

MODEL FR2

Class II • 250°F or 350°F • Galvanized Steel • Single Thickness Blade • Combination Fire/Smoke Damper

STANDARD MATERIALS AND CONSTRUCTION

- FRAME:** 20-GA galvanized steel flat by 18" long integral sleeve
BLADES: 16-GA galvanized steel single thickness; Parallel action
AXLES: Plated solid steel stub
BEARINGS: Oil impregnated bronze
LINKAGE: Galvanized steel angle interconnect, with plated steel brackets and pivots located on blade
STOPS: 18-GA galvanized steel at head and sill
BLADE SEALS: Silicone
JAMB SEALS: Stainless steel
SLEEVE: Integral 20-GA galvanized steel by 18" long
RETAINING ANGLES: 7/8" x 1 1/2" x 16-GA adjustable perimeter mounting angle
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

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 ship loose
 Model SM-501 Flow-rated smoke detector mounted and wired (6" minimum damper height with a 20" sleeve - extra 2" on jackshaft side)
 Tab-Lock retaining angles
 Stainless steel bearings
 Copper tubing (for pneumatic actuators)
 Optional 19" or 20" sleeve depth - Additional sleeve length is added to non-jackshaft side unless ordered with mounted smoke detector and/or < 6"H with B-Pan Transition
 Round or oval transitions
 Short-width (<6") and/or short-height (<6") transitions

NOTES

1. "A" width and "B" height are opening dimensions. Damper frames are provided approximately 1/4" undersized.
2. Dampers are available in 1" increments only.
3. Dampers for horizontal installation can only be mounted in a fire barrier constructed of masonry/concrete materials.
4. The blades must stay in the fire wall. The adjustable retaining angle may only be adjusted the distance shown on the label or installation instructions.

DAMPER SIZES

Orientation	Horizontal & Vertical	
Panels	Minimum Panel	Maximum Panel
Rectangular	4"W x 4"H (6"W x 6"H frame)	18"W x 18"H
Round	4" dia. (6"W x 6"H frame)	16" dia.
Oval	4"W x 4"H (6"W x 6"H frame)	16"W x 16"H

*Dampers smaller than minimum frame size require a transition. Reference SD-TRFS.
 Dampers < 6"H will have a 20" sleeve with the additional sleeve length on the jackshaft side when a B-Pan type transition is ordered.

UNDERWRITERS LABORATORIES INC.®
 CLASSIFIED DYNAMIC FIRE AND SMOKE DAMPER

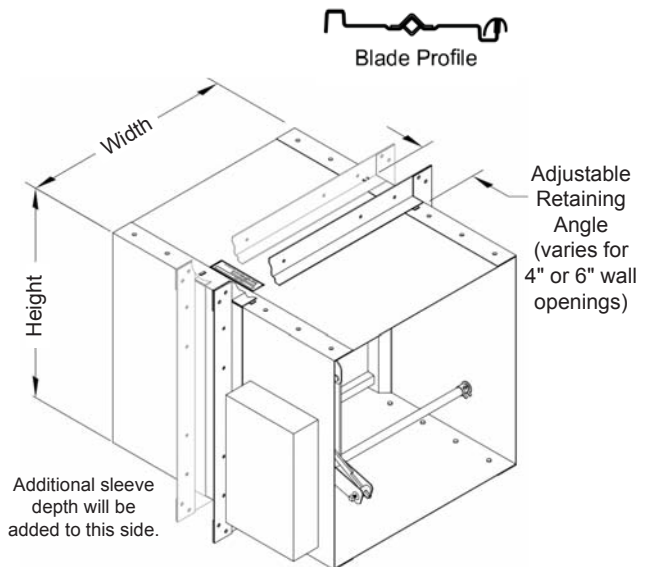
FIRE RESISTANCE RATING 1 1/2 HR
 LEAKAGE RESISTANCE CLASS II

abi air balance FILE #R4708



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
- California State Fire Marshal Listing #3225-1328:120
- 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.



air balance

Dampers Louvers
 UL Life Safety Products
 Division of Mestek
 Member of AMCA

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Operations Ratings:

Maximum Differential Pressure: 4 in. wg
Maximum Velocity: 2000 fpm

Leakage Ratings:

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

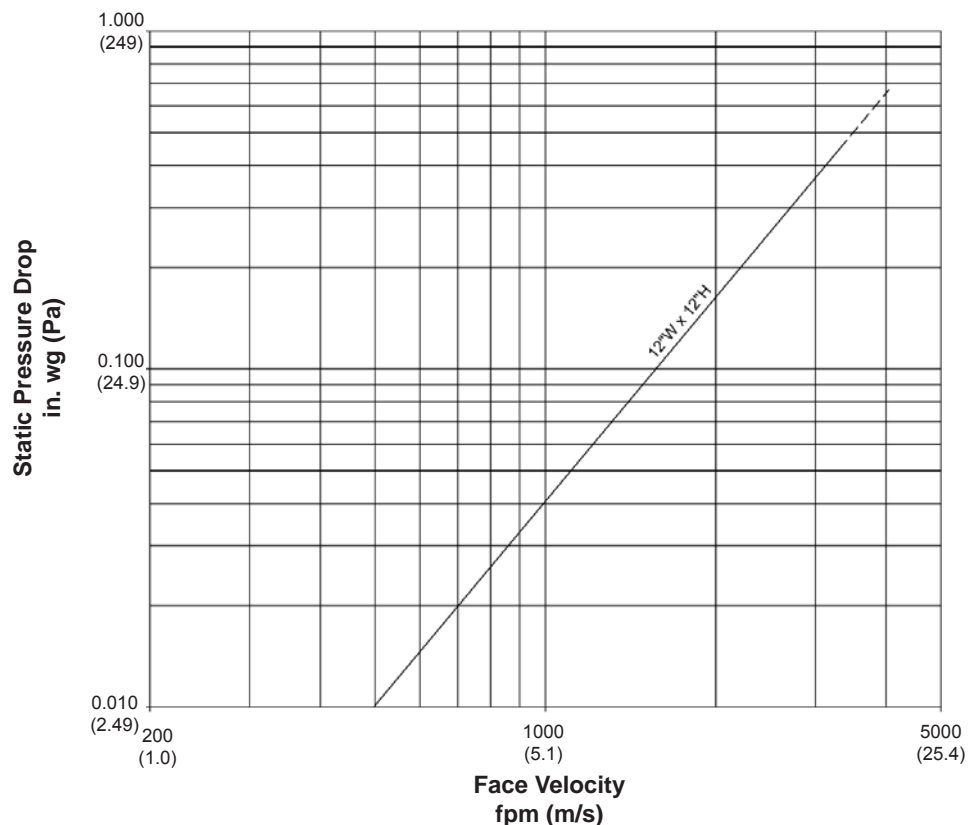
Sound Ratings:

The Noise Criterion data below was tested in accordance with ASTM E477.99 in the center octave band.

Noise Criterion (NC)				
Damper Size	Velocity fpm (m/s)			
	1000 (5.08)	2000 (10.16)	3000 (15.24)	4000 (20.32)
12"W x 12"H (305mm x 305mm)	22dB	44dB	55dB	62dB

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.



AMCA Figure 5.3

Data shown is at standard air density.



Air Balance certifies that the model FR2 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.