

Fire/Smoke Damper Airfoil Blade – Model 781 & 781-3 CLASS I

***781 (1-1/2 hr.) rated *781-3 (3 hr.) rated**

Features – U.L. rated for dynamic closure & leakage CLASS I @ 250°F (176°C), for use in a 2 hour (781 Model) or 4 hour (781-3 Model) wall or partition. Meets NFPA 90A & UL555 & 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 mechanically fastened to blade
BEARINGS – Bronze oil impregnated

LINKAGE

Plated steel in opposed blade configuration, concealed inside the jamb.
Operator shaft is 1/2" (13) steel rod extending 4-1/2" (114) from damper side

SEALS

Extruded Silicone blade seals and stainless steel jamb seals

MAXIMUM UL CLASSIFIED LEAKAGE CLASS I SIZES

Single section assemblies:
781, 781-3 32"W x 48"H Vertical
 32"W x 36"H Horizontal

MULTIPLE SECTIONS

Multiple section assemblies: (made of sections no larger than above sizes)
781 (128" x 96") (3251 x 2438) vertical or horizontal mount
781-3 (128" x 48" max.) (3251 x 1219) vertical or horizontal mount

MINIMUM UL CLASSIFIED LEAKAGE CLASS I SIZE

12"W x 8"H (305 x 203)

SLEEVE

18 ga. x 16" (1.3 x 406) deep galvanized steel

UNDERSIZED

1/4" under ordered size unless specified Exact or Actual

FINISH

Galvanized

HEAT SENSOR

160° (73° C)

OPERATOR

Refer to UL approved actuator chart
(Specify external or internal mounting)

OPTIONAL CONSTRUCTION

HEAT SENSOR - 212°F, 250°F, or 350° F

SPECIFIED MATERIAL – Available in stainless steel

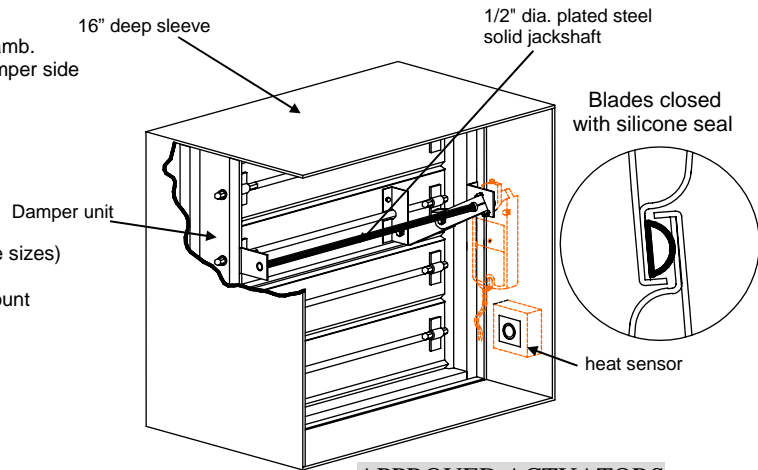
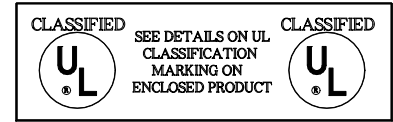
SLEEVE AND DUCTWORK CONNECTION – 10 ga.(3.5) to 20 ga. (1.0) galvanized steel to 30" (762) in length. – Transitions available in: round, oval, rectangular or custom. Factory can install access door, retaining angles, flange connections, or security bars

SPECIAL PURPOSE CONSTRUCTION

- Full welded corner assembly
- Security bars (mounted in sleeve)
- Filter Racks
- Face and Bypass dual mixing damper configuration



03225-0751-106



APPROVED ACTUATORS

	Honeywell	Siemens	Belimo
24 Vac -	ML 8115	GND121.1U	FSNF24 US*
	MS 8209	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 Station
- Dual Sensors

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

DATE	ARCHITECT			ENGINEER
PROJECT				
ITEM	QTY	W	H	DESCRIPTION



DEPENDABLE PRODUCTS SINCE 1955

SAFE-AIR OF ILLINOIS, INC.

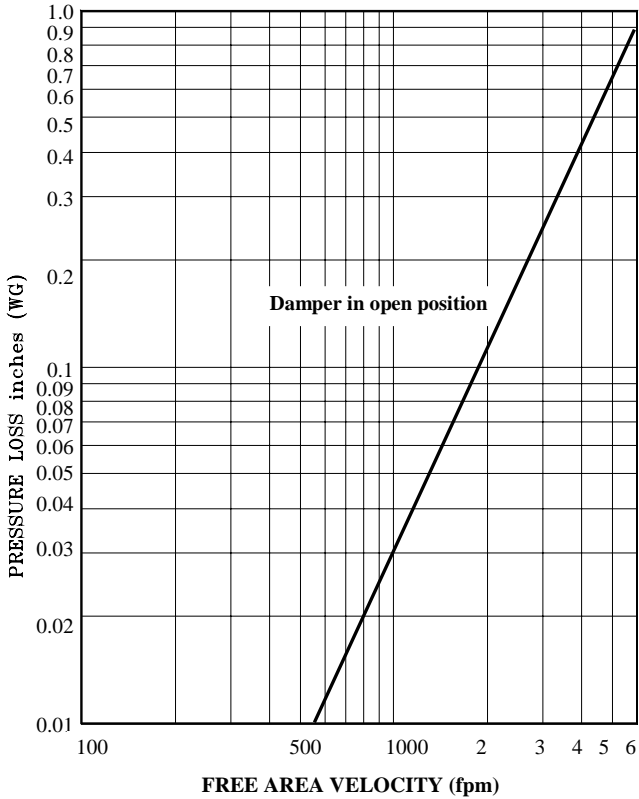
Engineering and General Offices

1855 South 54th Avenue, Cicero, Illinois 60804

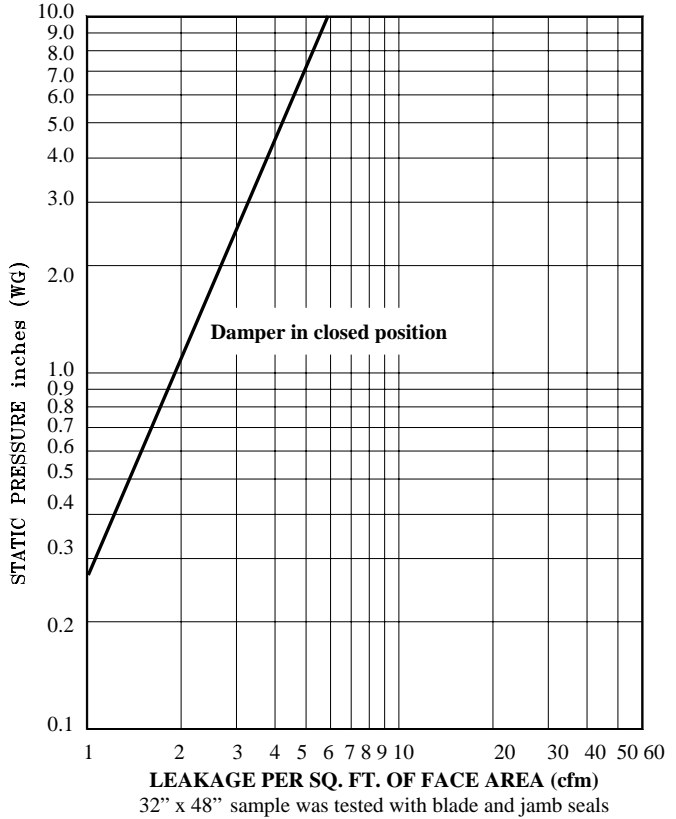
Phone 708-652-9100 FAX 708-652-9158

All tests performed at an independent laboratory and based on AMCA's standard 500-D for Air Performance, Air Leakage, and Free Area.

AIR PERFORMANCE



AIR LEAKAGE



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).

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	