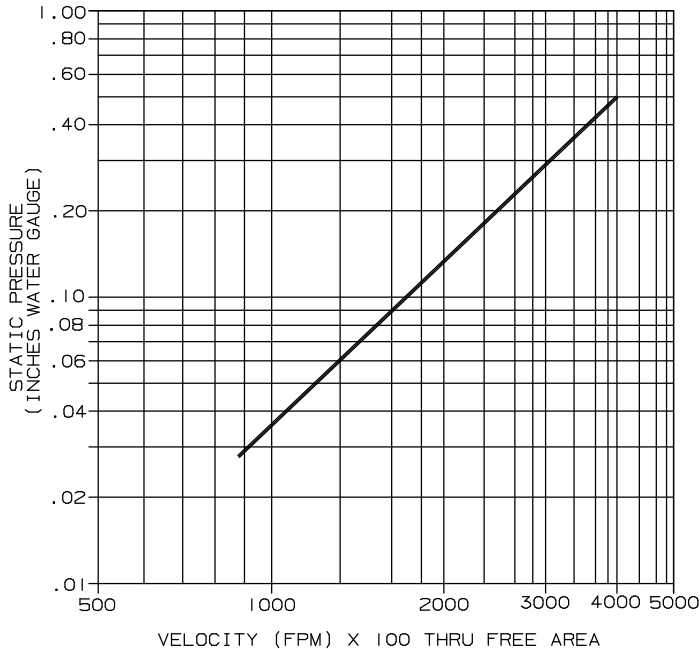




# ARROW MODEL 300 INDUSTRIAL DAMPER PERFORMANCE DATA

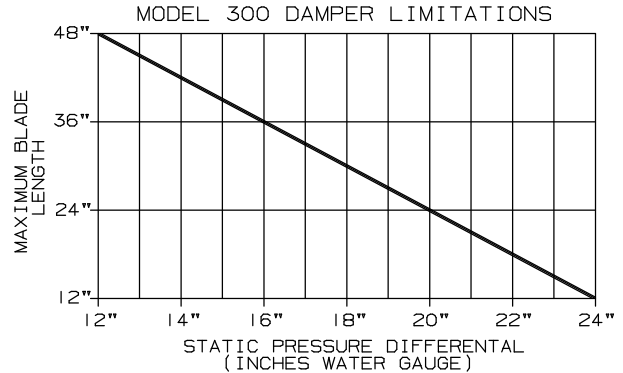
ARROW MODEL 300  
42" x 42" I.D.

PRESSURE DROP vs. DUCT VELOCITY



VELOCITY (FPM) X 100 THRU FREE AREA  
MAXIMUM SYSTEM VELOCITY 4000 FPM  
PRESSURE DROP CURVES LISTED ARE BASED ON  
AMCA STANDARD 500. USING TEST SET-UP  
FIGURE 5.3 FOR DAMPER INSTALLED WITH DUCT  
UPSTREAM AND DOWNSTREAM. STATIC PRESSURES  
ARE CORRECTED TO .075 LB./CU.FT. AIR DENSITY.

TO ENSURE PROPER DAMPER OPERATION AND AIR LEAKAGE PERFORMANCE FOR THIS DAMPER DESIGN, THE STATIC PRESSURE/BLADE LENGTH LIMITS SHOWN PROVIDE THE USER WITH THIS INFORMATION AND IN ADDITION PROVIDES A RELATIONSHIP BETWEEN DAMPER COST AND THE APPLICATION.



THE MODEL 300 DESIGN AT A LENGTH OF 48" HAS A MAXIMUM ALLOWABLE BLADE DEFLECTION OF L/360 FOR THE STATIC PRESSURE INDICATED ON THE CHART. AT REDUCED BLADE LENGTHS HIGHER STATIC PRESSURE LIMITS CAN BE ATTAINED WITHOUT SACRIFICING DAMPER OPERATING AND PERFORMANCE CHARACTERISTICS.

## AIR LEAKAGE (TOTAL C.F.M.)

		DAMPER WIDTH (INCHES) I.D.						
		12"	18"	24"	30"	36"	42"	48"
DAMPER HEIGHT (INCHES) I.D.	12"	4	6	8	10	12	14	16
	24"	8	12	16	20	24	28	32
	36"	12	18	24	30	36	42	48
	48"	16	24	32	40	48	56	64
	60"	20	30	40	50	60	70	80
	72"	24	36	48	60	72	84	96
	84"	28	42	56	70	84	98	112
	96"	32	48	64	80	96	112	128

SHADED AREA - DAMPER HEIGHT CAN INCREASE TO 96" WHEN FURNISHED WITH CHANNEL FRAME

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.

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

STATIC PRESSURE (IN)	2	3	4	5	6	7	8	9	10	11	12
MULTIPLIER CORRECTION FACTOR	1.5	2.0	2.5	2.8	3.1	3.4	3.8	4.4	5.0	5.6	6.3

AIR LEAKAGE RATINGS ARE BASED ON AMCA STANDARD 500 USING TEST SET UP FIG. 5.4 WITH A DAMPER CLOSING TORQUE APPLIED TO THE DAMPER OF 15 IN. LBS./SQ. FT. OF DAMPER FACE AREA FOR A 48"x72", WITH A MINIMUM OF 25 IN. LBS./SQ. FT. OF DAMPER AREA FOR A SIZE 48"x9 1/2".

DAMPER AIR LEAKAGE SHOWN IS BASED UPON DAMPERS FURNISHED WITH BLADE AND JAMB SEALS. RESULTS PUBLISHED ARE FOR THE ARROW MODEL 300 INDUSTRIAL DAMPER FOR AN ENTIRE RANGE OF DAMPER SIZES.