

Smoke Damper Airfoil Blade – Model 681 CLASS I

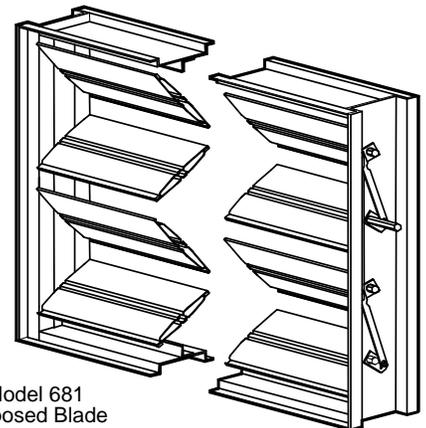
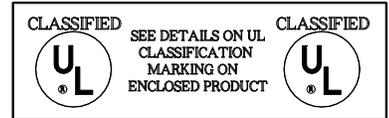
Features – U.L. rated for dynamic closure & leakage CLASS I @ 250° F (121°) C. Meets NFPA 90A & UL555S. Meets California State Fire Marshal Requirements.

STANDARD CONSTRUCTION

- FRAME**
4-5/16" (110) deep, 16 gauge (1.6) galvanized steel
- BLADES**
6 1/2" (165) wide, double wall 20 gauge (1.0) galvanized steel in airfoil shape, equivalent to a 14-gauge (1.9) single skin blade.
(Bottom blade width may vary depending on damper height)
- BLADE AXLES & BEARINGS**
AXLES – 7/16"(11) Plated hex
BEARINGS – Bronze oil impregnated
- LINKAGE**
Plated steel concealed inside of jamb
- SEALS**
Extruded silicone blade edge and stainless steel jamb seals
- MULTIPLE SECTIONS**
Maximum Single Size is 128"w x 96"h (3658 x 2438)
- MAXIMUM U.L. CLASSIFIED LEAKAGE CLASS I SIZES**
Single section assemblies - 32" W x 48"H (813 x 1219)
- MINIMUM SIZE**
12"W x 8"H (305 x 203)
- UNDERSIZED**
1/4"(102) under ordered size unless specified Exact or Actual
- FINISH**
Mill
- OPERATOR**
Refer to UL approved actuator chart
(Specify external or internal mounting)



03230-0751-107



Model 681
Opposed Blade

OPTIONAL CONSTRUCTION

- SPECIFIED MATERIAL** – Available in Stainless
- SLEEVE AND DUCTWORK CONNECTION** – 10 ga.(3.5) to 20 ga.(1.0) galvanized steel to 30" (762) in length. – Transitions available in: round, oval, rectangular or custom. Factory can install access door, retaining angles, or flange connections.
- FINISH** – Air-dry primer, polyurethane, epoxy, or enamel, Baked epoxy or enamel.

* Dampers 11" (279) high and under will be single blade, and extend from the frame proportionately.

SPECIAL PURPOSE CONSTRUCTION

- Fully welded corner assembly
- Security bars (mounted in sleeve)
- Smoke Accessories

APPROVED ACTUATORS

	Honeywel	Siemens	Belimo
24 Vac -	ML 8115	GND121.1U	FSNF24 US*
	MS 4309	GND126.1U	
	MS 8120	GGD121.1U	
120 Vac -	ML 4115	GND221.1U	FSNF120 US*
	MS 4209	GND226.1U	
	MS 4120	GGD221.1U	
230 Vac -		GND321.1U	
		GGD321.1U	
Pneumatic -		331-2961	
		331-3060	
		331-4826	

* Only for dampers up to 24" x 24"

ACCESSORIES

- Smoke Detector
- Indicator Switches
- Monitoring Stations

DATE	ARCHITECT			ENGINEER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION



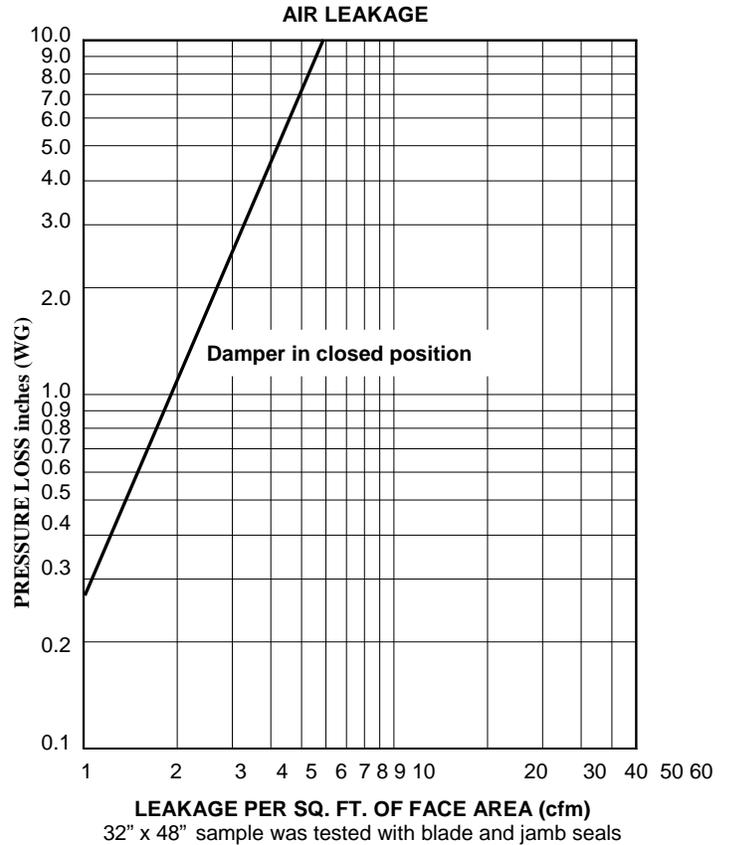
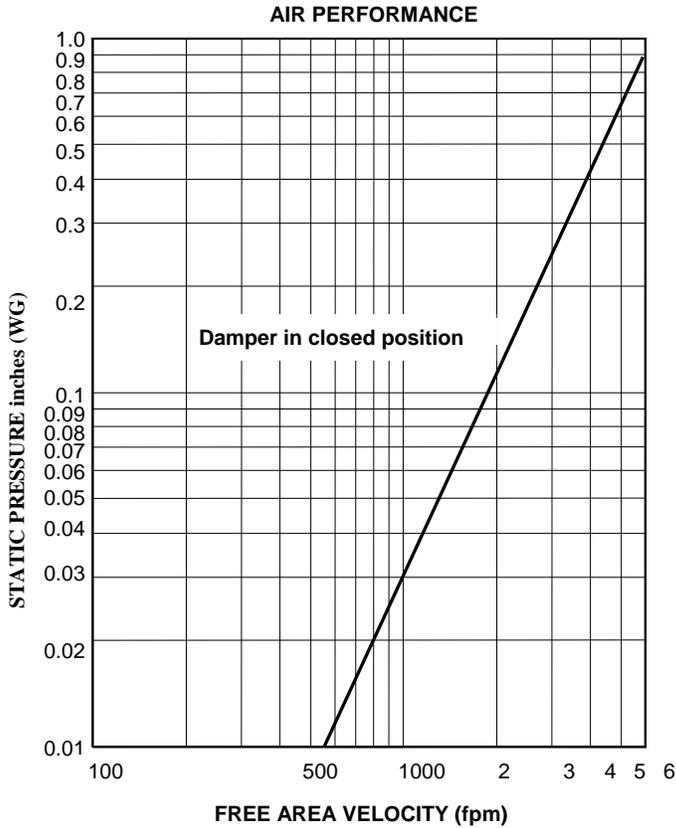
DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS, INC.

Engineering and General Offices

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CALCULATING PRESSURE LOSS:

Based upon a given flow rate (in CFM), the flowing pressure loss may be determined from the "air performance graph, knowing the sq. ft. of free area of the damper. Alternately, the free area may be determined based upon a volumetric flow rate and a maximum pressure loss utilizing the "air performance" graph.

_____ in. W.C. Max. Pressure Loss Intake or Exhaust
 _____ FPM (Free Area Velocity from "Air Performance" Graph)
 _____ CFM / _____ FPM Free Area Velocity = _____ Sq. Ft. Free Area

U. L. CLASSIFIED DYNAMIC CLOSURE RATING

Our maximum recommended operating for this damper is 2000 fpm @ 4" static pressure. This damper has been tested in accordance with the U.L. requirements for closure under installed "system in operation" conditions, (Dynamic closure). Single sections 32" w x 48" h have been tested capable to close, mounted either vertical or horizontal, at 3000 fpm. @ 8" static pressure.

FREE AREA CALCULATIONS IN SQ. FT.

		WIDTH						
		12	16	20	24	28	32	
HEIGHT	Inches	12	0.58	0.81	1.03	1.26	1.49	1.72
	16	0.86	1.20	1.54	1.88	2.22	2.56	
	20	1.09	1.53	1.96	2.39	2.82	3.26	
	24	1.33	1.86	2.38	2.91	3.43	3.96	
	28	1.61	2.25	2.89	3.52	4.16	4.80	
	32	1.85	2.58	3.31	4.04	4.77	5.50	
	36	2.08	2.91	3.73	4.55	5.38	6.20	
	40	2.37	3.30	4.23	5.17	6.10	7.04	
	44	2.60	3.63	4.66	5.68	6.71	7.74	
48	2.84	3.96	5.08	6.20	7.32	8.44		