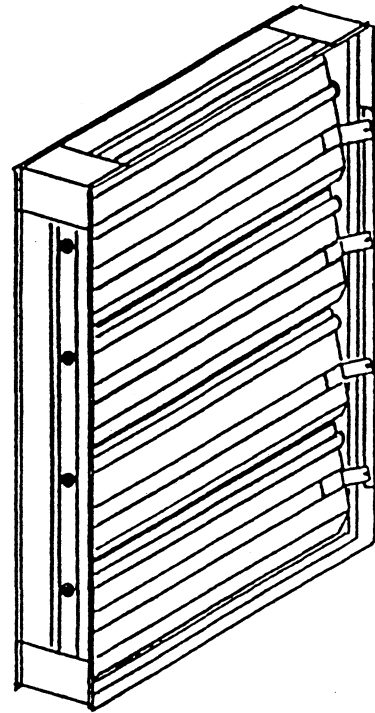
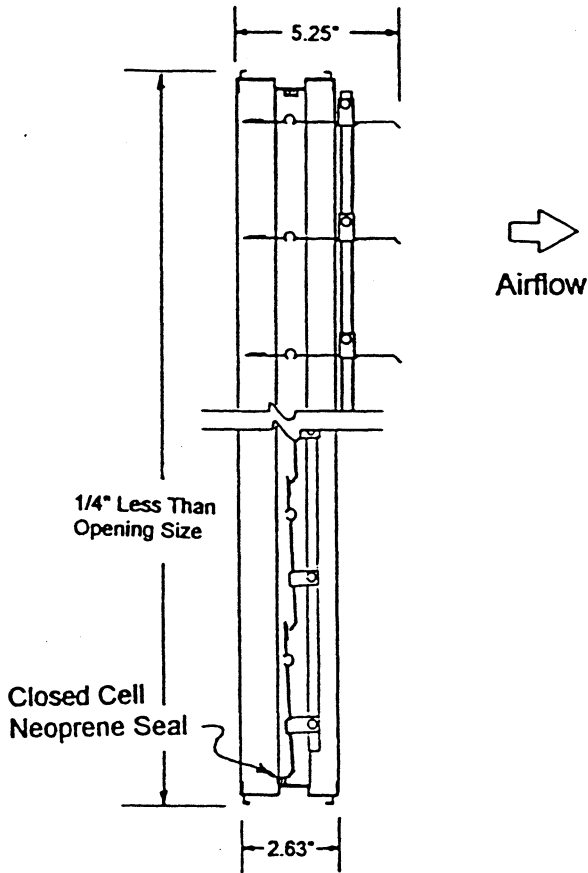


Model SPA-V Shutter

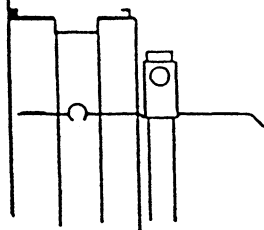
Vertical Mount, Horizontal Airflow



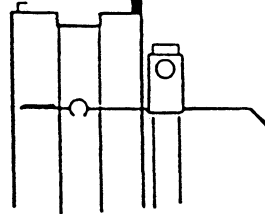
SPECIFICATIONS:

Frame: .070" Extruded Aluminum
 6063-T5 Alloy, Mitred Corners
 Blade: .050" Extruded Aluminum 6063-T5
 Alloy with Polyurethane Seals
 Bearings: .25" I.D. Nylon
 Axes: .25" Nylon
 Minimum Size: 6" w X 6" h
 Maximum Size: 36" w X 48" h

UPSTREAM
FLANGE



DOWNSTREAM
FLANGE



OPTIONAL FEATURES:

Flange Upstream (1.5")
 Flange Downstream (1.5")
 Counter-Balanced
 Birdscreen
 Insect screen
 Electric Operator
 Horizontal Mount, Airflow Up
 Horizontal Mount, Airflow Down
 (Electric Operator Only)

JOB _____

LOCATION _____ JOB NO. _____

ENGINEER _____ REPRESENTATIVE _____

CONTRACTOR _____ DATE _____



Division of Leader Industries Inc.

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 2509 Cruzen Street

Nashville, TN 37204
 Nashville, TN 37211

Phone: 615-256-3500
 Fax: 800-388-3806

SPA-V-1-98

MODEL SPA SHUTTER AIR CONTROL DAMPER

PERFORMANCE DATA

TEST SIZE 24"x24"

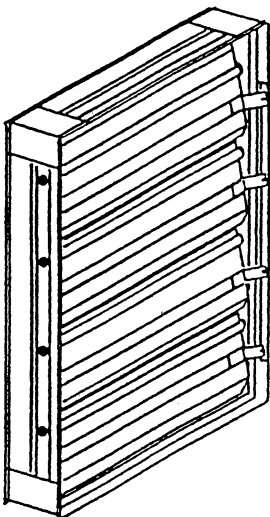
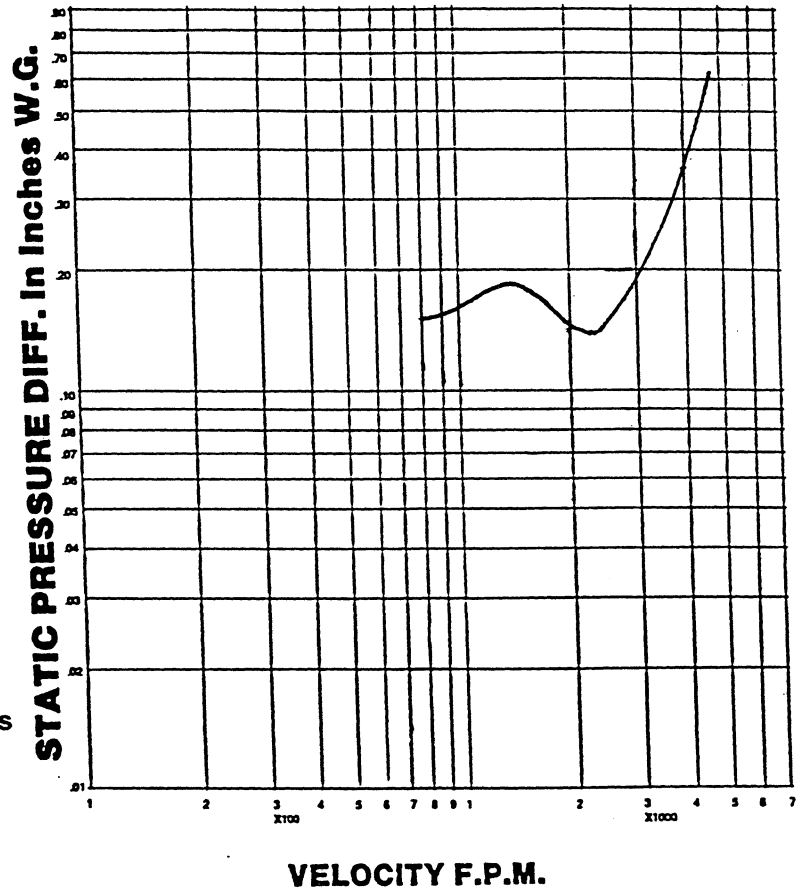
The tables have been developed through tests done by an independent testing laboratory to assist in application and selection of shutter control dampers.

Performance shown is at standard air density of .075 lb / ft . Pressure drop test are based on AMCA standard 500, using test set-up figure 5.3 for dampers installed with duct upstream and down.

Test size is 24" x 24". The velocity at which it begins to open is 34.3 fpm at .05" s.p., as tested. The velocity at which the blades are fully open is 2560 fpm. The maximum recommended velocity is as follows: 8"w to 24"w is 4000 fpm and 25" to 36" is 3400 fpm.

If the counter-balanced option is ordered, an over abundance of weights are shipped so they may be field adjusted so that the opening velocity and full open position will change thus causing the pressure drop to be less.

Pressure Drop



FREE AREA	WIDTH							
	8	12	16	20	24	28	32	36
8	.27	.45	.62	.80	.98	1.15	1.33	1.50
12	.43	.70	.98	1.26	1.54	1.82	2.09	2.37
16	.58	.96	1.34	1.72	2.10	2.48	2.86	3.24
20	.74	1.22	1.70	2.18	2.67	3.15	3.63	4.11
24	.90	1.48	2.06	2.65	3.23	3.81	4.40	4.98
28	1.05	1.74	2.42	3.11	3.79	4.48	5.16	5.85
32	1.21	1.99	2.78	3.57	4.36	5.14	5.93	6.72
36	1.36	2.25	3.14	4.03	4.92	5.81	6.70	7.59
40	1.53	2.54	3.54	4.54	5.54	6.54	7.54	8.54
48	1.85	3.05	4.25	5.46	6.66	7.87	9.07	10.27



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Free Area is calculated by subtracting blades, frame, and/or linkage from the duct area.