

AIRFOIL BLADE CONTROL DAMPER – Model 650

Design Features – Strong airfoil blade design that can satisfy high-level system requirements with minimal flow through system loss, while maintaining low leakage when in the closed position.

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, (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

MAXIMUM SIZE

Unlimited, with mullions, structural bracing supplied by others (Multi-section sizes usually require jackshaftering)

MAXIMUM SINGLE SECTION

48"H x 72"H (1219 x 1829)

MINIMUM SIZE

4"W x 8"H (102 x 203)

SEALS

None

UNDERSIZED

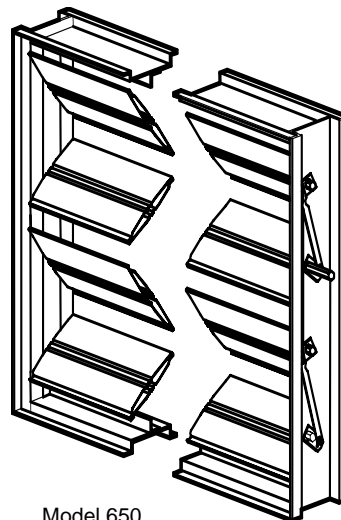
1/4" (6) under ordered size unless specified Exact or Actual

FINISH

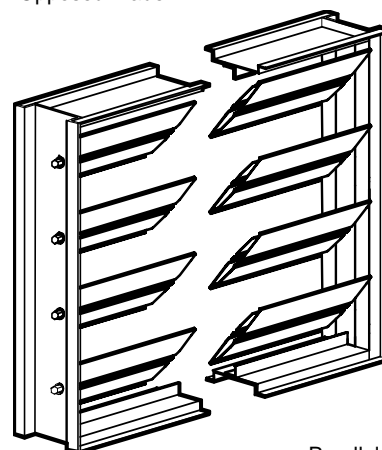
Mill

OPERATOR

None



Model 650
Opposed Blade



Parallel Blade
(optional)

OPTIONAL CONSTRUCTION

FRAME – Available in heavier galvanized construction up to 10 gauge (3.5)

BLADES – Available in heavier galvanized construction up to 18 gauge (1.3)

SPECIFIED MATERIAL – Available in stainless, Aluminum or as requested

LINKAGE – Mounted on face of blades in either opposed or parallel

BLADE & JAMB SEALS – Silicone blade edge and/or stainless steel jamb seals

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, Kynar, or Powder coat.

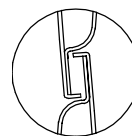
OPERATOR – Manual, electric or pneumatic, internally or externally mounted, please consult operator listing

SPECIAL PURPOSE CONSTRUCTION

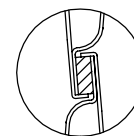
Fully welded corner assembly

Security bars (mounted in sleeve)

Filter racks



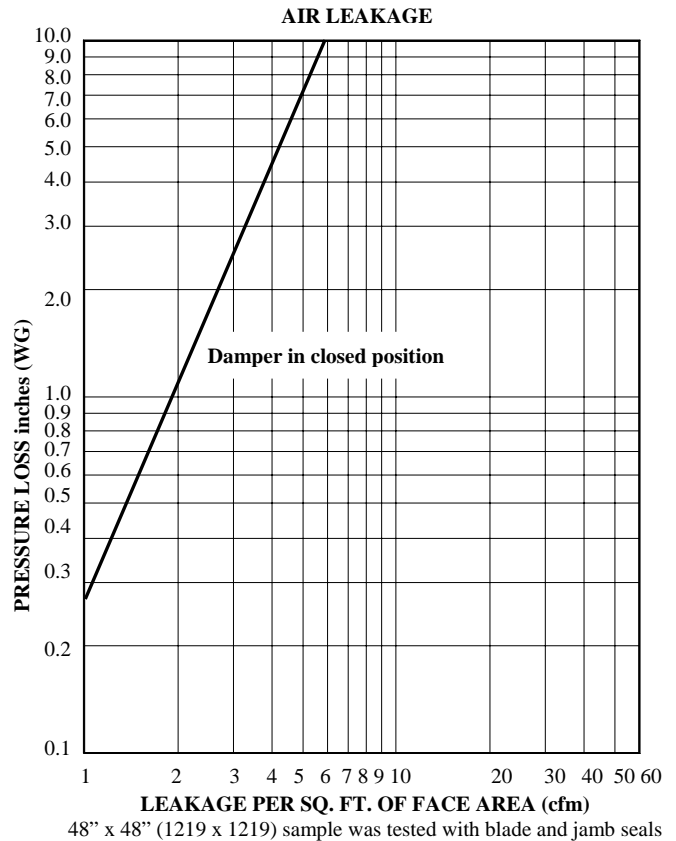
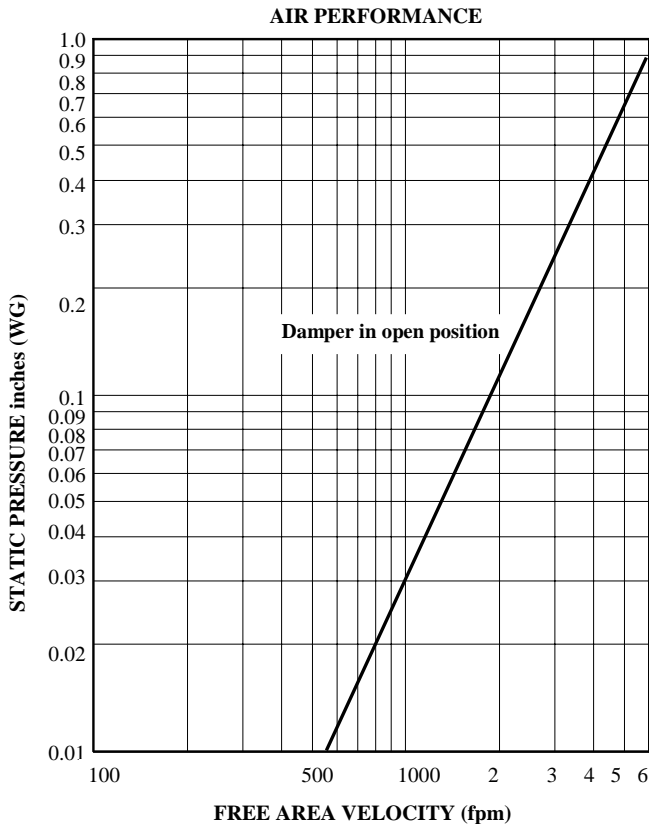
Blades closed
without seal



Blades closed
with silicone seal

DATE		ARCHITECT / ENGINEER			CUSTOMER	
PROJECT						
ITEM	QTY	W	H	DESCRIPTION		

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



48" x 48" (1219 x 1219) sample was tested with blade and jamb seals

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

FREE AREA CALCULATIONS IN SQ. FT.

HEIGHT	WIDTH									
	12	16	20	24	28	32	36	40	44	48
12	0.58	0.81	1.03	1.26	1.49	1.72	1.95	2.17	2.40	2.63
16	0.86	1.20	1.54	1.88	2.22	2.56	2.89	3.23	3.57	3.91
20	1.09	1.53	1.96	2.39	2.82	3.26	3.69	4.12	4.55	4.99
24	1.33	1.86	2.38	2.91	3.43	3.96	4.49	5.01	5.54	6.06
28	1.61	2.25	2.89	3.52	4.16	4.80	5.43	6.07	6.71	7.34
32	1.85	2.58	3.31	4.04	4.77	5.50	6.23	6.96	7.69	8.42
36	2.08	2.91	3.73	4.55	5.38	6.20	7.02	7.85	8.67	9.49
40	2.37	3.30	4.23	5.17	6.10	7.04	7.97	8.91	9.84	10.78
44	2.60	3.63	4.66	5.68	6.71	7.74	8.77	9.80	10.82	11.85
48	2.84	3.96	5.08	6.20	7.32	8.44	9.56	10.69	11.81	12.93
52	3.29	4.60	5.90	7.20	8.50	9.80	11.10	12.41	13.71	15.01
56	3.36	4.68	6.01	7.33	8.66	9.98	11.31	12.63	13.96	15.29
60	3.59	5.01	6.43	7.85	9.27	10.68	12.10	13.52	14.94	16.36
64	3.87	5.40	6.93	8.46	9.99	11.52	13.05	14.58	16.11	17.64
68	4.11	5.73	7.35	8.98	10.60	12.22	13.85	15.47	17.09	18.72
72	4.34	6.06	7.78	9.49	11.21	12.93	14.64	16.36	18.08	19.79

Damper Width Inches	Maximum Static Pressure (W.G.)	Maximum Velocity
12	14"	6000 FPM
18	12.5"	6000 FPM
24	11"	5000 FPM
30	9.75"	5000 FPM
36	8.5"	4000 FPM
42	7.5"	4000 FPM
48	6.5"	4000 FPM