

PSD - POSITIVE SEAL DAMPER (BUBBLE-TIGHT ISOLATION)

STANDARD CONSTRUCTION

RECTANGULAR OR ROUND FRAME

Galvanized steel channel frame with flanges; see Table below for additional details.

BLADE

Galvanized steel dish blade; 18 gauge (1.2) minimum thickness.

SEAL

Neoprene blade seal

BEARINGS

Stainless steel sleeve bearing in 2-bolt cast housing with integral shaft seal packing.

FINISH

Mill

MAXIMUM DESIGN PRESSURE

Maximum 10" wg for units where the A or B dimensions (for rectangular units), and the D dimension (for round units) are no greater than 24".

Maximum 6" wg for units where the A or B dimensions (for rectangular units), and the D dimension (for round units) are greater than 24".

Prior to shipping, each unit is factory tested for leakage performance in conformance with the requirements of AMCA Standard 500-D.

MAXIMUM VELOCITY

2000 FPM (10.2 m/s) through air passage opening.

MAXIMUM TEMPERATURE

250°F (121°C).

MAXIMUM FRAME SIZE

Based on a Single Dished Blade: 42" (1067) for the A, B, or D dimensions.

Multi-Section Assemblies of Unlimited Size are Available.

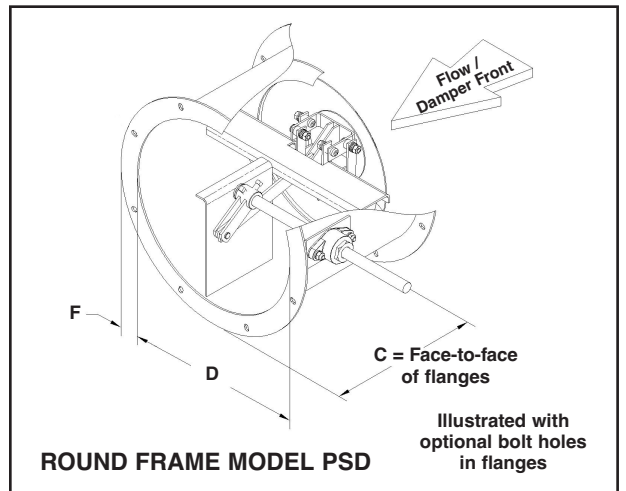
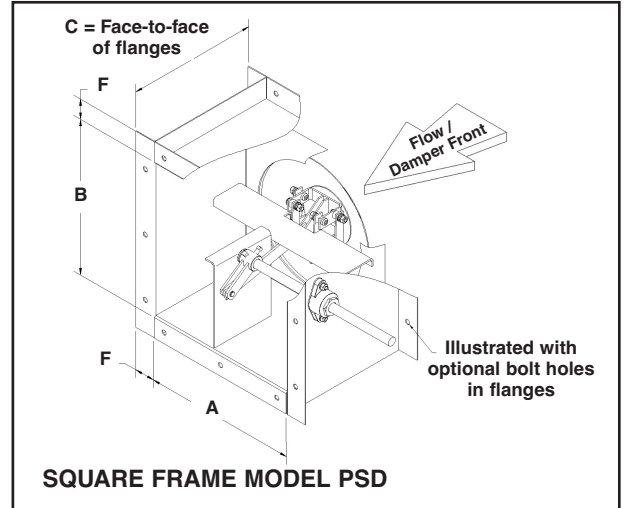
MINIMUM FRAME SIZE

4" I.D. for the A, B, or D dimension

VARIATIONS

Additional variations to those listed in table are available. Consult Ruskin for pricing.

- Epoxy Finish
- Materials of Construction.
- Electric, pneumatic, or manual actuation.
- Heavier construction.
- Non-standard flange dimensions.
- Bolt holes in flanges



NOTES:

- Units with the A, B, or D dimension less than 10" will include reducing transitions on the inlet and outlet of the damper.
- Units are designed for installations with axles running in the horizontal plane only.
- Units are designed for horizontal airflow installations. Consult Ruskin when vertical airflow applications apply.
- The PSD is designed for 2-position operation only (Open/Closed).
- The PSD is rated to AMCA 500-D Bubble Tight leakage performance criteria in 1 direction only (airflow hitting non-linkage side of the damper blade when in the closed position).

FRAME		BLADES		BLADE SEALS		AXLES		ACCESSORIES (OPT)	
GALVANIZED STEEL (STD)		GALVANIZED STEEL (STD)				PLATED STEEL EXTENDING 6" BEYOND DAMPER FRAME (STD)		BOLT HOLES IN ONE FLANGE	
304 STAINLESS STEEL (OPT)		304 STAINLESS STEEL (OPT)		NEOPRENE BLADE SEAL (STD)		304 STAINLESS STEEL (OPT)		BOLT HOLES IN BOTH FLANGES	
316 STAINLESS STEEL (OPT)		316 STAINLESS STEEL (OPT)		SILICONE BLADE SEAL (OPT)		316 STAINLESS STEEL (OPT)		WORM GEAR OPERATOR WITH HAND WHEEL OR CHAIN WHEEL	
ALUMINUM (OPT)		ALUMINUM (OPT)				ALUMINUM (OPT)		ELECTRIC ACTUATOR	
								PNEUMATIC ACTUATOR	

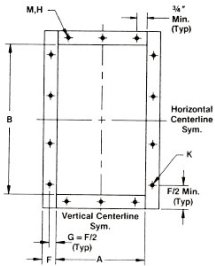
MATERIAL DESIGN CHART

SQUARE/RECTANGULAR FRAME			
Smaller of the A and B Duct Dimensions; I.D.	Frame thickness	C Dimension (Front Flange to Rear Flange)	F Dimension (Flange Height)
4" (102) to Less Than 10" (<254)	10ga (3.5)	23.5" (597)*	2" (51)
10" (254) to Less Than 24" (<610)	10ga (3.5)	12" (305)	2" (51)
24" (610) to 42" (1067)	10ga (3.5)	12" (305)	2" (51)

ROUND FRAME			
D Dimension; I.D.	Frame thickness	C Dimension (Front Flange to Rear Flange)	F Dimension (Flange Height)
4" (102) to Less Than 10" (<254)	10ga (3.5)	23.5" (597)*	1.5" (38)
10" (254) to Less Than 24" (<610)	10ga (3.5)	12" (305)	1.5" (38)
24" (610) to 42" (1067)	10ga (3.5)	12" (305)	2" (51)

BOLT HOLE PATTERN (OPT)

Square and Rectangular Dampers



F = 2" Standard (1 1/2" - 3" Optional)
 H = No. of Bolt Holes (6" Center to Center)
 K = No. of Bolt Holes (6" Center to Center)
 M = Hole Dimension (7/16" Diameter Standard)

NOTES:

① When H or K are one hole, locate hole on centerline.

② To calculate "H" & "K" on damper with standard construction (2" flanges):

$$"H" = \frac{A - 1.5}{6}$$

$$"K" = \frac{B + 2}{6}$$

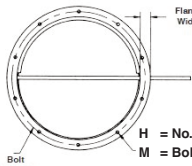
Drop any decimal and add one (1) to determine number of holes.

Standard Bolt Circle = Damper Diameter + Flange Width + 1/4"

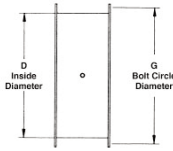
DAMPER DIA.		H NO. OF HOLES	H HOLE/SLOT DIMENSIONS	DEGREES BETWEEN HOLES
ABOVE	THROUGH			
4" & above	6"	4	3/8"	90
6"	10"	6	3/8"	60
10"	14"	8	3/8"	45
14"	20"	10	3/8" x 1/2"	36
20"	28"	12	3/8" x 1/2"	30
28"	36"	16	3/8" x 1/2"	22 1/2
36"	42"	18	9/16" x 1 1/16"	20

Bolt hole pattern data shown on this sheet for square, rectangular, and round dampers indicates standard construction. When clearly specified, Ruskin can provide nonstandard bolt hole sizes and patterns to meet your varying requirements.

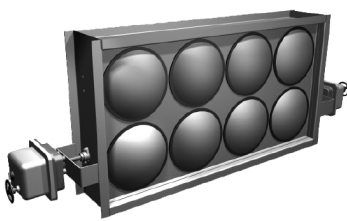
Round Dampers



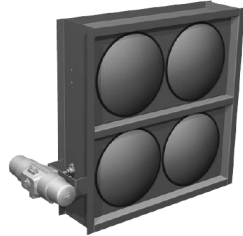
H = No. of bolt holes (even No. only)
 M = Bolt hole dimensions
 S = Bolt Holes Straddle Axle C_L (Illustrated)
 T = Bolt Holes Parallel to Axle C_L



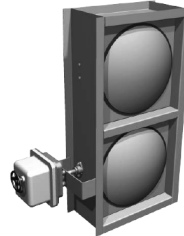
MULTI-SECTION CONFIGURATIONS



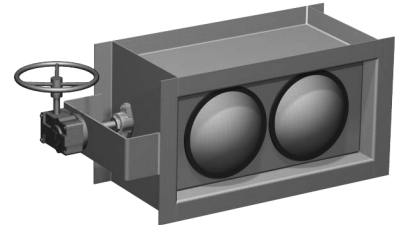
4x2 configuration operated by Electric Actuators



2x2 configuration operated by Pneumatic Actuators



1x2 configuration operated by Electric Actuators



2x1 configuration operated manually using worm gear with hand wheel

PSD SUGGESTED SPECIFICATION

Furnish and install at locations shown on plans or in accordance with schedules, bubble tight isolation dampers meeting the following specifications. The bubble tight isolation damper shall be manufactured in an ISO9001 certified factory. Dampers shall incorporate a dish-shaped circular blade mounted to internal slide-bar linkage within a welded, flanged frame. The blade shall be a minimum of 18ga (1.2) galvanized steel with the perimeter edge of the concave blade surface positively seated against the blade seal when in the closed position.

Frame shall be square/rectangular or round, as required by plans or schedules. Frame shall be constructed of minimum 14ga (2.0) gal-

vanized steel with minimum 1-1/2" (38) flanges. Frame shall be all weld design. Drive axle shall be minimum 3/4" (19) diameter and shall be supported at the frame penetration by oil impregnated stainless steel sleeve bearing in 2-bolt cast housing with integral shaft seals bolted to the exterior of the damper frame. Dampers shall be designed and factory tested to provide bubble tight leakage performance at the specified design pressure. Each damper assembly shall be factory leakage tested by the manufacturer for conformance to AMCA Standard 500-D criteria prior to shipment. Bubble tight isolation damper shall be, in all respects, equivalent to Ruskin Positive Seal Damper model PSD.



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