NECK SIZE		Nom Duct Area, Ft^2	Core Velocity	300			400			500			600			700			800			900			1000			1100			1200		
Width	Height		P_T	.02			.03			.05			.07			.09			.12			.15			.18			.22			.26		
6	6	.25	CFM	30			40			60			70			80			90			100			110			120			130		
			NC	<15			<15			<15			<15			16			20			23			26			29			31		
			THROW	5	8	12	7	10	14	10	12	17	10	13	18	11	14	19	12	14	20	12	15	21	13	16	23	14	17	24	14	17	25
8	6	.33	CFM	50			70			80			100			120			130			150			170			180			200		
			NC	<15			<15			<15			<15			18			22			25			28			30			33		
			THROW	7	11	15	10	13	18	11	14	19	12	15	21	14	17	24	14	17	25	15	19	26	16	20	28	17	20	29	18	21	30
8	8	.44	CFM	80			100			130			150			180			200			230			250			280			300		
			NC	<15			<15			<15			15			20			23			27			29			32			35		
			THROW	10	14	19	12	15	21	14	17	25	15	19	26	17	20	29	18	21	30	19	23	33	20	24	34	21	25	36	21	26	37
12	6	.50	CFM	80			110			140			170			190			220			250			280			310			330		
			NC	<15			<15			<15			16			20			24			27			30			33			35		
			THROW	9	14	19	12	16	23	15	18	25	16	20	28	17	21	30	18	23	32	20	24	34	21	25	36	22	27	38	23	28	39
12	8	.67	CFM	130			170			210			250			290			330			380			420			460			500		
			NC	<15			<15			<15			17			22			25			29			32			34			37		
			THROW	12	17	25	16	20	28	18	22	31	20	24	34	21	26	37	23	28	39	24	30	42	25	31	44	27	33	46	28	34	48
12	10	.83	CFM	170			220			280			330			390			440			500			560			610			670		
			NC	<15			<15			<15			19			23			27			30			33			36			38		
			THROW	14	20	28	18	23	32	21	25	36	23	28	39	25	30	42	26	32	45	28	34	48	29	36	51	31	38	53	32	39	56
12	12	1.00	CFM	210			280			350			420			490			560			630			690			760			830		
			NC	<15			<15			15			20			24			28			31			34			37			39		
			THROW	15	22	31	20	25	36	23	28	40	25	31	44	27	34	48	29	36	51	31	38	54	33	40	56	34	42	59	36	44	62
14	12	1.17	CFM	250			330			420			500			580			670			750			830			920			1000		
			NC	<15			<15			15			21			25			29			32			35			37			40		
			THROW	16	24	34	22	28	39	25	31	44	28	34	48	30	37	52	32	39	56	34	42	59	36	44	62	38	46	65	39	48	68
14	14	1.36	CFM	300			400			500			600			700			800			900			1000			1100			1200		
			NC	<15			<15			16			21			26			29			33			36			38			41		
			THROW	18	26	37	24	30	43	28	34	48	30	37	53	33	40	57	35	43	61	37	46	64	39	48	68	41	50	71	43	53	74
16	16	1.78	CFM	410			540			680			820			950			1090			1230			1360			1500			1630		
			NC	<15			<15			18			23			27			31			34			37			40			42		
			THROW	21	31	44	28	35	50	32	40	56	36	44	62	38	47	66	41	50	71	44	53	75	46	56	79	48	59	83	50	61	87
22	22	3.36	CFM	830			1110			1390			1670			1940			2220			2500			2780			3060			3330		
			NC	<15			<15			21			26			30			34			37			40			43			45		
			THROW	30	44	62	40	51	72	46	57	80	51	62	88	55	67	95	58	72	101	62	76	107	65	80	113	69	84	119	72	88	124
24	24	4.00	CFM	1010			1340			1680			2020			2350			2690			3030			3360			3700			4030		
			NC	<15			15			21			27			31			35			38			41			43			46		
			THROW	33	48	68	44	56	79	51	62	88	56	68	97	60	74	104	64	79	111	68	84	118	72	88	125	75	92	131	79	96	136

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.

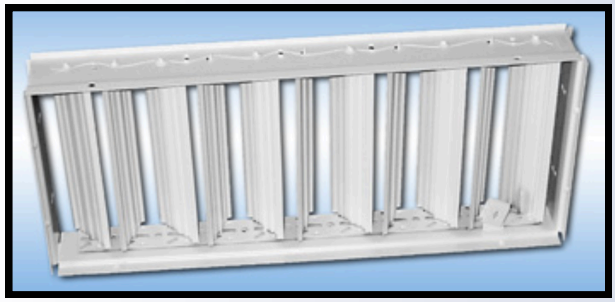
- Core Velocity: Feet per minute, FPM (CFM/gross area of mesh face)

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 $-P_S$

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