

PERFORMANCE DATA:

MODELS RNR AND ARNR • IMPERIAL UNITS

Nominal Neck Size	Neck Velocity, FPM	400	500	600	700	800	900	1000	1100	1200
	Velocity Pressure	.010	.016	.022	.031	.040	.050	.062	.075	.090
6" Dia.	Total Pressure, Position A	.024	.038	.055	.074	.097	.123	.152	.184	.219
	Total Pressure, Position B	.039	.061	.088	.119	.156	.197	.243	.294	.350
	Airflow, CFM	79	98	118	137	157	177	196	216	236
	Noise Criteria, Position A	—	—	15	20	24	28	31	34	37
	Noise Criteria, Position B	—	16	21	26	30	34	37	40	43
	Throw, Position A	2-2-4	2-3-5	2-4-5	3-4-6	3-4-7	3-5-8	4-5-8	4-6-9	4-6-10
	Throw, Position B	3-3-5	3-4-6	3-5-6	4-5-7	4-5-8	4-6-9	5-6-9	5-7-10	5-7-12
8" Dia.	Total Pressure, Position A	.031	.048	.069	.094	.123	.156	.193	.233	.278
	Total Pressure, Position B	.049	.077	.111	.151	.198	.250	.309	.374	.445
	Airflow, CFM	140	175	209	244	279	314	349	384	419
	Noise Criteria, Position A	—	—	18	23	27	31	34	37	40
	Noise Criteria, Position B	—	19	24	29	33	37	40	43	46
	Throw, Position A	2-3-6	3-4-7	3-5-8	3-5-9	4-6-10	4-7-11	5-8-12	5-9-13	6-9-14
	Throw, Position B	3-4-7	4-5-8	4-6-9	4-6-10	5-7-12	5-8-13	6-9-14	6-10-15	7-10-16
10" Dia.	Total Pressure, Position A	.026	.040	.058	.079	.103	.130	.161	.194	.231
	Total Pressure, Position B	.041	.064	.093	.126	.165	.209	.257	.311	.371
	Airflow, CFM	218	273	327	382	436	491	545	600	654
	Noise Criteria, Position A	—	—	17	22	26	30	33	36	39
	Noise Criteria, Position B	—	18	23	28	32	36	39	42	45
	Throw, Position A	3-4-7	3-5-8	4-5-9	4-6-10	4-7-12	5-8-13	5-9-14	6-10-16	7-11-17
	Throw, Position B	4-5-9	4-6-10	5-6-11	5-7-12	5-9-14	6-10-15	6-11-16	7-12-18	8-13-19
12" Dia.	Total Pressure, Position A	.025	.039	.056	.076	.100	.126	.156	.189	.225
	Total Pressure, Position B	.040	.063	.090	.123	.160	.203	.250	.303	.360
	Airflow, CFM	314	393	471	550	628	707	785	864	942
	Noise Criteria, Position A	—	—	16	21	25	29	32	35	38
	Noise Criteria, Position B	—	17	22	27	31	35	38	41	44
	Throw, Position A	3-5-9	4-6-10	4-7-11	5-8-13	5-8-14	6-10-16	7-11-18	8-12-19	9-13-21
	Throw, Position B	4-6-10	5-7-12	5-8-13	6-9-15	6-10-17	7-12-18	8-13-21	9-14-22	10-15-24
14" Dia.	Total Pressure, Position A	.034	.053	.077	.105	.137	.173	.214	.259	.308
	Total Pressure, Position B	.055	.086	.123	.168	.219	.278	.343	.415	.494
	Airflow, CFM	428	535	641	748	855	962	1069	1176	1283
	Noise Criteria, Position A	—	16	22	27	31	35	38	41	44
	Noise Criteria, Position B	—	22	27	32	36	40	43	46	49
	Throw, Position A	4-6-10	4-7-12	5-8-14	6-9-16	7-10-18	8-12-20	9-13-22	10-15-24	10-16-26
	Throw, Position B	5-7-11	5-8-14	6-9-16	7-10-18	8-11-20	9-13-22	10-15-25	11-17-27	12-18-30
16" Dia.	Total Pressure, Position A	.031	.049	.071	.096	.125	.159	.196	.237	.282
	Total Pressure, Position B	.050	.079	.113	.154	.201	.254	.314	.380	.452
	Airflow, CFM	559	698	838	977	1117	1257	1396	1536	1676
	Noise Criteria, Position A	—	15	21	25	29	33	36	39	42
	Noise Criteria, Position B	—	19	24	29	33	37	40	43	46
	Throw, Position A	4-7-12	5-8-14	6-9-16	7-11-18	8-12-20	9-13-22	10-14-24	11-16-26	12-17-28
	Throw, Position B	5-7-13	6-9-16	7-10-18	8-12-20	9-13-22	10-14-24	11-15-26	12-18-29	13-19-31
18" Dia.	Total Pressure, Position A	.028	.045	.064	.087	.114	.144	.178	.215	.256
	Total Pressure, Position B	.046	.071	.103	.140	.183	.231	.286	.346	.411
	Airflow, CFM	707	884	1060	1237	1414	1590	1767	1944	2121
	Noise Criteria, Position A	—	—	19	24	28	32	35	38	41
	Noise Criteria, Position B	—	17	22	27	31	35	38	41	44
	Throw, Position A	5-7-13	6-9-16	7-11-18	8-12-20	9-14-23	10-15-25	12-17-27	13-18-29	14-20-31
	Throw, Position B	6-8-15	7-10-18	8-12-20	9-13-22	10-15-25	11-17-29	13-19-30	14-20-32	15-21-34
20" Dia.	Total Pressure, Position A	.028	.044	.063	.086	.112	.142	.175	.212	.252
	Total Pressure, Position B	.045	.070	.101	.138	.180	.228	.281	.340	.405
	Airflow, CFM	873	1091	1309	1527	1745	1963	2182	2400	2618
	Noise Criteria, Position A	—	—	20	25	29	33	36	39	42
	Noise Criteria, Position B	—	18	23	28	32	36	39	42	45
	Throw, Position A	5-9-15	7-10-18	8-12-20	9-14-23	10-15-26	12-17-28	13-19-30	14-21-33	15-23-35
	Throw, Position B	6-10-17	8-11-20	9-13-22	10-15-25	11-16-28	13-18-30	14-20-32	15-22-35	16-25-38

For performance notes, see D145.

PERFORMANCE DATA:

MODELS RNR AND ARNR • IMPERIAL UNITS

Nominal Neck Size	Neck Velocity, FPM	400	500	600	700	800	900	1000	1100	1200
	Velocity Pressure	.010	.016	.022	.031	.040	.050	.062	.075	.090
24" Dia.	Total Pressure, Position A	.025	.039	.056	.076	.099	.125	.154	.187	.222
	Total Pressure, Position B	.040	.062	.089	.121	.158	.200	.247	.299	.356
	Airflow, CFM	1257	1571	1885	2199	2513	2827	3142	3456	3770
	Noise Criteria, Position A	—	15	21	26	30	34	37	40	43
	Noise Criteria, Position B	—	19	24	29	33	37	40	43	46
	Throw, Position A	6-10-18	8-12-20	9-14-24	10-16-27	11-17-29	13-20-33	15-22-36	17-25-39	18-27-42
	Throw, Position B	7-11-19	9-13-22	10-16-26	11-18-29	12-19-31	14-22-35	16-24-39	18-27-42	20-30-46

Performance Notes:

1. All pressures are in inches w.g..
2. Horizontal throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
3. Performance data as shown is for ceiling mounted diffusers. For exposed duct mounting, multiply the throw values by 0.70.
4. Noise Criteria (NC) values are based on 10 dB room absorption, re 10⁻¹² watts. Dash (—) in spaces indicates an Noise Criteria level of less than 15.
5. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2023.

Neck Size Dia. in Inches	Ak Factor	
	Position A (Cones Down)	Position B (Cones Down)
6	0.114	0.097
8	0.163	0.126
10	0.316	0.245
12	0.478	0.323
14	0.536	0.420
16	0.758	0.594
18	0.998	0.761
20	1.254	0.987
24	2.058	1.625

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CEILING DIFFUSERS