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**ENGINEERING SUPPLEMENT**  
**ES-225**  
**June 2007**

**PLENUM FANS WITH ACOUSTAFOIL-q WHEELS**  
**Air Performance and Sound Ratings**

The New York Blower Company has combined the time tested air performance efficiency of the AcoustaFoil wheel with state-of-the-art acoustical research to offer a Plenum Fan with superior performance and quiet operation. The New York Blower Plenum Fan with AcoustaFoil-q wheel is ideal for sound sensitive air handling applications.



**AMCA SEAL**

The New York Blower Company certifies that the Plenum Fans with AcoustaFoil-q wheels shown herein are licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publications 211 and 311 and comply with requirements of the AMCA Certified Ratings Program.

**AIR PERFORMANCE**

The following tables provide air performance data for Plenum Fans with AcoustaFoil-q wheels. For a given fan size, and required CFM and static pressure, these capacity tables can be used to obtain fan RPM and BHP. If capacities are at conditions other than 70°F., sea level, or standard density (.075 lb./cu.ft.), correction factors must be applied to static pressure and BHP. See the Plenum Fan bulletin for these factors.

<b>SIZE 183</b>		<b>Wheel Diameter: 18 1/4"</b>										Class I	= 2305 RPM											
CFM	OV	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		10" SP		12" SP		Class II	= 3005 RPM	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	Class III
3500	1316	1459	1.10	1686	1.91	1897	2.79	2076	3.69															
4000	1504	1599	1.39	1809	2.27	2003	3.24	2181	4.24	2341	5.29													
4500	1692	1740	1.72	1942	2.70	2119	3.75	2283	4.81	2445	5.97	2590	7.15											
5000	1880	1883	2.11	2080	3.19	2241	4.29	2395	5.45	2548	6.69	2690	7.95	2821	9.23	2944	10.5							
5500	2068	2029	2.56	2218	3.74	2375	4.94	2520	6.20	2662	7.52	2798	8.85	2928	10.2	3050	11.6							
6000	2256	2177	3.09	2358	4.36	2512	5.66	2650	7.00	2778	8.35	2907	9.79	3036	11.3	3151	12.7	3378	15.8					
6500	2444	2327	3.69	2501	5.07	2649	6.45	2784	7.89	2909	9.37	3028	10.9	3146	12.4	3262	14.0	3483	17.2	3688	20.6			
7000	2632	2479	4.38	2644	5.86	2791	7.35	2919	8.85	3040	10.4	3151	12.0	3265	13.6	3374	15.3	3584	18.6					
7500	2820	2632	5.15	2788	6.73	2930	8.31	3060	9.94	3173	11.5	3286	13.3	3390	14.9	3490	16.6	3695	20.2					
8000	3008	2785	6.01	2934	7.69	3074	9.40	3197	11.1	3312	12.8	3421	14.6	3522	16.4	3618	18.2							
8500	3195	2941	6.99	3082	8.75	3215	10.6	3340	12.4	3453	14.2	3554	16.0	3656	17.9	3749	19.8							

<b>SIZE 203</b>		<b>Wheel Diameter: 20 1/8"</b>										Class I	= 2125 RPM											
CFM	OV	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		10" SP		12" SP		Class II	= 2780 RPM	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	Class III
4500	1438	1424	1.45	1603	2.40	1760	3.39	1915	4.47	2053	5.57	2193	6.75											
5000	1597	1536	1.75	1712	2.79	1857	3.87	1997	5.00	2133	6.19	2259	7.42	2387	8.74	2522	10.2							
5500	1757	1649	2.10	1822	3.23	1960	4.39	2089	5.59	2220	6.89	2340	8.16	2454	9.49	2573	11.0	2816	14.1					
6000	1917	1763	2.49	1934	3.73	2071	5.00	2189	6.26	2307	7.58	2427	9.01	2536	10.4	2649	11.9	2854	14.9	3075	18.3			
6500	2077	1878	2.94	2047	4.29	2181	5.64	2294	6.97	2405	8.39	2516	9.87	2627	11.4	2729	12.9	2922	16.0	3120	19.5			
7000	2236	1996	3.44	2158	4.89	2292	6.34	2404	7.78	2509	9.26	2612	10.8	2714	12.4	2817	14.1	3009	17.4	3182	20.7			
7500	2396	2113	4.00	2270	5.55	2404	7.11	2515	8.64	2618	10.2	2715	11.9	2809	13.5	2903	15.2	3093	18.7	3265	22.3			
8000	2556	2234	4.64	2384	6.29	2513	7.92	2628	9.59	2725	11.2	2820	12.9	2911	14.7	2998	16.4	3174	20.0	3345	23.8			
8500	2716	2353	5.33	2495	7.06	2624	8.81	2737	10.6	2838	12.3	2932	14.2	3016	15.9	3100	17.8	3266	21.5	3429	25.4			
9000	2875	2475	6.11	2612	7.96	2737	9.80	2849	11.7	2948	13.5	3040	15.4	3123	17.3	3206	19.2	3366	23.2					
9500	3035	2597	6.97	2728	8.90	2850	10.9	2963	12.9	3061	14.8	3152	16.8	3233	18.7	3313	20.7	3464	24.8					

Performance shown is for installation Type A: Free inlet, Free outlet. Power rating (BHP) does not include drive losses.  
Performance ratings do not include the effects of appurtenances in the airstream.





<b>SIZE 493</b>				<b>Wheel diameter: 49"</b>								Class I = 850 RPM		Class II = 1105 RPM		Class III = 1395 RPM					
CFM	OV	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		10" SP		12" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
32000	1749	605	10.5	674	16.5	738	23.0	797	29.9	849	36.7	901	44.0	947	51.0	995	58.5				
36000	1967	664	13.3	727	19.9	785	26.9	840	34.2	893	42.1	941	49.7	987	57.8	1029	65.7	1111	81.7		
40000	2186	723	16.5	782	23.8	837	31.4	888	39.2	936	47.3	984	56.1	1029	64.9	1070	73.4	1147	90.9	1221	109
44000	2404	784	20.4	838	28.2	889	36.3	938	44.9	984	53.6	1026	62.4	1071	72.0	1113	81.7	1191	101	1258	120
46000	2514	815	22.5	866	30.7	916	39.2	964	48.0	1007	56.9	1050	66.1	1091	75.6	1133	85.7	1210	106	1279	126
48000	2623	846	24.9	895	33.3	943	42.1	989	51.1	1033	60.5	1076	70.3	1114	79.6	1155	90.1	1231	111	1300	132
50000	2732	877	27.4	925	36.2	972	45.3	1016	54.6	1058	64.0	1100	74.3	1139	84.1	1177	94.5	1252	116	1323	138
52000	2842	908	30.0	955	39.2	1000	48.6	1042	58.1	1084	68.0	1124	78.3	1163	88.6	1201	99.4	1272	121	1342	144
56000	3060	971	36.0	1015	45.8	1057	55.9	1097	66.0	1138	76.6	1176	87.4	1211	97.9	1249	110	1317	132	1385	157
60000	3279	1034	42.8	1075	53.2	1115	63.8	1153	74.5	1191	85.8	1227	97.0	1263	109	1298	121	1365	145		
64000	3497	1098	50.5	1136	61.4	1173	72.6	1210	84.1	1246	95.7	1282	108	1316	120	1348	132				

<b>SIZE 543</b>				<b>Wheel diameter: 54 1/4"</b>								Class I = 750 RPM		Class II = 975 RPM		Class III = 1230 RPM					
CFM	OV	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		10" SP		12" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
34000	1525	493	10.0	561	16.5	622	23.6	680	31.3	727	38.5	777	46.4								
38000	1704	534	12.2	597	19.3	655	27.0	709	35.2	760	43.8	803	51.8	848	60.7	892	69.4				
42000	1883	576	14.7	636	22.5	690	30.8	742	39.7	789	48.6	835	58.1	876	67.3	915	76.6	998	96.7		
46000	2063	620	17.7	675	26.1	727	34.9	774	44.0	820	53.7	865	63.9	907	74.3	945	84.4	1015	104	1092	127
50000	2242	664	21.1	716	30.2	764	39.5	811	49.5	855	59.8	897	70.4	935	80.8	975	92.2	1045	114	1109	136
54000	2422	709	25.1	758	34.7	804	44.8	848	55.1	889	66.0	929	76.9	967	88.2	1005	100	1074	124	1139	148
58000	2601	755	29.5	800	39.7	844	50.5	886	61.6	924	72.4	963	84.3	1001	96.5	1037	109	1107	134	1170	160
62000	2780	800	34.4	843	45.4	885	56.6	925	68.4	963	80.1	999	92.0	1034	104	1069	117	1137	145	1199	171
66000	2960	846	40.1	887	51.5	926	63.5	965	75.9	1002	88.3	1037	101	1071	114	1104	127	1169	155	1230	184
70000	3139	893	46.3	931	58.5	969	71.1	1005	83.9	1040	96.8	1075	110	1109	124	1138	137	1200	166		
74000	3318	939	53.2	976	66.0	1012	79.1	1047	92.7	1080	106	1113	120	1146	135	1176	149				

<b>SIZE 603</b>				<b>Wheel diameter: 60"</b>								Class I = 675 RPM		Class II = 880 RPM		Class III = 1110 RPM					
CFM	OV	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		10" SP		12" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
45000	1654	471	14.0	530	22.6	583	31.8	633	41.7	678	51.5	719	61.6	759	71.6						
50000	1838	510	17.1	565	26.5	614	36.1	661	46.7	706	57.9	747	68.8	784	80.0	821	91.2				
55000	2022	550	20.7	602	30.8	648	41.3	692	52.4	734	64.2	776	76.6	812	88.5	847	101	911	125		
60000	2206	591	24.8	639	35.7	683	47.0	726	59.0	764	70.9	802	83.7	840	97.1	874	110	939	137	997	163
65000	2390	632	29.5	677	41.2	719	53.4	759	65.8	797	78.9	833	92.2	868	106	903	121	967	149	1023	177
70000	2574	674	34.9	716	47.5	756	60.3	794	73.4	830	87.2	864	101	898	116	931	130	995	162	1050	192
75000	2757	716	41.1	755	54.2	793	67.8	830	82.1	865	96.7	897	111	929	126	962	142	1022	174	1079	207
80000	2941	759	47.9	796	61.8	832	76.4	867	91.1	900	106	932	122	963	138	993	154	1053	188	1109	223
85000	3125	802	55.6	837	70.4	871	85.6	904	101	936	117	968	134	998	150	1025	166	1082	201		
90000	3309	845	64.1	878	79.7	911	95.7	942	112	973	128	1003	146	1031	163	1061	181				
95000	3493	888	73.7	920	90.0	951	107	981	124	1011	141	1039	159	1068	177	1095	196				

<b>SIZE 663</b>				<b>Wheel diameter: 66"</b>								Class I = 615 RPM		Class II = 800 RPM		Class III = 1010 RPM					
CFM	OV	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		10" SP		12" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
55000	1672	432	17.3	485	27.7	533	39.0	579	51.1	619	63.2	655	75.0	691	87.2	733	102				
60000	1824	461	20.4	511	31.5	557	43.5	600	56.3	640	69.3	677	82.6	709	95.1	742	109				
65000	1976	491	23.9	538	35.7	582	48.4	622	61.6	661	75.5	697	89.5	732	105	762	118	824	148		
70000	2128	521	27.7	566	40.5	608	54.0	647	68.0	684	82.5	719	97.6	752	113	783	128	841	159	901	192
75000	2280	552	32.1	594	45.7	634	59.8	672	74.6	707	89.7	740	105	774	122	805	138	864	172	917	205
80000	2432	583	37.2	623	51.5	661	66.1	697	81.6	730	97.2	763	114	795	131	828	149	883	183	937	220
85000	2584	615	42.6	652	57.7	689	73.4	724	89.5	756	106	787	123	819	141	849	159	906	197	956	233
90000	2736	646	48.7	683	64.7	717	81.1	751	98.0	782	115	812	133	842	151	872	170	928	210	980	250
95000	2888	678	55.4	712	72.0	746	89.5	778	107	809	125	838	143	866	162	895	182	948	222	1000	264
100000	3040	711	62.8	743	80.1	776	98.5	806	117	835	135	865	155	893	175	918	194	970	235		
105000	3191	743	70.8	774	89.1	805	108	834	127	863	147	891	167	917	186	944	208	994	250		

Performance shown is for installation Type A: Free inlet, Free outlet. Power rating (BHP) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream.

## SOUND RATINGS PLENUM FANS WITH ACOUSTAFoil-q WHEELS

The sound ratings shown are fan sound power levels (reference 10<sup>-12</sup> watts) by octave bands at various speeds at the peak efficiency point of operation. They are the results of laboratory tests based on reverberant room techniques as described in AMCA Bulletin 300 and processed by the procedures shown in AMCA Bulletin 301. The ratings include both inlet and outlet sound and the effect of end reflection. For a known installation the ratings can be used to estimate either sound pressure levels by octave band at a particular location, or dBA. . . consult your **nyb** representative.

### DETERMINING SOUND POWER LEVEL RATINGS

PROCEDURE	STEPS	Example
		Determine Outlet Sound Power Levels from a Size 493 Plenum Fan operating at 50,000 CFM at 2" SP, 925 RPM, 36.2 BHP, 2732 FPM OV.
Select the Outlet Sound Power Level from Chart II at the speed nearest the fan's operating speed.	<b>1</b>	From Chart II , list the Outlet Sound Power for the eight octave bands for a Size 493 Plenum Fan at 928 RPM. See Line 1 below.
Determine the VP/SP ratio by dividing the velocity pressure at the fan outlet by the static pressure (See Chart I for velocity pressure).	<b>2</b>	Determine the VP/SP ratio of the fan, 2731 FPM OV is equivalent to .466" VP (See Chart I): VP/SP = .466/2 = .233.
Select the BP/SP correction factors from Chart III and add them algebraically to the fan's Outlet Sound Power Level obtained in Step 1. The result is the Total Corrected Outlet Sound Power Level for the fan at the selected condition.	<b>3</b>	From Chart III, list the appropriate VP/SP correction factors and add them to the ratings in Line 1. See Lines 2 and 3 below.

Line	Octave Band	1	2	3	4	5	6	7	8
	Center Frequency in HZ	63	125	250	500	1000	2000	4000	8000
1	Fan Sound Power Level	94	101	104	100	98	96	93	84
2	VP/SP Correction Factor	4	4	4	4	2	1	-1	0
3	Total Corrected Sound Power	98	105	108	104	100	97	92	84

### CHART I VELOCITY PRESSURE (VP)

Velocity Pressure (VP) in Inches of Water for Standard Air at .075 lbs./cu.ft.				$VP = \left( \frac{\text{Velocity, FPM}}{4005} \right)^2$	
Velocity (FPM)	VP	Velocity (FPM)	VP	Velocity (FPM)	VP
800	.040	2200	0.302	4000	1.00
900	.051	2400	0.359	4200	1.10
1000	.062	2600	0.422	4400	1.21
1100	.075	2800	0.489	4600	1.32
1200	.090	3000	0.561	4800	1.44
1400	.122	3200	0.638	5000	1.56
1600	.160	3400	0.721	5200	1.69
1800	.202	3600	0.808	5400	1.82
2000	.249	3800	0.900	5600	1.96

**CHART II - SOUND POWER LEVELS FOR PLENUM FANS WITH ACOUSTAFOIL-q WHEELS**

Size	RPM	Outlet Octave Bands								Inlet Octave Bands							
		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
<b>183</b>	1300	74	77	79	76	75	75	69	57	77	78	82	74	69	67	65	64
	1500	78	78	83	80	79	78	76	64	83	77	86	81	72	71	69	68
	1700	80	80	86	82	81	80	79	67	86	80	89	84	74	74	71	70
	1900	83	82	88	86	84	83	83	73	90	82	90	89	79	77	74	73
	2100	85	84	90	88	86	85	85	75	92	85	92	91	81	79	77	75
	2300	87	86	89	91	88	87	87	81	94	90	90	94	87	81	80	77
	2500	89	88	91	93	90	89	89	83	96	91	92	96	88	83	81	79
	2700	90	90	93	94	92	91	90	85	97	93	94	97	90	84	83	81
	2900	92	92	92	97	94	93	92	90	99	98	92	100	95	86	86	83
	3100	93	93	93	99	95	94	93	92	100	99	93	102	97	87	87	84
	3300	95	95	95	100	97	96	95	93	102	100	94	103	98	89	88	86
3500	96	96	96	101	98	97	96	94	103	102	96	104	99	90	90	87	
3700	97	97	96	102	100	98	97	97	104	104	97	104	103	93	91	89	
<b>203</b>	1300	74	79	84	81	79	80	74	63	75	79	81	75	73	76	73	66
	1500	77	78	88	85	82	83	81	70	77	80	85	81	75	79	79	72
	1700	80	80	91	88	85	85	84	73	80	82	88	83	78	82	81	74
	1900	83	81	91	91	88	88	88	79	82	83	90	88	81	83	85	79
	2100	85	83	94	94	90	90	90	81	84	86	92	90	83	85	87	81
	2300	87	86	91	96	93	91	92	87	86	87	91	93	88	86	88	86
	2500	89	88	93	98	95	93	94	89	88	89	93	95	89	88	90	87
	2700	90	89	95	100	97	95	95	90	89	90	95	96	91	89	92	89
	2900	92	92	92	103	99	96	97	95	91	91	94	99	95	90	93	93
	3100	93	93	93	104	101	98	98	97	92	93	95	101	96	91	95	94
	3300	95	94	95	105	102	99	100	98	94	94	97	102	98	92	96	96
<b>223</b>	1300	77	82	87	84	82	83	78	67	78	82	84	78	77	79	77	70
	1500	81	81	91	88	85	86	84	73	80	83	88	84	78	82	82	75
	1700	83	84	94	91	88	89	87	76	83	86	91	87	81	85	85	78
	1900	86	84	95	95	91	91	91	82	85	87	93	91	84	86	88	82
	2100	88	87	97	97	93	93	93	84	87	89	95	93	87	88	90	85
	2300	90	89	94	100	96	95	95	90	89	90	95	96	91	89	92	89
	2500	92	91	96	102	98	96	97	92	91	92	96	98	93	91	93	91
	2700	94	93	98	103	100	98	99	94	93	94	98	100	94	93	95	92
	2900	95	95	95	106	103	99	100	99	94	95	97	103	98	93	96	96
	3100	97	96	97	107	104	101	102	100	96	96	99	104	100	94	98	98
	<b>243</b>	1300	83	86	88	85	84	83	78	66	86	85	88	81	76	75	73
1500		86	87	92	88	87	87	85	73	92	85	92	87	80	79	76	74
1700		89	89	95	91	90	89	88	76	95	88	95	90	82	82	79	77
1900		92	91	96	94	93	92	92	82	99	91	96	94	86	85	82	80
2100		94	93	99	97	95	94	94	84	101	93	98	97	89	87	85	82
2300		96	95	98	100	97	96	96	90	103	98	97	100	94	89	87	85
2500		98	97	100	102	99	98	98	92	105	100	99	102	95	91	89	87
2700		99	99	102	103	101	100	99	94	106	102	101	103	97	92	91	88
2900		101	101	101	106	103	102	101	99	108	106	99	106	102	94	94	91
<b>273</b>	1100	79	79	89	88	83	79	70	62	74	82	81	82	76	75	68	64
	1200	82	81	90	89	85	82	75	66	79	79	86	83	80	78	72	66
	1300	84	83	92	91	87	84	77	68	81	81	87	84	82	79	74	68
	1400	85	85	94	92	89	85	79	70	82	82	89	86	83	81	76	70
	1500	92	86	95	94	90	88	83	74	85	81	91	88	85	83	80	72
	1600	93	87	96	95	91	89	85	75	87	82	92	89	86	84	81	74
	1700	94	89	98	97	93	91	86	77	88	83	93	91	87	85	82	75
	1800	98	89	89	99	98	93	89	81	90	85	93	91	92	87	85	78
	1900	99	91	91	100	99	94	90	82	91	86	94	93	93	88	87	79
	2000	100	92	92	102	101	96	92	83	92	87	95	94	95	89	88	81
	2100	101	93	93	103	102	97	93	84	93	88	96	95	96	90	89	82
	2200	102	94	94	104	103	98	94	85	95	89	97	96	97	91	90	83
	2300	105	96	96	104	103	100	96	90	96	93	93	100	97	94	92	86

The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet L<sub>wi</sub> and outlet L<sub>wo</sub> sound power levels for installation Type A: free inlet, free outlet. Ratings do not include the effects of duct end correction.

CHART II - SOUND POWER LEVELS FOR PLENUM FANS WITH ACOUSTAFoil-q WHEELS (cont'd)

Size	RPM	Outlet Octave Bands								Inlet Octave Bands							
		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
<b>303</b>	1000	80	80	90	89	84	80	71	64	75	84	82	83	77	76	69	65
	1100	82	82	92	91	86	82	73	66	78	86	84	85	79	78	71	67
	1200	85	85	93	92	89	85	79	70	82	82	89	86	83	81	75	70
	1300	87	86	95	94	90	87	80	71	84	84	90	88	85	83	77	71
	1400	88	88	97	96	92	89	82	73	85	85	92	89	87	84	79	73
	1500	95	89	98	97	93	91	86	77	89	84	94	91	88	86	83	76
	1600	96	91	99	99	95	93	88	78	90	85	95	92	89	87	84	77
	1700	97	92	101	100	96	94	89	80	91	87	97	94	91	89	86	78
	1800	101	93	93	102	101	96	92	84	93	88	96	95	95	90	89	82
	1900	102	94	94	104	103	98	94	85	95	89	98	96	97	91	90	83
	2000	103	95	95	105	104	99	95	86	96	91	99	97	98	92	91	84
	2100	104	96	96	106	105	100	96	87	97	92	100	98	99	93	92	85
2200	105	97	97	107	106	101	97	88	98	93	101	99	100	94	93	86	
<b>333</b>	800	80	87	87	85	80	76	71	66	77	83	81	79	76	72	69	66
	900	83	86	90	88	84	79	75	70	80	83	84	82	79	76	73	70
	1000	86	89	93	91	87	82	77	72	82	85	87	84	82	78	75	72
	1100	88	91	95	93	89	84	79	74	84	87	89	86	84	80	77	74
	1200	91	89	97	95	93	87	83	78	86	87	92	88	87	83	80	77
	1300	93	91	99	97	94	89	85	80	88	89	94	90	89	85	82	79
	1400	94	93	101	99	96	90	86	81	90	90	95	92	90	87	84	81
	1500	96	93	101	101	99	94	89	84	91	91	96	94	93	89	86	83
	1600	98	95	102	102	100	95	91	86	93	92	98	96	94	91	87	84
	1700	99	96	103	104	102	96	92	87	94	93	99	97	95	92	89	86
	1800	100	98	101	105	103	100	95	90	95	95	98	99	97	95	91	88
	1900	102	100	103	107	105	101	96	91	97	96	99	101	98	96	92	89
2000	103	101	104	108	106	102	97	92	98	97	100	102	99	97	93	90	
<b>363</b>	800	84	95	89	83	81	79	72	67	85	94	86	76	76	70	68	
	900	85	95	94	88	84	82	77	71	86	95	91	81	78	74	71	
	1000	88	98	96	90	86	85	79	74	89	97	93	83	81	81	76	73
	1100	90	100	98	92	88	87	81	76	91	99	95	85	83	83	78	75
	1200	91	97	102	96	91	89	86	79	92	97	100	91	84	85	83	78
	1300	93	99	104	98	93	91	87	81	94	99	102	92	86	87	84	79
	1400	95	101	105	99	95	92	89	83	96	101	103	94	88	88	86	81
	1500	96	98	109	103	97	94	93	86	97	98	107	99	89	89	90	83
	1600	98	99	110	104	98	96	94	87	99	100	109	101	91	91	91	85
	1700	99	100	111	105	100	97	95	89	100	101	110	102	92	92	92	86
	1800	100	100	110	109	103	99	98	92	101	101	110	106	96	93	94	89
	<b>403</b>	700	85	96	89	88	85	84	76	67	86	92	84	81	79	79	71
800		86	97	93	92	89	88	81	73	87	95	89	84	82	83	76	71
900		88	95	99	94	93	90	87	78	89	94	95	88	85	85	82	75
1000		91	98	101	97	95	93	89	80	92	97	97	90	88	87	84	77
1100		93	100	103	99	97	95	91	83	94	99	99	92	90	89	86	79
1200		95	97	107	101	100	97	96	87	96	97	104	95	92	91	91	83
1300		96	99	109	102	102	98	97	89	97	99	106	97	94	93	92	85
1400		98	100	111	104	103	100	99	91	99	101	107	99	96	94	94	86
1500		100	100	111	107	106	102	102	95	101	101	109	102	98	96	96	90
1600		101	101	113	108	107	104	103	96	102	102	110	104	99	97	98	91
<b>443</b>	600	85	95	89	88	85	84	75	66	85	92	83	80	79	79	71	66
	700	88	99	92	91	88	87	79	70	89	95	87	84	82	82	74	69
	800	89	101	96	95	92	91	84	76	90	98	92	87	85	86	79	74
	900	92	98	102	98	96	94	90	81	93	97	98	91	89	88	85	78
	1000	94	101	104	100	98	96	92	84	95	100	100	93	91	90	87	80
	1100	96	103	106	102	100	98	94	86	97	102	102	95	93	92	89	82
	1200	98	100	110	104	103	100	99	90	99	100	107	98	95	94	94	86
	1300	99	102	112	105	105	101	100	92	100	102	109	100	97	96	95	88
	1400	101	103	114	107	106	103	102	94	102	104	111	102	99	97	97	89

The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet L<sub>wi</sub> and outlet L<sub>wo</sub> sound power levels for installation Type A: free inlet, free outlet. Ratings do not include the effects of duct end correction.

**CHART II - SOUND POWER LEVELS FOR PLENUM FANS WITH ACOUSTAFoil-q WHEELS (cont'd)**

Size	RPM	Outlet Octave Bands								Inlet Octave Bands							
		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
<b>493</b>	700	91	102	95	94	91	90	82	73	92	98	90	87	85	85	77	72
	800	92	103	99	98	95	94	87	79	93	101	95	90	88	89	82	77
	900	94	101	104	100	98	96	93	84	95	100	101	94	91	91	88	81
	1000	97	104	107	103	101	99	95	86	98	103	103	96	94	93	90	83
	1100	99	106	109	105	103	101	97	89	100	105	105	98	96	95	92	85
	1200	101	103	113	107	106	103	102	93	102	103	110	101	98	97	97	89
	1300	102	105	115	108	108	104	103	95	103	105	112	103	100	99	98	91
<b>543</b>	700	94	105	98	97	94	93	85	76	95	101	93	90	88	88	80	75
	800	95	107	102	101	98	97	90	82	96	104	98	94	91	92	85	80
	900	98	104	108	104	102	100	96	87	99	103	104	97	95	94	91	84
	1000	100	107	110	106	104	102	98	90	101	106	106	99	97	96	93	86
	1100	102	109	112	108	106	104	100	92	103	108	108	101	99	98	95	89
	1200	104	106	116	110	109	106	105	96	105	106	113	104	101	100	100	92
<b>603</b>	700	97	108	101	101	97	96	88	79	98	105	96	93	91	91	83	78
	800	98	110	105	104	101	100	94	85	99	107	101	97	94	95	89	83
	900	101	107	111	107	105	103	99	90	102	106	107	100	98	97	94	87
	1000	103	110	113	109	107	105	101	93	104	109	109	102	100	99	96	90
	1100	105	112	115	111	109	107	103	95	106	111	111	104	102	101	98	92
<b>663</b>	700	100	111	104	103	100	99	91	82	101	107	99	96	94	94	86	81
	800	101	112	108	107	104	103	96	88	102	110	104	99	97	98	91	86
	900	103	110	114	109	108	105	102	93	104	109	110	103	101	100	97	90
	1000	106	113	116	112	110	108	104	96	107	112	112	105	103	102	99	92

The sound power level ratings shown are in decibels, referred to 10<sup>-12</sup> watts calculated per AMCA Standard 301. Values shown are for inlet L<sub>wi</sub> and outlet L<sub>wo</sub> sound power levels for installation Type A: free inlet, free outlet. Ratings do not include the effects of duct end correction.

**CHART III - VP/SP CORRECTION FACTORS FOR PLENUM FANS WITH ACOUSTAFoil-q WHEELS**

Size	RPM	VP/SP	Point of Fan Operation	Outlet Octave Bands								Inlet Octave Bands								
				1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
<b>183</b>	Over 1200	0 to .03	Peak SP	0	0	0	-2	-2	-1	-3	-4	0	0	-2	-3	-2	-1	-1	-1	
		.03 to .07	Peak ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		.07 to .7	1/2 Peak SP	1	1	1	1	2	2	3	5	3	2	1	1	1	2	2	3	3
		.7 and Up	Near Wide Open	2	2	2	3	4	4	4	8	0	1	1	1	1	2	5	5	5
<b>203</b>	Over 1200	0 to .03	Peak SP	0	0	-2	-3	-3	-2	-3	-2	-2	1	2	0	0	0	-1	0	
		.03 to .07	Peak ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		.07 to .7	1/2 Peak SP	2	1	0	0	2	3	3	3	-1	-1	0	2	2	1	0	-1	-1
		.7 and Up	Near Wide Open	2	2	2	3	4	5	4	6	1	0	2	6	6	4	5	5	5
<b>223</b>	Over 1200	0 to .03	Peak SP	0	0	-2	-3	-2	-2	-3	-2	-2	2	2	0	-1	0	-2	0	
		.03 to .07	Peak ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		.07 to .7	1/2 Peak SP	2	1	0	0	2	3	3	3	-1	-2	1	2	2	1	0	-2	-2
		.7 and Up	Near Wide Open	2	2	2	3	5	5	4	6	1	0	2	6	5	5	5	5	5
<b>243</b>	Over 1200	0 to .03	Peak SP	0	0	0	-2	-2	-1	-3	-4	0	0	-2	-3	-2	-1	-1	-1	
		.03 to .07	Peak ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		.07 to .7	1/2 Peak SP	1	1	1	1	2	2	3	5	3	2	1	1	1	2	2	3	3
		.7 and Up	Near Wide Open	2	2	2	3	4	4	4	8	0	1	1	1	1	3	5	5	6
<b>273</b>	Up to 1200	0 to .03	Peak SP	2	1	-1	-1	0	-1	-1	0	10	10	3	-4	1	-2	-2	0	
		.03 to .07	Peak ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		.07 to .7	1/2 Peak SP	2	1	3	2	2	2	5	3	2	-1	2	0	2	1	2	0	0
		.7 and Up	Near Wide Open	4	5	5	5	6	6	8	9	7	2	8	3	7	6	8	6	6
	Over 1200	0 to .03	Peak SP	1	1	0	-1	-1	0	-1	-1	9	9	9	0	-3	0	-2	-2	-2
		.03 to .07	Peak ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		.07 to .7	1/2 Peak SP	3	2	2	2	2	2	3	4	2	2	0	1	0	2	2	2	2
		.7 and Up	Near Wide Open	4	4	5	5	6	6	6	9	6	6	3	6	4	7	6	6	8



**CHART III - VP/SP CORRECTION FACTORS FOR PLENUM FANS WITH ACOUSTAFOIL-q WHEELS**

Size	RPM	VP/SP	Point of Fan Operation	Outlet Octave Bands								Inlet Octave Bands								
				1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
303	Up to 1200	0 to .03	Peak SP	2	0	-1	-1	0	-1	-1	0	10	10	2	-3	1	-2	-2	0	
		.03 to .07	Peak ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		.07 to .7	1/2 Peak SP	2	2	3	2	2	2	4	2	2	-1	2	0	2	1	2	0	
		.7 and Up	Near Wide Open	4	5	5	5	6	6	9	9	7	2	7	3	7	6	8	6	
303	Over 1200	0 to .03	Peak SP	1	1	0	-1	-1	0	-1	-1	9	9	9	-1	-2	0	-2	-1	
		.03 to .07	Peak ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		.07 to .7	1/2 Peak SP	3	2	2	2	2	2	3	4	2	2	-1	1	0	2	2	2	
		.7 and Up	Near Wide Open	4	4	5	5	6	6	6	9	6	6	3	6	4	7	6	8	
333	Up to 1200	0 to .03	Peak SP	-2	-2	-3	-4	-2	-2	1	6	0	0	-3	-3	-3	-1	-1	-2	
		.03 to .07	Peak ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		.07 to .7	1/2 Peak SP	0	1	2	3	2	1	1	1	1	1	1	2	2	2	1	1	
		.7 and Up	Near Wide Open	2	4	5	6	5	5	5	4	3	3	4	5	5	5	4	3	
333	Over 1200	0 to .03	Peak SP	-3	-2	-2	-4	-3	-2	-2	2	-1	0	-1	-3	-3	-3	-1	-2	
		.03 to .07	Peak ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		.07 to .7	1/2 Peak SP	-2	1	1	3	3	2	1	1	0	1	1	2	2	2	2	1	
		.7 and Up	Near Wide Open	0	3	4	5	6	5	5	5	2	3	3	5	5	5	4	3	
363	Up to 1200	0 to .03	Peak SP	-3	-4	-4	-3	-2	-3	-3	-2	-1	-1	-1	-1	-1	-2	-2	-2	
		.03 to .07	Peak ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		.07 to .7	1/2 Peak SP	2	3	3	4	4	2	2	2	2	2	3	4	2	0	1	1	
		.7 and Up	Near Wide Open	4	2	3	6	7	2	3	4	2	4	5	7	6	2	4	4	
363	Over 1200	0 to .03	Peak SP	-3	-3	-4	-4	-3	-1	-3	-3	-1	-1	-1	-2	-1	-1	-2	-1	
		.03 to .07	Peak ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		.07 to .7	1/2 Peak SP	2	2	3	3	4	4	2	3	2	2	2	3	4	2	0	2	
		.7 and Up	Near Wide Open	4	3	2	5	7	6	2	4	2	3	4	6	8	5	2	5	
403	Up to 700	0 to .03	Peak SP	2	-3	-2	-4	-2	-4	-4	-2	2	-2	-2	-3	-2	-4	-3	-1	
		.03 to .07	Peak ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		.07 to .7	1/2 Peak SP	4	4	4	2	1	-2	1	1	1	3	3	2	3	3	3	1	
		.7 and Up	Near Wide Open	5	5	4	3	3	0	3	2	4	5	5	4	5	3	6	3	
403	Over 700	0 to .03	Peak SP	3	1	-3	-3	-4	-3	-4	-4	2	1	-2	-2	-2	-2	-4	-3	
		.03 to .07	Peak ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		.07 to .7	1/2 Peak SP	4	4	4	3	2	1	-1	1	1	2	3	3	2	3	2	2	
		.7 and Up	Near Wide Open	5	5	5	4	3	2	1	3	4	4	4	5	4	4	3	5	
443	Up to 700	0 to .03	Peak SP	2	-3	-3	-4	-3	-4	-4	-2	2	-2	-2	-3	-2	-4	-3	-1	
		.03 to .07	Peak ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		.07 to .7	1/2 Peak SP	4	4	4	2	1	-2	1	1	2	3	3	3	3	2	3	1	
		.7 and Up	Near Wide Open	5	5	4	3	3	0	3	2	4	5	5	5	5	2	6	3	
443	Over 700	0 to .03	Peak SP	3	1	-2	-3	-4	-3	-4	-4	2	1	-2	-2	-2	-2	-4	-2	
		.03 to .07	Peak ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		.07 to .7	1/2 Peak SP	4	4	4	3	2	1	-1	1	1	2	3	3	2	3	2	2	
		.7 and Up	Near Wide Open	5	5	5	4	3	2	1	2	4	4	4	5	4	4	4	5	
493	Up to 700	0 to .03	Peak SP	2	-3	-3	-5	-3	-4	-4	-2	2	-2	-2	-3	-2	-4	-3	-1	
		.03 to .07	Peak ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		.07 to .7	1/2 Peak SP	4	4	4	2	1	-2	1	1	1	3	3	2	3	3	3	1	
		.7 and Up	Near Wide Open	5	5	4	3	3	1	3	2	4	5	5	4	5	3	6	3	
493	Over 700	0 to .03	Peak SP	3	2	-2	-3	-4	-3	-4	-4	2	0	-2	-2	-2	-2	-4	-2	
		.03 to .07	Peak ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		.07 to .7	1/2 Peak SP	4	4	4	4	2	1	-1	0	1	2	3	3	2	3	2	2	
		.7 and Up	Near Wide Open	5	5	5	4	3	2	1	2	4	4	4	5	4	4	4	5	

CHART III - VP/SP CORRECTION FACTORS FOR PLENUM FANS WITH ACOUSTAFOIL-q WHEELS

Size	RPM	VP/SP	Point of Fan Operation	Outlet Octave Bands								Inlet Octave Bands							
				1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
543	Up to 700	0 to .03	Peak SP	2	-3	-3	-4	-3	-4	-4	-2	2	-2	-2	-3	-2	-4	-3	-1
		.03 to .07	Peak ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		.07 to .7	1/2 Peak SP	4	4	4	2	1	-2	1	1	2	3	3	3	3	2	3	1
		.7 and Up	Near Wide Open	5	5	4	4	3	0	3	2	4	5	5	5	5	2	6	3
	Over 700	0 to .03	Peak SP	3	2	-2	-3	-4	-3	-4	-4	2	0	-2	-2	-2	-2	-4	-2
		.03 to .07	Peak ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		.07 to .7	1/2 Peak SP	4	4	4	3	2	1	-1	0	1	2	3	3	2	3	2	2
		.7 and Up	Near Wide Open	5	5	5	4	3	2	1	2	4	4	4	5	4	4	4	5
603	Up to 700	0 to .03	Peak SP	2	-3	-3	-5	-3	-4	-4	-2	2	-2	-2	-3	-2	-4	-3	-1
		.03 to .07	Peak ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		.07 to .7	1/2 Peak SP	4	4	4	2	2	-2	1	1	2	3	3	3	3	2	3	1
		.7 and Up	Near Wide Open	5	5	4	3	3	0	3	2	4	4	5	5	5	3	6	3
	Over 700	0 to .03	Peak SP	3	0	-3	-4	-4	-3	-4	-3	2	0	-2	-2	-2	-3	-4	-2
		.03 to .07	Peak ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		.07 to .7	1/2 Peak SP	4	4	4	3	2	0	-1	1	1	2	3	3	2	3	3	2
		.7 and Up	Near Wide Open	5	5	5	3	3	1	1	2	4	4	5	5	4	4	4	4
663	Up to 700	0 to .03	Peak SP	2	-3	-3	-4	-3	-4	-4	-2	2	-2	-2	-3	-2	-4	-3	-1
		.03 to .07	Peak ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		.07 to .7	1/2 Peak SP	4	4	4	2	1	-2	1	1	2	3	3	3	3	2	3	1
		.7 and Up	Near Wide Open	5	5	4	3	3	0	3	2	4	5	5	5	5	2	6	3
	Over 700	0 to .03	Peak SP	3	0	-3	-4	-4	-3	-4	-3	2	0	-2	-2	-2	-3	-4	-2
		.03 to .07	Peak ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		.07 to .7	1/2 Peak SP	4	4	4	3	2	0	0	1	1	2	3	3	2	2	2	2
		.7 and Up	Near Wide Open	5	5	4	3	3	1	2	2	4	4	4	5	4	3	5	4

**THE NEW YORK BLOWER COMPANY POLICY REGARDING "SOUND" SPECIFICATIONS**

NOTE: This policy statement is presented both as a guide to purchasers of fan equipment and as a resolution of **nyb's** responsibility in cases where the purchaser has requested that **nyb** equipment meet certain noise level specifications.

**nyb** provides sound power level ratings in each of the eight octave bands, as tested and rated in accordance with Air Movement and Control Association International (AMCA) Publication 300. These ratings are statements of the total sound energy levels emanating from the inlet and outlet of the fan itself.

These sound power ratings are considered the only truly accurate basis for comparison, or for further estimating the resultant noise levels within a given system or installation.

In some cases, **nyb** offers silencers for the fan inlet and/or outlet that can be used to attenuate sound power emanating through the fan inlet or outlet. Specific ratings are available to determine the revised sound level resulting from the use of such silencers.

Though methods are available for estimating values of sound pressure levels by octave band or the single number dBA at points some distance from the fan, these result merely in estimates based on ideal situations that do not take into effect background noise, other sound producing

equipment in an installation, the effective building configuration and construction and/or the effects of ductwork configuration and physical construction.

Specifications demanding guaranteed pressure levels in any form, either adjacent to the fan or at other points in the installation or system, can only be met through qualified analysis of the total system and physical environs by professional Acoustical Consultants or trained Acoustical Engineers - a professional service that is clearly beyond the responsibility of the fan manufacturer.

Consequently, **nyb** offers these sound power level ratings, as tested and rated in accordance with AMCA Publication 300, as the only qualified tool for meaningful evaluation by the purchaser or his agent. This constitutes an exception to any specification for sound data or guarantees in any form other than sound power level ratings.