" front flange.
- CAULKING:** Hardcast irongrip 601 or UL-listed equivalent.
- ACTUATOR:** Electric with heat response device (EHRD) or pneumatic with heat response device (PHRD). Factory-installed for Power-Open/Spring-Close (fail close) operation. Internally mounted and accessible from grille side.
- FINISH:** Mill.

## OPTIONS

- Integral Dual Position Indication (IDPI) Switches
- Sensotherm Re-Openable Heat Response Device (ESOT) for electric actuators
- Sensotherm Re-Openable Heat Response Device (EPOT) for pneumatic actuators
- Model SM-501 flow-rated smoke detector
  - Shipped loose
- Model 2D51 no-flow smoke detector (12" minimum damper height)
- Copper tubing (for pneumatic actuators)
- Tab-lock retaining angles - 1 or 2 Sets
- Stainless steel bearings
- Sleeves of various depths and gauge thickness (restriction apply)
- Round or oval transitions
- Short-width (less than 10") and/or short-height (less than 10") transitions

## NOTES

1. Damper frames are provided approximately ¼" undersized. The addition of a sleeve and insulation will increase the size of the assembly. See II-FAGM for sizing openings.
2. Dampers smaller than minimum frame size require a transition. Refer to SD-TRFS. When transitioned on one-side only (which will be a damper supplied with a transition on the non-jackshafted side only), the grille size should be selected to match the damper frame size, not the transition collar size.
3. Damper with smoke detector must have a minimum sleeve of 16" (1½" setback) or 18" (3" setback).
4. Dampers for horizontal installation can only be mounted in a fire barrier constructed of masonry/concrete materials.

## DAMPER SIZES

2000 fpm, 4 in.wg			
Orientation	Hor & Vert	Horizontal	Vertical
Panel	Min Panel	Max Panel	Max Panel
Rectangular	10"W x 10"H (10"W x 10"H frame)	32"W x 42"H	32"W x 42"H
Round	8" dia. (10"W x 10"H frame)	30" dia.	30" dia.
Oval	8"W x 8"H (10"W x 10"H frame)	30"W x 40"H	30"W x 40"H

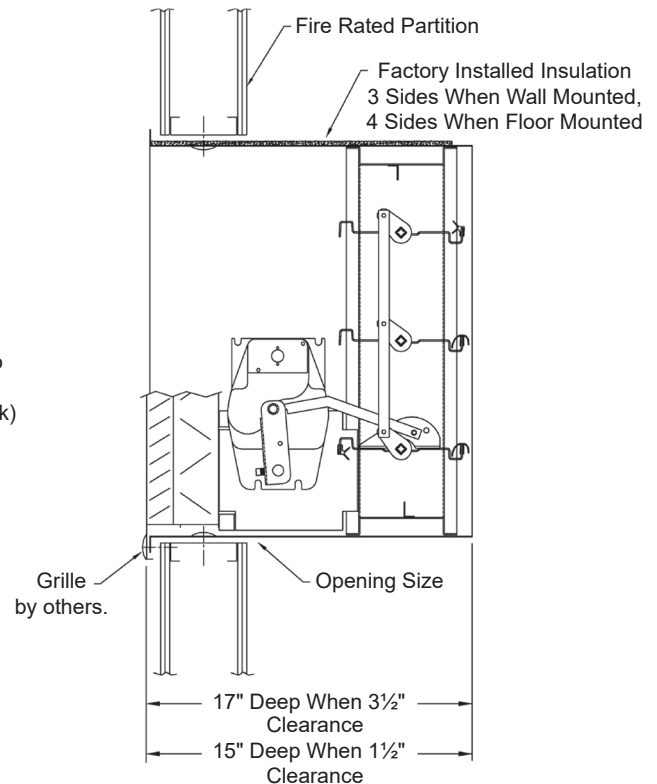
**UNDERWRITERS LABORATORIES INC.®**  
 CLASSIFIED DYNAMIC FIRE AND SMOKE DAMPER  
 FIRE RESISTANCE RATING 1½ HR  
 LEAKAGE RESISTANCE CLASS II

Louvers & Dampers

**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.



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.

[www.louvers-dampers.com](http://www.louvers-dampers.com)

450 Riverside Drive • Wyalusing PA, 18853 • Phone 570-746-1888 • Fax 570-746-9286



Combination Fire/Smoke Damper • 1½ Hr. Rated • Single Thickness Blade • Leakage Class II • 250°F or 350°F Rated • Front Access Grille • Galvanized Steel

## OPERATIONAL RATINGS

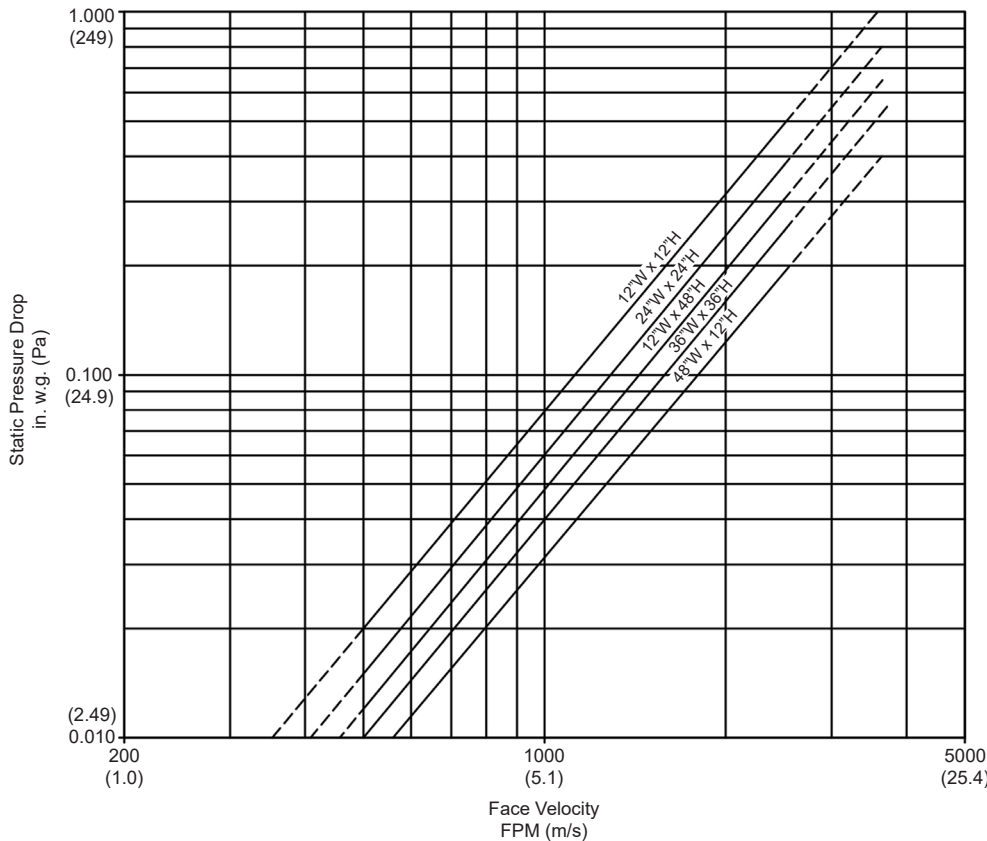
Maximum Differential Pressure: 4 in. w.g.  
Maximum Face Velocity: 2000 fpm

## LEAKAGE RATINGS

UL Leakage Class I  
10 cfm per sq.ft. maximum @ 1 in. w.g.  
20 cfm per sq.ft. maximum @ 4 in. w.g.

## 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 511.

Intake air converted to standard air density.

Sizes listed on this chart exceed the size limitations of the MS2GF. These sizes are based on the model MS2 approval.

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