NECK SIZE		# 2 x 2 Holes			Core Velocity	200			300			400			500			600			700			800			900			1000			1100		
Width	Height	# W	# H	Total	P_T	.01			.02			.03			.04			.06			.08			.11			.14			.17			.20		
6	6	2	2	4	CFM	20			30			40			60			70			80			90			100			110			120		
					NC	<15			<15			<15			<15			18			22			26			29			32			34		
					THROW	2	4	9	4	7	12	6	9	14	9	12	17	10	13	18	11	14	19	12	14	20	12	15	21	13	16	22	14	17	23
8	6	3	2	6	CFM	30			50			70			80			100			120			130			150			170			180		
					NC	<15			<15			<15			15			20			24			27			30			33			36		
					THROW	2	5	11	6	9	15	9	13	18	10	14	19	12	15	21	14	17	23	14	17	24	15	18	26	16	20	28	17	20	29
8	8	3	3	9	CFM	50			80			100			130			150			180			200			230			250			280		
					NC	<15			<15			<15			17			22			26			29			32			35			38		
					THROW	3	8	15	8	12	19	10	15	21	13	17	24	15	18	26	17	20	29	17	21	30	19	23	32	19	24	34	21	25	36
12	8	4	3	12	CFM	70			100			130			170			200			230			270			300			330			370		
					NC	<15			<15			<15			18			23			27			30			33			36			39		
					THROW	4	9	18	9	13	21	11	17	24	15	20	28	17	21	30	19	23	32	20	25	35	21	26	37	22	27	39	24	29	41
12	12	4	4	16	CFM	90			130			180			220			270			310			360			400			440			490		
					NC	<15			<15			<15			19			24			28			32			35			38			40		
					THROW	5	10	20	10	15	24	14	20	29	17	22	32	20	25	35	22	27	38	23	29	41	25	30	43	26	32	45	27	33	47
16	8	6	3	18	CFM	100			150			200			250			300			350			400			450			500			550		
					NC	<15			<15			<15			20			25			29			32			35			38			41		
					THROW	5	11	21	11	16	26	14	21	30	18	24	34	21	26	37	23	28	40	25	30	43	26	32	45	28	34	48	29	35	50
16	12	6	4	24	CFM	130			200			270			330			400			470			530			600			670			730		
					NC	<15			<15			15			21			26			30			33			37			39			42		
					THROW	5	12	24	12	18	30	17	25	35	20	27	39	24	30	43	27	33	46	28	35	49	30	37	52	32	39	55	33	41	58
16	14	6	5	30	CFM	170			250			330			420			500			580			670			750			830			920		
					NC	<15			<15			16			22			27			31			34			37			40			43		
					THROW	7	14	28	14	21	34	18	27	39	23	31	44	27	34	48	30	36	51	32	39	55	34	41	58	36	44	62	37	46	65
18	18	7	7	49	CFM	270			410			540			680			820			950			1090			1230			1360			1500		
					NC	<15			<15			18			24			29			33			36			40			42			45		
					THROW	8	17	35	18	26	43	23	35	50	29	39	56	35	43	61	38	47	66	41	50	71	43	53	75	45	56	79	48	58	83
24	24	9	9	81	CFM	450			680			900			1130			1350			1580			1800			2030			2250			2480		
					NC	<15			<15			20			26			31			35			39			42			45			47		
					THROW	10	23	45	23	34	56	30	45	64	38	51	72	45	55	78	49	60	85	52	64	91	56	68	96	58	72	101	61	75	106

Test Standard
- ANSI / ASHRAE Standard 70

Sound Levels
- NC is noise criteria curve that will not be exceeded at the operating point. This is determined by assuming a 10dB (ref: 10^{-12} watts) room attenuation that is subtracted from the power levels in each of the 2nd thru 7th octave bands.

- When a Model OB opposed blade damper is used, see next page (ACCY-P-0001) for NC and pressure adjustments.

Throw
- The numbers shown are throw distances, in feet, measured along the jet trajectory axis relating to terminal velocities of 150, 100, & 50 fpm, with the jet attached to a surface.

- Terminal velocity is the air speed, in feet per minute, measured in the supply air stream.

- Core Velocity: Feet per minute, FPM (CFM/gross area of square holes)

Pressure
- P_T is the Total Pressure, inches of water, measured in the supply duct

For Return Use
- Adjust the above supply data by adding +1 NC and use the P_T listed as the -Ps

Closing the damper of a register accomplishes two objectives:

- It restricts the flow of air through the register or diffuser thereby ***increasing the static pressure drop*** and decreasing the airflow (CFM).
- The damper also generates sound – it ***increases the NC level***.

As a general rule, adding an opposed blade damper to a supply or return grille or diffuser with the damper blades set to 100% open will increase the NC by appoximately 3-4 NC and increase in the static pressure (Ps) by about 20%. Because the purpose of using a damper is to balance the airflow to the design CFM required for the outlet, the damper blades will typically be rotated to some position less than 100% open.

For example, a damper closed sufficiently to double the pressure loss of a register (Pressure Ratio of 2) causes an NC increase of about 7db (see Graph 1 below) . As a rule of thumb (and for general reference only), it can be assumed that closing an opposed blade damper to an effective opening ratio of 70% doubles the pressure loss of the open damper/outlet combination. Closing the damper to an effective opening ratio of 50% percent increases the pressure loss to 4 times the open damper/outlet loss.)

Graph 1: THROTTLED OB DAMPER FACTORS