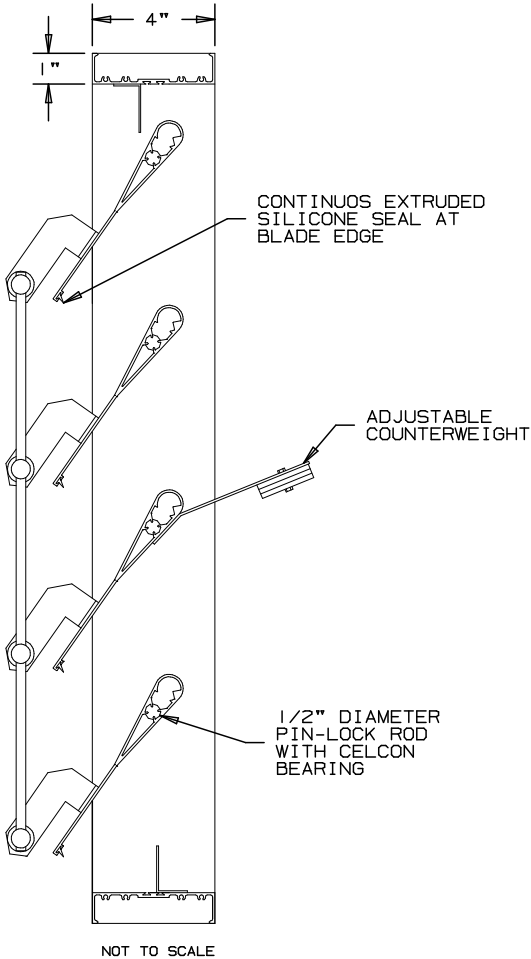


ARROW BACKDRAFT DAMPERS EXTRUDED ALUMINUM

TYPE 850

FOR HEAVY-DUTY APPLICATIONS



NOT TO SCALE

OPTIONAL

FRAMES: ALUMINUM - (CHANNEL) 1 5/8" x 6 1/2" x 1 5/8"
 2" x 4" x 2"
 (FLANGED) 2" x 4" x 5/8"
 STEEL - CHANNEL OR FLANGED
 LINKAGE: IN-JAMB, OUT OF AIR STREAM
 BEARINGS: OILITE BRONZE OR BALL BEARINGS
 JAMB SEALS: POLYURETHANE OR NEOPRENE, FOR
 INCREASED LOW LEAKAGE EFFICIENCY,
 EXTRUDED SILICONE SEALS.

DAMPERS WILL BE FABRICATED 1/4" SMALLER THAN OPENING SIZE UNLESS OTHERWISE SPECIFIED.

ADJUSTABLE COUNTERWEIGHTS AVAILABLE TO ASSIST OR RESIST OPENING AT THE FULL RANGE OF PRESSURE INCREMENTS.

ALUMINUM CONSTRUCTION (SEE OPTIONS)
 FOR HORIZONTAL OR VERTICAL OPERATION

SPECIFICATIONS

FRAME: EXTRUDED ALUMINUM, 6063-T6/T52 ALLOY, .080" THICK WITH REINFORCING BOSSES AND GROOVE INSERTS FOR SEALS. STANDARD FRAMES SIZES ARE 1" x 4" x 1" OR 2" x 4" x 2"

BLADES: EXTRUDED ALUMINUM TEARDROP, 6063-T6/T52 ALLOY, .080" THK. WITH GROOVE INSERTS AT BLADE EDGES FOR EXTRUDED SILICONE RUBBER SEALS. BLADE SPACING IS 6" ON CENTER.

AXLES: 1/2" DIAMETER EXTRUDED ALUMINUM PIN-LOCK DESIGN, POSITIVELY LOCKED TO BLADE, PLACED OFF-CENTER.

SEALS: EXTRUDED SILICONE RUBBER OFF-SET LEG AT BLADE EDGES. NONE AT JAMBS.

LINKAGE: STANDARD IS FACE LINKAGE ON THE BLADES, PLATED STEEL.

BEARINGS: CELCON BEARING MATERIAL SO THAT THERE WILL BE NO METAL-TO-METAL FRICTION.

COUNTERWEIGHTS: ADJUSTABLE FOR A FULL RANGE OF OPENING PRESSURES. OPTIONAL MOUNTING LOCATIONS. SPECIFY IF AIR FLOW IS HORIZONTAL, VERTICAL-UP, OR VERTICAL-DOWN. ALSO SPECIFY TO ASSIST OR RESIST OPENING.
 A - INTERNALLY (ON BLADES)
 B - EXTERNALLY (ON EXTENDED SHAFT)

FINISH - MILL IS STANDARD, OTHERS ARE AVAILABLE.

TEMPERATURE LIMITS: -40°F TO 190°F.

MINIMUM PANEL SIZE: 10" x 10"
 MAXIMUM PANEL SIZE: 48" x 96"

WHEN A NON-SYMETRICAL FRAME CROSS-SECTION IS SPECIFIED (I.E.: FLANGED), SPECIFY THE FLANGE/AIRFLOW ORIENTATION.

FOR PERFORMANCE DATA
 -SEE REVERSE SIDE

ITEM	QTY.	WIDTH	HEIGHT	WIDTH	HEIGHT	MULL	COUNTER BALANCE	AIR FLOW (DIRECTION)				
		OPENING SIZE		DAMPER SIZE								

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ARCH./ENG. : _____
 CONTR. : _____
 PROJECT: _____
 EDR: _____ ECN: _____ JOB: _____
 DATE: _____ DWN. : _____ DWG. : _____

ARROW MODEL 850 BACKDRAFT DAMPER PERFORMANCE DATA

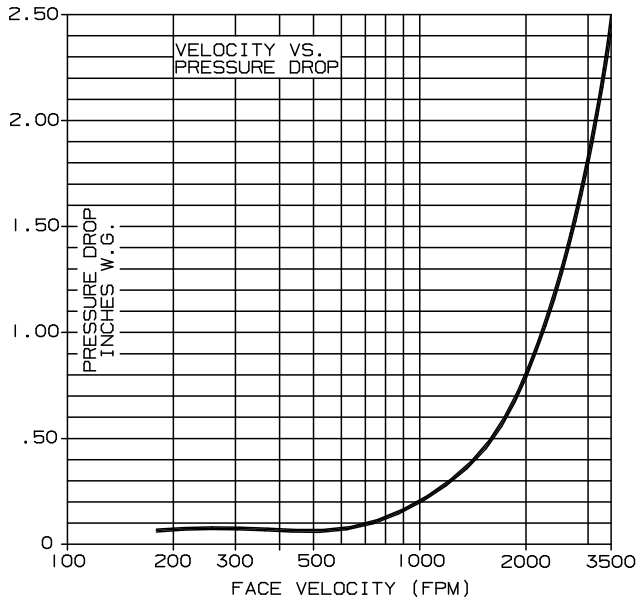
WITHOUT DUCTWORK

DAMPER INSTALLED PER AMCA 500 FIG. 5.4 (FACE MOUNTED TO A PLENUM).

PRESSURE IS CORRECTED TO .075 LB./CU.FT. AIR DENSITY.

OPERATIONAL PRESSURES

START TO OPEN - .03 INCHES W.G.
FULLY OPEN - .39 INCHES W.G.



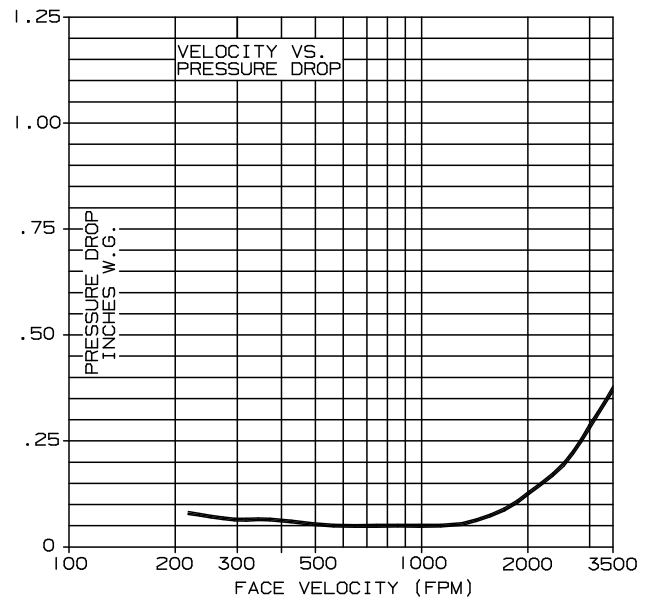
WITH DUCTWORK

DAMPER INSTALLED PER AMCA 500 FIG. 5.3 (DUCTWORK INSTALLED UPSTREAM AND DOWNSTREAM OF DAMPER).

PRESSURE IS CORRECTED TO .075 LB./CU. FT. AIR DENSITY.

OPERATIONAL PRESSURES

START TO OPEN - .05 INCHES W.G.
FULLY OPEN - .12 INCHES W.G.



TYPICAL PERFORMANCE FOR MODEL 850 BACKDRAFT DAMPER SIZE TESTED 42" x 42", FURNISHED WITH COUNTERWEIGHT TO ASSIST OPENING.

AIR LEAKAGE

AIR LEAKAGE QUANTITIES SHOWN IN THE CHART ARE RESULTS OF TESTS PER AMCA STANDARD 500 AND ARE SHOWN AT 1" W.G. DIFFERENTIAL PRESSURE AND CORRECTED TO .075 LB./CU.FT. AIR DENSITY.

TOTAL CFM AIR LEAKAGE AT ONE INCH STATIC PRESSURE DIFFERENTIAL THROUGH CLOSED DAMPER.

		DAMPER WIDTH (INCHES)						
		12"	18"	24"	30"	36"	42"	48"
DAMPER HEIGHT (INCHES)	12"	8	12	16	20	24	28	32
	24"	16	24	32	40	48	56	64
	36"	24	36	48	60	72	84	96
	48"	32	48	64	80	96	112	128
	60"	40	60	80	100	120	140	160
	72"	48	72	96	120	144	168	192
	84"	56	84	112	140	168	196	224
96"	64	96	128	160	192	224	256	

FOR DETERMINING LEAKAGE VALUES GREATER THAN 1" W.G. TO A MAXIMUM 8" W.G. USE THE MULTIPLIER CORRECTION CHART BELOW.

STATIC PRESSURE	2	3	4	5	*6	7	8
MULTIPLIER CORRECTION FACTOR	1.5	2.0	1.7	2.9	3.2	3.5	3.8

* MAXIMUM PANEL SIZE LIMIT 48" x 96" FOR STATIC PRESSURE LIMITS GREATER THAN 6" W.G. TO 8" W.G. DIFFERENTIAL MAXIMUM PANEL SIZE LIMIT 36" x 96".

AIR LEAKAGE RATINGS ARE BASED ON AMCA STANDARD 500 USING TEST SET UP FIG. 5.4 WITH DAMPER IN THE CLOSED POSITION WITHOUT THE AID OF A COUNTERWEIGHT OR OTHER MECHANICAL MEANS TO PROVIDE CLOSING TORQUE, FOR A SIZE 42" x 42" DAMPER WITH BLADE & JAMB SEALS.