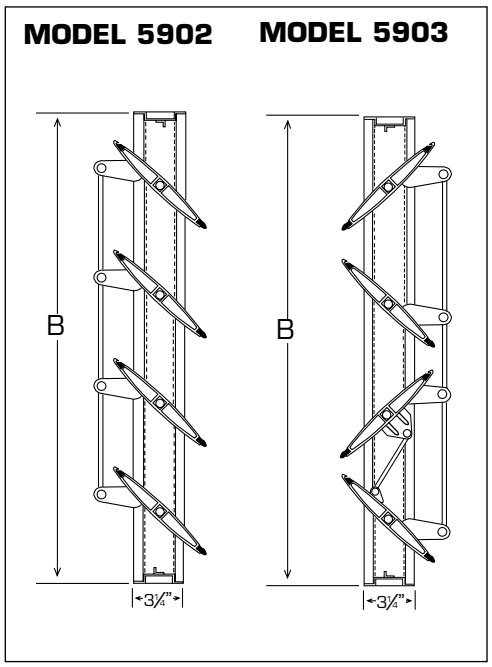
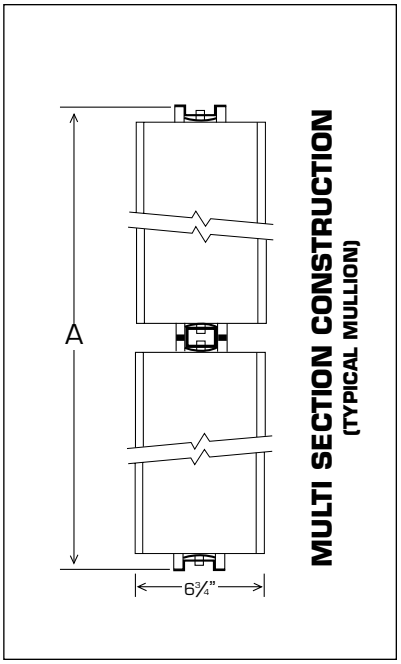
VENT PRODUCTS CO., INC.
1901 South Kilbourn Avenue Chicago, Illinois 60623
Telephone: 773/521-1900
Outside Illinois: 800/368-8368
FAX: 773/521-5613

CERTIFICATION & SUBMITTAL
MODEL 5900 AIRFOIL BLADE

Low Leakage Dampers
Parallel and Opposed Blade





STANDARD SPECIFICATIONS

- **FRAME:** 14 gauge galvanized press formed steel with welded corners.
- **BLADES:** .081 6063T5 extruded aluminum.
- **AXLES:** 1/2" x 3" long plated steel rods.
- **BEARINGS:** 1/2" diameter self-lubricating porous bronze.
- **BLADE EDGE SEALS:** Santoprene® Thermoplastic Rubber.
- **SIDE SEALS:** Spring stainless steel.
- **CONTROL ROD:** 1/2" diameter x 9" long plated steel.
- **HARDWARE:** Plated steel center brackets, brass pivots, 1/4" or 5/16" diameter plated steel rod.
- **FINISH:** Standard Mill.
- **MAXIMUM TEMPERATURE:** 250°F.
- **MAXIMUM VELOCITY:** 3000 F.P.M.
- **MAX. SINGLE SECTION:** 48" X 72".
- **MINIMUM SIZE:** Model 5901: 8" x 8"
  Model 5902: 8" x 14"
  Model 5903: 8" x 12"

OPTIONS

—11	Ball Bearings (side seals not available).
—12	Nylon Bearings (Bushings).
—13	Stainless Steel Bearings (Bushings).
—24	Right Angle Mixing Set-up, internal linkage.
—25	Right Angle Mixing Set-up, external linkage.
—26	Face & Bypass Set-up, vertical internal linkage.
—27	Face & Bypass Set-up, vertical external linkage.
—28	Face & Bypass Set-up, horizontal, internal linkage or jackshaft.
—31	Flange, 1-1/2" fastened to damper frame (opposite linkage).
—86	Aluminum Frame Construction.
—89	Sleeve.
—90	Jackshaft.
—92	Actuators.

NOTE: A & B are opening dimensions. Unless otherwise specified, dampers are made 1/4" undersize.

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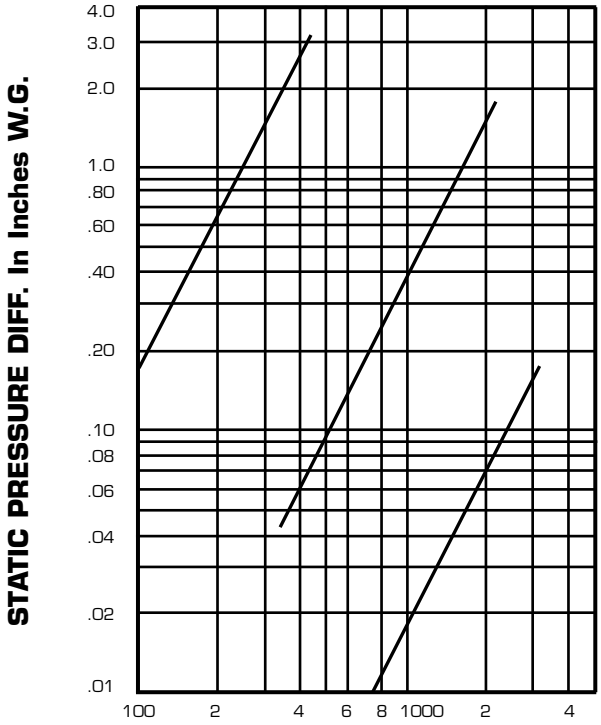
PERFORMANCE DATA
MODEL 5900
Low Leakage Airfoil Dampers

MODEL 5900 TEST SIZE 24" x 24"

A. 30° Open
B. 60° Open
C Full Open



VELOCITY F.P.M.
AIRFLOW
FIGURE 1

Example:
Determine the pressure drop for a 36"W x 24"H damper in the same size duct with 12,000 total CFM
12,000 CFM in a 36" x 24" duct is 2000 F.P.M.

$$\frac{12{,}000 \text{ CFM}}{6 \text{ sq. ft.}} = 2000 \text{ F.P.M.}$$

Figure 1 indicates that 2000 F.P.M. intersects curve C at 0.067 inches W.G.
To determine leakage at static pressure differentials greater than one (1") inch water gauge, multiply leakage at one inch from Table 1 by the correction factor found in Table 2
Example: Find leakage for a 48" W x 24" H damper at two (2") inches water gauge. From Table 1, 48 x 24 @ 1.0" S.P. = 5 CFM x 1.4 CORRECTION FACTOR = 7 CFM @ 2.0" WATER GAUGE.

B HEIGHT \ A WIDTH	12	24	36	48	60
12	1	1	1	2	2
18	2	2	3	4	4
24	3	3	4	5	6
30	4	4	5	7	7
36	5	6	7	8	8
42	6	7	8	9	9
48	7	8	9	11	11
54	8	10	10	12	13
60	9	11	11	14	15
66	10	12	14	15	17
72	11	13	15	17	18

TOTAL C.F.M. LEAKAGE
TABLE 1

Shown at one (1") inch static pressure W.G.
Max. of 5 in. lbs./ft.^{2} holding torque.

Correction Factor for Static Pressure Greater than One Inch W.G.

Install as marked and indicated				
S.P. in inches W.G.				
2	3	4	5	6
1.4	1.9	2.5	2.9	3.3

TABLE 2

Vent Products Co., Inc. recommends that dampers always be installed with the control linkage downstream, or on the air leaving side, and marks each Model 5900 damper shipped accordingly.

STANDARD NUMBER OF BLADES

*Blade Quantities shown include full and partial blades

"B" Height	11" and Under	12"–17"	18"–24"	25"–30"	31"–36"	37"–42"	43"–48"	49"–54"	55"–60"	61"–66"	66"–72"
***No. of Blades**	1	2	3	4	5	6	7	8	9	10	11