



ENGINEERING DATA

RA50/RA54

Listed Size Outlet Area	Listed Duct Area (ft ²)	Vk Outlet Velocity (fpm)	300	400	500	600	700	800	900	1000	1100	1200	1300
		Velocity Pressure (in. w.c.)	0.006	0.010	0.016	0.022	0.031	0.040	0.050	0.062	0.075	0.090	0.105
6 Ak = 0.142	0.196	Air Flow (CFM)	42	57	71	85	99	113	127	142	156	170	184
		Throw (ft.)	3 - 5 - 10	5 - 7 - 14	5 - 8 - 16	7 - 10 - 20	8 - 12 - 23	8 - 13 - 25	10 - 15 - 29	11 - 16 - 32	12 - 18 - 36	13 - 20 - 40	15 - 23 - 45
		Total Pressure (in. w.c.)	0.004	0.006	0.010	0.014	0.020	0.026	0.033	0.040	0.049	0.058	0.068
		NC (Noise Criteria)	-	-	-	-	-	-	-	-	-	-	-
8 Ak = 0.259	0.349	Air Flow (CFM)	78	104	130	156	181	207	233	259	285	311	337
		Throw (ft.)	4 - 6 - 11	5 - 8 - 15	6 - 9 - 18	7 - 11 - 22	8 - 13 - 25	10 - 15 - 29	11 - 17 - 33	12 - 18 - 36	13 - 20 - 40	15 - 22 - 44	16 - 24 - 47
		Total Pressure (in. w.c.)	0.003	0.006	0.009	0.014	0.019	0.024	0.031	0.038	0.046	0.054	0.064
		NC (Noise Criteria)	-	-	-	-	-	-	-	-	-	21	24
10 Ak = 0.414	0.545	Air Flow (CFM)	124	166	207	249	290	332	373	414	456	497	539
		Throw (ft.)	4 - 6 - 12	5 - 8 - 16	7 - 10 - 20	8 - 12 - 24	9 - 14 - 28	11 - 17 - 33	12 - 19 - 37	14 - 21 - 41	15 - 23 - 45	16 - 25 - 49	18 - 27 - 53
		Total Pressure (in. w.c.)	0.003	0.006	0.009	0.012	0.017	0.022	0.028	0.035	0.042	0.050	0.059
		NC (Noise Criteria)	-	-	-	-	-	-	-	-	20	24	26
12 Ak = 0.608	0.785	Air Flow (CFM)	182	243	304	365	426	486	547	608	669	730	790
		Throw (ft.)	5 - 7 - 14	6 - 9 - 18	8 - 12 - 23	9 - 14 - 27	11 - 16 - 32	12 - 18 - 36	14 - 21 - 41	15 - 23 - 45	17 - 25 - 50	18 - 27 - 54	20 - 30 - 59
		Total Pressure (in. w.c.)	0.003	0.005	0.008	0.011	0.015	0.020	0.025	0.032	0.037	0.044	0.052
		NC (Noise Criteria)	-	-	-	-	-	-	-	-	21	25	28
14 Ak = 0.841	1.069	Air Flow (CFM)	252	336	420	504	588	673	757	841	925	1009	1093
		Throw (ft.)	5 - 7 - 14	6 - 10 - 19	8 - 12 - 24	10 - 15 - 29	11 - 17 - 33	13 - 19 - 38	14 - 22 - 43	16 - 24 - 48	17 - 26 - 52	19 - 29 - 57	21 - 31 - 62
		Total Pressure (in. w.c.)	0.002	0.004	0.007	0.009	0.013	0.017	0.021	0.026	0.031	0.037	0.044
		NC (Noise Criteria)	-	-	-	-	-	-	-	-	20	23	30
16 Ak = 1.113	1.396	Air Flow (CFM)	334	445	557	668	779	890	1002	1113	1224	1336	1447
		Throw (ft.)	5 - 8 - 15	7 - 10 - 20	8 - 13 - 25	10 - 15 - 30	12 - 18 - 35	13 - 20 - 40	15 - 23 - 45	17 - 25 - 50	18 - 28 - 55	20 - 30 - 60	22 - 33 - 65
		Total Pressure (in. w.c.)	0.002	0.003	0.005	0.004	0.010	0.013	0.017	0.020	0.025	0.029	0.034
		NC (Noise Criteria)	-	-	-	-	-	-	-	22	26	28	31
18 Ak = 1.426	1.767	Air Flow (CFM)	428	570	713	855	998	1141	1283	1426	1568	1711	1853
		Throw (ft.)	5 - 8 - 16	7 - 11 - 21	9 - 13 - 26	11 - 16 - 32	12 - 19 - 37	14 - 21 - 42	16 - 24 - 47	17 - 26 - 52	19 - 29 - 58	21 - 32 - 63	23 - 34 - 68
		Total Pressure (in. w.c.)	0.001	0.002	0.004	0.005	0.007	0.009	0.011	0.014	0.017	0.020	0.024
		NC (Noise Criteria)	-	-	-	-	-	-	-	23	27	30	33
20 Ak = 1.779	2.182	Air Flow (CFM)	534	712	890	1068	1245	1423	1601	1779	1957	2135	2313
		Throw (ft.)	6 - 9 - 17	7 - 11 - 22	9 - 14 - 27	11 - 17 - 34	13 - 20 - 39	15 - 22 - 44	16 - 25 - 49	18 - 27 - 54	20 - 31 - 61	22 - 33 - 66	24 - 36 - 71
		Total Pressure (in. w.c.)	0.001	0.001	0.002	0.003	0.003	0.004	0.006	0.007	0.008	0.010	0.012
		NC (Noise Criteria)	-	-	-	-	-	-	23	26	29	32	34

Notes:

1. Tests conducted in accordance with ANSI/ASHRAE 70-2006 at isothermal conditions.
2. 0°, 22.5°, and 45° represent blade deflection angles. Data on this page is for 0°.
3. Throw based on terminal velocities of 150 fpm, 100 fpm, and 50 fpm.
4. NC is based upon 10dB room absorption (Re: 10⁻¹² watts) evaluated at 125 through 4000 Hz octave bands.
5. Dash "-" indicates NC value less than 20.



ENGINEERING DATA

RA50/RA54

Listed Size Outlet Area	Listed Duct Area (ft ²)	Vk Outlet Velocity (fpm)	300	400	500	600	700	800	900	1000	1100	1200	1300
		Velocity Pressure (in. w.c.)	0.006	0.010	0.016	0.022	0.031	0.040	0.050	0.062	0.075	0.090	0.105
6 Ak = 0.125	0.196	Air Flow (CFM)	38	50	63	75	88	100	113	125	138	150	163
		Throw (ft.)	3 - 4 - 8	4 - 6 - 12	5 - 7 - 14	6 - 9 - 17	6 - 10 - 19	7 - 11 - 21	8 - 13 - 25	9 - 14 - 27	10 - 15 - 30	11 - 17 - 34	13 - 19 - 38
		Total Pressure (in. w.c.)	0.004	0.007	0.011	0.016	0.021	0.028	0.035	0.044	0.053	0.063	0.074
		NC (Noise Criteria)	-	-	-	-	-	-	-	-	-	-	-
8 Ak = 0.229	0.349	Air Flow (CFM)	69	92	115	138	161	184	206	229	252	275	298
		Throw (ft.)	3 - 5 - 10	4 - 7 - 13	5 - 8 - 16	6 - 10 - 19	7 - 11 - 22	8 - 13 - 25	10 - 15 - 29	10 - 16 - 31	12 - 18 - 35	13 - 19 - 38	14 - 21 - 41
		Total Pressure (in. w.c.)	0.004	0.007	0.011	0.015	0.021	0.027	0.035	0.043	0.052	0.062	0.072
		NC (Noise Criteria)	-	-	-	-	-	-	-	-	-	-	-
10 Ak = 0.367	0.545	Air Flow (CFM)	110	147	183	220	257	293	330	367	403	440	477
		Throw (ft.)	3 - 5 - 10	5 - 7 - 14	6 - 9 - 17	7 - 11 - 21	8 - 12 - 24	10 - 15 - 29	11 - 16 - 32	12 - 18 - 36	13 - 20 - 39	14 - 22 - 43	15 - 23 - 46
		Total Pressure (in. w.c.)	0.004	0.007	0.010	0.015	0.021	0.027	0.034	0.042	0.051	0.060	0.071
		NC (Noise Criteria)	-	-	-	-	-	-	-	-	-	-	-
12 Ak = 0.538	0.785	Air Flow (CFM)	161	215	269	323	376	430	484	538	592	645	699
		Throw (ft.)	4 - 6 - 12	5 - 8 - 16	7 - 10 - 20	8 - 12 - 24	9 - 14 - 28	10 - 16 - 31	12 - 18 - 36	13 - 20 - 39	15 - 22 - 44	16 - 24 - 47	17 - 26 - 51
		Total Pressure (in. w.c.)	0.004	0.007	0.010	0.015	0.020	0.026	0.033	0.041	0.049	0.059	0.069
		NC (Noise Criteria)	-	-	-	-	-	-	-	-	-	-	21
14 Ak = 0.743	1.069	Air Flow (CFM)	223	297	372	446	520	595	669	743	818	892	966
		Throw (ft.)	4 - 6 - 12	6 - 9 - 17	7 - 11 - 21	8 - 13 - 25	10 - 15 - 29	11 - 17 - 33	13 - 19 - 38	14 - 21 - 42	15 - 23 - 45	17 - 25 - 50	18 - 27 - 54
		Total Pressure (in. w.c.)	0.004	0.006	0.010	0.014	0.019	0.025	0.032	0.039	0.047	0.056	0.066
		NC (Noise Criteria)	-	-	-	-	-	-	-	-	-	22	25
16 Ak = 0.984	1.396	Air Flow (CFM)	295	394	492	590	689	787	886	984	1082	1181	1279
		Throw (ft.)	4 - 7 - 13	6 - 9 - 17	7 - 11 - 22	9 - 13 - 26	10 - 15 - 30	12 - 18 - 35	13 - 20 - 39	15 - 22 - 44	16 - 24 - 48	17 - 26 - 52	19 - 29 - 57
		Total Pressure (in. w.c.)	0.003	0.006	0.009	0.014	0.018	0.024	0.030	0.038	0.045	0.054	0.063
		NC (Noise Criteria)	-	-	-	-	-	-	-	-	22	25	28
18 Ak = 1.260	1.767	Air Flow (CFM)	378	504	630	756	882	1008	1134	1260	1386	1512	1638
		Throw (ft.)	5 - 7 - 14	6 - 9 - 18	8 - 12 - 23	9 - 14 - 28	11 - 16 - 32	12 - 19 - 37	14 - 21 - 41	15 - 23 - 45	17 - 26 - 51	18 - 28 - 55	20 - 30 - 59
		Total Pressure (in. w.c.)	0.003	0.006	0.009	0.013	0.018	0.023	0.029	0.036	0.043	0.051	0.060
		NC (Noise Criteria)	-	-	-	-	-	-	-	22	26	29	32
20 Ak = 1.572	2.182	Air Flow (CFM)	472	629	786	943	1101	1258	1415	1572	1730	1887	2044
		Throw (ft.)	5 - 8 - 15	6 - 10 - 19	8 - 12 - 24	10 - 15 - 30	11 - 17 - 34	13 - 19 - 38	14 - 22 - 43	16 - 24 - 47	18 - 27 - 53	19 - 29 - 58	21 - 31 - 62
		Total Pressure (in. w.c.)	0.003	0.005	0.008	0.012	0.016	0.021	0.027	0.033	0.040	0.048	0.057
		NC (Noise Criteria)	-	-	-	-	-	-	21	25	28	31	34

Notes:

1. Tests conducted in accordance with ANSI/ASHRAE 70-2006 at isothermal conditions.
2. 0°, 22.5°, and 45° represent blade deflection angles. Data on this page is for 22.5°.
3. Throw based on terminal velocities of 150 fpm, 100 fpm, and 50 fpm.
4. NC is based upon 10dB room absorption (Re: 10⁻¹² watts) evaluated at 125 through 4000 Hz octave bands.
5. Dash "-" indicates NC value less than 20.



ENGINEERING DATA

RA50/RA54

Listed Size Outlet Area	Listed Duct Area (ft ²)	Vk Outlet Velocity (fpm)	300	400	500	600	700	800	900	1000	1100	1200	1300
6 Ak = 0.102	0.196	Velocity Pressure (in. w.c.)	0.006	0.010	0.016	0.022	0.031	0.040	0.050	0.062	0.075	0.090	0.105
		Air Flow (CFM)	31	41	51	61	72	82	92	102	113	123	133
		Throw (ft.)	2 - 3 - 6	3 - 5 - 9	3 - 5 - 10	4 - 6 - 12	5 - 7 - 14	5 - 8 - 15	6 - 9 - 18	7 - 10 - 20	7 - 11 - 22	8 - 12 - 24	9 - 14 - 27
		Total Pressure (in. w.c.)	0.006	0.011	0.018	0.025	0.035	0.045	0.057	0.071	0.085	0.101	0.119
		NC (Noise Criteria)	-	-	-	-	-	-	-	-	-	-	-
8 Ak = 0.180	0.349	Air Flow (CFM)	54	72	90	108	126	144	162	180	198	216	234
		Throw (ft.)	2 - 4 - 7	3 - 5 - 9	4 - 6 - 11	5 - 7 - 14	5 - 8 - 15	6 - 9 - 18	7 - 10 - 20	7 - 11 - 22	8 - 13 - 25	9 - 14 - 27	10 - 15 - 29
		Total Pressure (in. w.c.)	0.006	0.011	0.017	0.025	0.034	0.044	0.056	0.069	0.083	0.099	0.116
		NC (Noise Criteria)	-	-	-	-	-	-	-	-	-	23	26
		Air Flow (CFM)	83	111	139	167	195	222	250	278	306	334	361
10 Ak = 0.278	0.545	Throw (ft.)	2 - 4 - 7	3 - 5 - 10	4 - 6 - 12	5 - 8 - 15	6 - 9 - 17	7 - 10 - 20	8 - 12 - 23	8 - 13 - 25	9 - 14 - 28	10 - 15 - 30	11 - 17 - 33
		Total Pressure (in. w.c.)	0.006	0.011	0.017	0.024	0.033	0.042	0.054	0.066	0.080	0.096	0.112
		NC (Noise Criteria)	-	-	-	-	-	-	-	-	21	24	26
		Air Flow (CFM)	119	159	199	238	278	318	357	397	437	477	516
		Throw (ft.)	3 - 5 - 9	4 - 6 - 11	5 - 7 - 14	5 - 8 - 16	7 - 10 - 20	7 - 11 - 22	8 - 13 - 25	9 - 14 - 27	10 - 15 - 30	11 - 17 - 33	12 - 18 - 36
12 Ak = 0.397	0.785	Total Pressure (in. w.c.)	0.006	0.010	0.016	0.023	0.031	0.041	0.052	0.064	0.077	0.092	0.107
		NC (Noise Criteria)	-	-	-	-	-	-	-	-	21	24	26
		Air Flow (CFM)	161	215	268	322	376	429	483	537	591	644	698
		Throw (ft.)	3 - 5 - 9	4 - 6 - 12	5 - 8 - 15	6 - 9 - 18	7 - 10 - 20	8 - 12 - 23	9 - 14 - 27	10 - 15 - 30	11 - 16 - 32	12 - 18 - 35	13 - 19 - 38
		Total Pressure (in. w.c.)	0.005	0.010	0.015	0.022	0.030	0.039	0.049	0.060	0.073	0.087	0.102
14 Ak = 0.537	1.069	NC (Noise Criteria)	-	-	-	-	-	-	-	-	22	26	30
		Air Flow (CFM)	209	279	349	418	488	558	627	697	767	836	906
		Throw (ft.)	3 - 5 - 9	4 - 6 - 12	5 - 8 - 15	6 - 9 - 18	7 - 11 - 22	8 - 13 - 25	9 - 14 - 28	10 - 16 - 31	11 - 17 - 34	12 - 19 - 37	13 - 20 - 40
		Total Pressure (in. w.c.)	0.005	0.009	0.014	0.020	0.028	0.036	0.046	0.057	0.069	0.082	0.096
		NC (Noise Criteria)	-	-	-	-	-	-	-	20	23	26	30
16 Ak = 0.697	1.396	Air Flow (CFM)	263	351	439	527	614	702	790	878	965	1053	1141
		Throw (ft.)	3 - 5 - 10	4 - 7 - 13	5 - 8 - 16	7 - 10 - 20	8 - 12 - 23	9 - 13 - 26	10 - 15 - 29	11 - 16 - 32	12 - 18 - 36	13 - 20 - 39	14 - 21 - 42
		Total Pressure (in. w.c.)	0.005	0.008	0.013	0.019	0.026	0.034	0.043	0.053	0.064	0.076	0.089
		NC (Noise Criteria)	-	-	-	-	-	-	-	20	24	27	30
		Air Flow (CFM)	323	431	539	647	755	863	970	1078	1186	1294	1402
18 Ak = 0.878	1.767	Throw (ft.)	4 - 6 - 11	5 - 7 - 14	6 - 9 - 17	7 - 11 - 21	8 - 12 - 24	9 - 14 - 27	10 - 15 - 30	11 - 17 - 33	13 - 19 - 38	14 - 21 - 41	15 - 22 - 44
		Total Pressure (in. w.c.)	0.004	0.008	0.012	0.017	0.023	0.031	0.039	0.048	0.058	0.069	0.081
		NC (Noise Criteria)	-	-	-	-	-	-	-	21	24	28	31
		Air Flow (CFM)	323	431	539	647	755	863	970	1078	1186	1294	1402
		Throw (ft.)	4 - 6 - 11	5 - 7 - 14	6 - 9 - 17	7 - 11 - 21	8 - 12 - 24	9 - 14 - 27	10 - 15 - 30	11 - 17 - 33	13 - 19 - 38	14 - 21 - 41	15 - 22 - 44
20 Ak = 1.078	2.182	Total Pressure (in. w.c.)	0.004	0.008	0.012	0.017	0.023	0.031	0.039	0.048	0.058	0.069	0.081
		NC (Noise Criteria)	-	-	-	-	-	-	-	21	24	28	31

Notes:

1. Tests conducted in accordance with ANSI/ASHRAE 70-2006 at isothermal conditions.
2. 0°, 22.5°, and 45° represent blade deflection angles. Data on this page is for 45°.
3. Throw based on terminal velocities of 150 fpm, 100 fpm, and 50 fpm.
4. NC is based upon 10dB room absorption (Re: 10⁻¹² watts) evaluated at 125 through 4000 Hz octave bands.
5. Dash "-" indicates NC value less than 20.