

PERFORMANCE DATA:

MODELS RNRA1 AND ARNRA1 • IMPERIAL UNITS

Nominal Neck Size	Neck Velocity, FPM	400	500	600	700	800	900	1000	1100	1200	1400
	Velocity Pressure	.010	.016	.022	.031	.040	.050	.062	.075	.090	.122
6" Dia.	Total Pressure, Horizontal	.017	.030	.041	.058	.076	.096	.125	.149	.181	.246
	Total Pressure, Vertical	.025	.044	.064	.089	.123	.158	.200	.245	.294	.400
	Airflow, CFM	79	98	118	137	157	177	196	216	236	275
	Noise Criteria, Horizontal	—	—	—	—	15	22	31	35	39	44
	Noise Criteria, Vertical	—	—	—	15	26	33	38	42	44	49
	Throw, Horizontal	2-4-9	3-5-10	3-6-11	4-6-12	5-7-14	5-8-14	6-9-15	7-10-16	8-11-17	9-13-19
	Throw, Vertical	1-1-1	1-1-2	1-2-3	2-3-4	2-3-5	3-4-6	3-5-7	4-6-9	5-8-11	5-9-12
8" Dia.	Total Pressure, Horizontal	.016	.026	.038	.053	.070	.090	.112	.136	.162	.225
	Total Pressure, Vertical	.034	.057	.081	.116	.150	.194	.242	.291	.347	.472
	Airflow, CFM	140	175	209	244	279	314	349	384	419	489
	Noise Criteria, Horizontal	—	—	15	18	23	30	35	39	41	46
	Noise Criteria, Vertical	—	—	18	24	29	33	36	39	42	47
	Throw, Horizontal	2-5-10	3-6-11	4-7-12	4-8-13	5-9-14	6-9-15	7-10-16	8-11-16	9-12-17	11-14-18
	Throw, Vertical	10-17-24	12-19-27	14-20-29	16-22-32	17-24-34	19-25-36	21-27-38	22-28-40	24-29-42	27-32-45
10" Dia.	Total Pressure, Horizontal	.016	.027	.041	.056	.073	.093	.117	.142	.237	.272
	Total Pressure, Vertical	.029	.049	.075	.126	.145	.168	.210	.276	.330	.449
	Airflow, CFM	218	273	327	382	436	491	545	600	654	764
	Noise Criteria, Horizontal	—	—	15	18	23	29	33	37	41	46
	Noise Criteria, Vertical	—	—	16	23	26	31	35	38	40	45
	Throw, Horizontal	3-5-11	4-16-13	5-7-14	5-9-16	6-10-17	7-11-18	8-12-19	9-13-20	10-14-22	11-16-24
	Throw, Vertical	18-21-30	20-24-34	21-26-37	23-28-40	25-30-43	26-32-45	28-34-48	29-35-50	30-37-52	33-40-56
12" Dia.	Total Pressure, Horizontal	.015	.025	.037	.053	.069	.089	.109	.138	.163	.232
	Total Pressure, Vertical	.029	.048	.071	.101	.127	.162	.206	.254	.306	.417
	Airflow, CFM	314	393	471	550	628	707	785	864	942	1100
	Noise Criteria, Horizontal	—	—	—	15	20	24	28	33	36	42
	Noise Criteria, Vertical	—	—	15	20	25	30	34	38	40	46
	Throw, Horizontal	3-7-13	4-8-15	6-9-16	7-10-17	8-12-19	9-13-20	10-14-21	11-15-22	12-16-23	14-18-25
	Throw, Vertical	18-23-32	21-25-35	23-27-38	24-30-41	26-32-44	27-33-47	29-35-49	30-37-51	32-38-54	34-41-58
14" Dia.	Total Pressure, Horizontal	.019	.031	.044	.061	.077	.104	.129	.156	.190	.259
	Total Pressure, Vertical	.038	.058	.086	.116	.156	.193	.237	.279	.342	.465
	Airflow, CFM	428	535	641	748	855	962	1069	1176	1283	1497
	Noise Criteria, Horizontal	—	—	—	15	21	25	30	33	36	42
	Noise Criteria, Vertical	—	—	—	17	25	30	34	37	40	46
	Throw, Horizontal	4-8-15	5-10-16	7-11-18	8-12-19	9-13-20	10-15-21	11-16-22	13-17-23	14-18-24	16-20-26
	Throw, Vertical	20-25-35	23-28-39	25-30-43	27-33-46	29-35-49	30-37-52	32-39-55	34-41-58	35-43-60	38-46-65
16" Dia.	Total Pressure, Horizontal	.023	.040	.057	.079	.109	.137	.173	.212	.251	.358
	Total Pressure, Vertical	.047	.078	.103	.149	.195	.246	.308	.370	.450	.612
	Airflow, CFM	559	698	838	977	1117	1257	1396	1536	1676	1955
	Noise Criteria, Horizontal	—	—	—	16	23	28	32	35	38	44
	Noise Criteria, Vertical	—	—	19	25	30	34	38	41	44	50
	Throw, Horizontal	7-10-15	8-12-17	9-13-18	10-14-20	11-15-21	12-16-22	13-17-23	14-17-25	15-18-26	17-20-28
	Throw, Vertical	26-32-44	29-35-49	32-38-54	34-41-58	36-44-62	38-47-65	40-49-69	42-52-72	44-54-75	48-58-81

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CEILING DIFFUSERS

Performance Notes:

- All pressures are in inches w.g.. To obtain static pressure, subtract the velocity pressure from the total pressure.
- Horizontal throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions for a ceiling mounted diffuser (inner cones in fully down position A). For exposed duct mounting, multiply the throw values by 0.70.
- Vertical throws are given at 150, 100 and 50 fpm under isothermal conditions (inner cones in fully up position B). For non-isothermal conditions, use the following correction factors:

ΔT Temperature Differential	Correction Factor
20°F Cooling	x 1.40
Isothermal	x 1.00
10°F Heating	x 0.83
20°F Heating	x 0.58
30°F Heating	x 0.53
40°F Heating	x 0.43

4. Noise Criteria (NC) values are based upon 10 dB room absorption, re 10⁻¹² watts. Dash (—) in space indicates an Noise Criteria of less than 15.

5. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

Neck Size Dia. in Inches	Ak Factor	
	Position A (Cones Down)	Position B (Cones Up)
6	0.14	0.11
8	0.25	0.19
10	0.45	0.29
12	0.61	0.59
14	0.85	0.57
16	0.89	0.68