

Fire/Smoke Damper



Class II • Airfoil Blade • 3 Hour • 250°F or 350°F • Galvanized Steel • UL Classified Damper

STANDARD CONSTRUCTION

- FRAME:** 5½" x 7⁄8" x 16-GA galvanized steel hat channel; A flat head and sill are used for sizes thru 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 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

UNDERWRITERS LABORATORIES INC.®
 CLASSIFIED DYNAMIC FIRE AND SMOKE DAMPER

FIRE RESISTANCE RATING 3 HR
 LEAKAGE RESISTANCE CLASS II

FILE #R16591

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

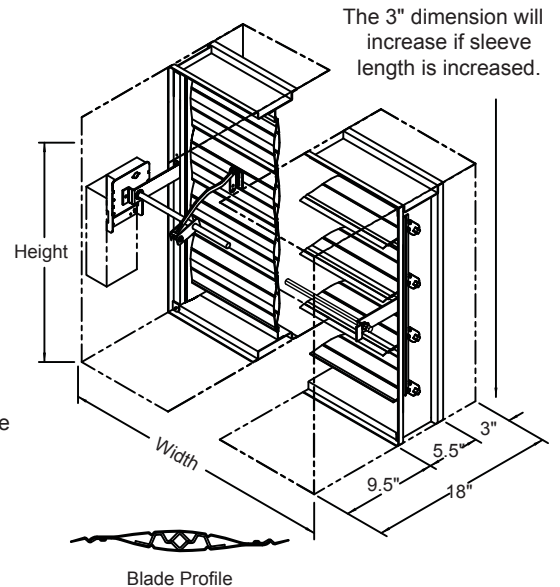
- Underwriters Laboratories Inc. Standards 555 and 555S
- National Fire Protection Association Standards 80 and 90A
- ICC's International Building Code
- New York City MEA Listing #111-99-M
- California State Fire Marshal Listing #3225-1328:118
- Underwriters Laboratories Inc. Approved for dual direction airflow and dynamic conditions.
- Underwriters Laboratories Inc. Classified for use in fire resistive ratings of 3 hours and longer.
- 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.

OPTIONS

- Exact Size (no undercut)
- Actuators - 120V, 24V, 230V or Pneumatic
- 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)
- Momentary Test Switch
- Remote Test Box
- Transformers
- Tab-Lock Retaining Angles
- Stainless Steel Bearings
- Stainless Steel Axles
- Security Bars
- Copper Tubing (for Pneumatic Actuators)
- Sleeves of Various Depths and Gauge Thicknesses (restriction apply)
- No Sleeves (restriction apply)
- Round or Oval Transitions
- Short-Width (<8") and/or Short-Height (<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 >= 12" in height with factory mounted SM-501 smoke detectors require a minimum 19" deep sleeve (10.5" on the actuator side); detectors will be mounted on the side of the damper opposite actuator.
3. Damper < 12" in height with factory mounted SM-501 smoke detectors require a minimum 20" deep sleeve (11.5" 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 barrier constructed of masonry/concrete materials.



DAMPER SIZES

Orientation		2000 fpm, 4 in.wg				** 4000 fpm, 6 in.wg	
		Horizontal		Vertical		Horizontal or Vertical	
Panel	Hor & Vert 250°/350°	Max Panel 250°/350°	Max Assy 250°/350°	Max Panel 250°/350°	Max Assy 250°/350°	Max Panel 250° only	Max Assy 250° only
Rectangular	4"W x 4"H (8"W x 6"H frame)	30"W x 48"H	60"W x 48"H	30"W x 48"H	60"W x 48"H	24"W x 24"H	60"W x 24"H
Round	4" dia. (8"W x 6"H frame)	28" dia.	46" dia.	28" dia.	46" dia.	22" dia.	22" dia.
Oval	4"W x 4"H (8"W x 6"H frame)	28"W x 46"H	58"W x 46"H	28"W x 46"H	58"W x 46"H	22"W x 22"H	22"W x 22"H

*Dampers smaller than minimum frame size require a transition. Reference SD-TRFS.
 ** See addendum for additional ratings.



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Operations Ratings:

Maximum Differential Pressure: 4 in. wg (6 in.wg for selected size/actuator combinations)
 Maximum Velocity: 2000 fpm (4000 fpm for selected size/actuator combinations)

Leakage Ratings:

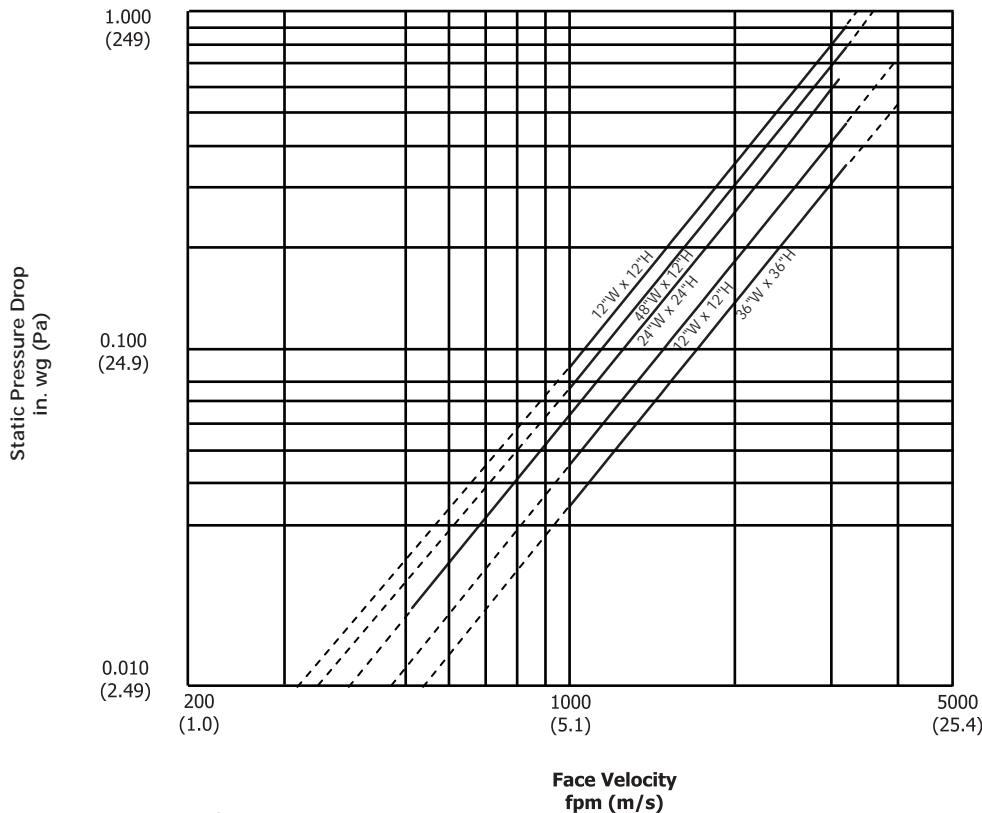
UL Class II
 10 cfm per sq. ft. maximum @ 1 in. wg
 20 cfm per sq. ft. maximum @ 4 in. wg
 24.5 cfm per sq.ft. maximum @ 6 in. wg

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.



This product was tested in accordance to AMCA Standard 500D

AMCA Figure 5.3

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LA2

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LA2 Extended Pressure & Velocity Ratings

Damper Style	Temp Rating (°F)	Velocity & Pressure	Horizontal & Vertical Min Panel	Horizontal (floor mount)		Vertical (wall mount)	
				Max Panel	Max Assy	Max Panel	Max Assy
No Transition	250° - or - 350°	2000 fpm, 4" w.g.	8" x 6" frame	30" x 48" frame	60" x 48" frame	30" x 48" frame	60" x 48" frame
		3000 fpm, 4" w.g.		24" x 36" frame - or - 30" x 24" frame	60" x 48" frame	24" x 36" frame - or - 30" x 24" frame	60" x 48" frame
		4000 fpm, 4" w.g.			60" x 36" frame	60" x 36" frame	
	250°	4000 fpm, 6" w.g.		24" x 24" frame	60" x 24" frame	24" x 24" frame	60" x 24" frame
	350°	4000 fpm, 6" w.g. (external actuator only)		16" x 24" frame	32" x 24" frame	16" x 24" frame	32" x 24" frame
C-Round - or - C-Square	250° - or - 350°	2000 fpm, 4" w.g.	4" dia. duct - or - 4" x 4" duct (8" x 6" frame)	28" dia. duct - or - 28" x 28" duct	46" dia. duct - or - 46" x 46" duct	28" dia. duct - or - 28" x 28" duct	46" dia. duct - or - 46" x 46" duct
		3000 fpm, 4" w.g.		22" dia. duct - or - 22" x 22" duct	46" dia. duct - or - 46" x 46" duct	22" dia. duct - or - 22" x 22" duct	46" dia. duct - or - 46" x 46" duct
		4000 fpm, 4" w.g.			34" dia. duct - or - 34" x 34" duct		34" dia. duct - or - 34" x 34" duct
	250°	4000 fpm, 6" w.g.		22" dia. duct - or - 22" x 22" duct			
	350°	4000 fpm, 6" w.g. (external actuator only)		14" dia. duct - or - 14" x 14" duct	22" dia. duct - or - 22" x 22" duct	14" dia. duct - or - 14" x 14" duct	22" dia. duct - or - 22" x 22" duct
C-Oval - or - C-Rectangle	250° - or - 350°	2000 fpm, 4" w.g.	4" x 4" duct (8" x 6" frame)	28" x 46" duct	58" x 46" duct	28" x 46" duct	58" x 46" duct
		3000 fpm, 4" w.g.		22" x 34" duct - or - 28" x 22" duct	58" x 46" duct	22" x 34" duct - or - 28" x 22" duct	58" x 46" duct
		4000 fpm, 4" w.g.		22" x 34" duct - or - 28" x 22" duct	58" x 34" duct	22" x 34" duct - or - 28" x 22" duct	58" x 34" duct
	250°	4000 fpm, 6" w.g.		22" x 22" duct	58" x 22" duct	22" x 22" duct	58" x 22" duct
	350°	4000 fpm, 6" w.g. (external actuator only)		14" x 22" duct	30" x 22" duct	14" x 22" duct	30" x 22" duct

*all dimensions are shown as width x height
for **NO TRANSITION**, order size = frame size = duct size
unless otherwise noted, duct size = order size
WITH TRANSITIONS, damper **frame** size = order width + 2" x order height + 2"
WHEN A TRUE 6" High, width is limited to 16"; if ordered as 6" high and width
is > 16", an 8" high damper with 2" short-height transition will be supplied.*