

# RPD

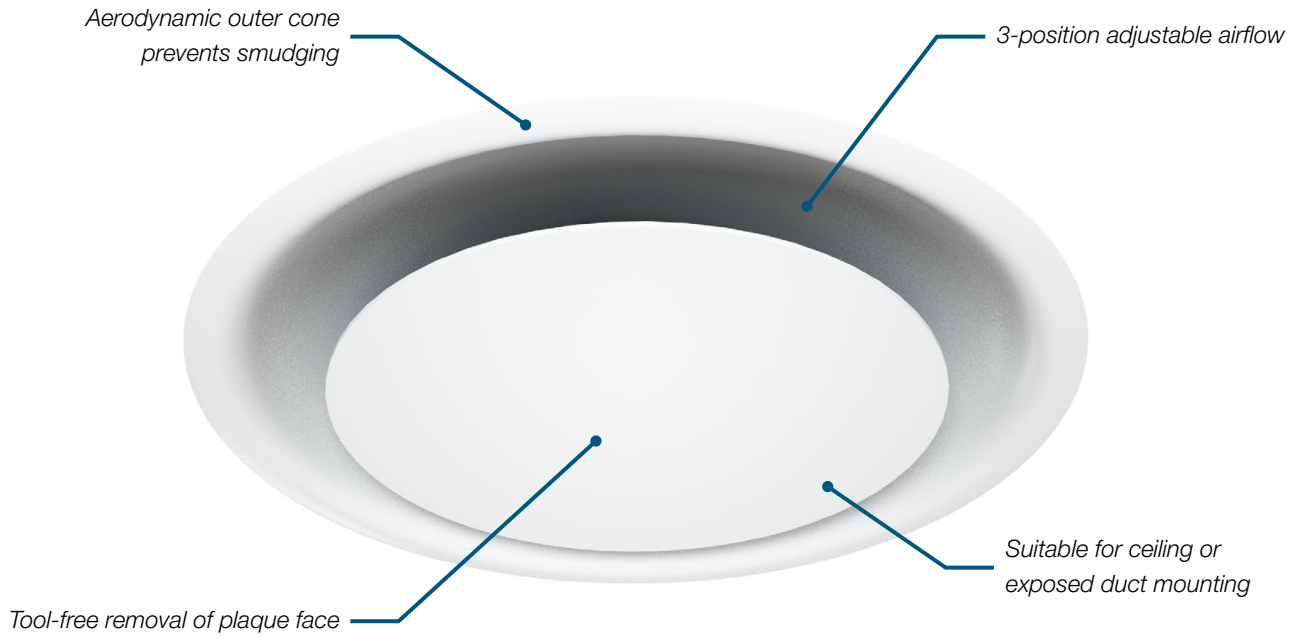
## ROUND PLAQUE DIFFUSER



# RPD

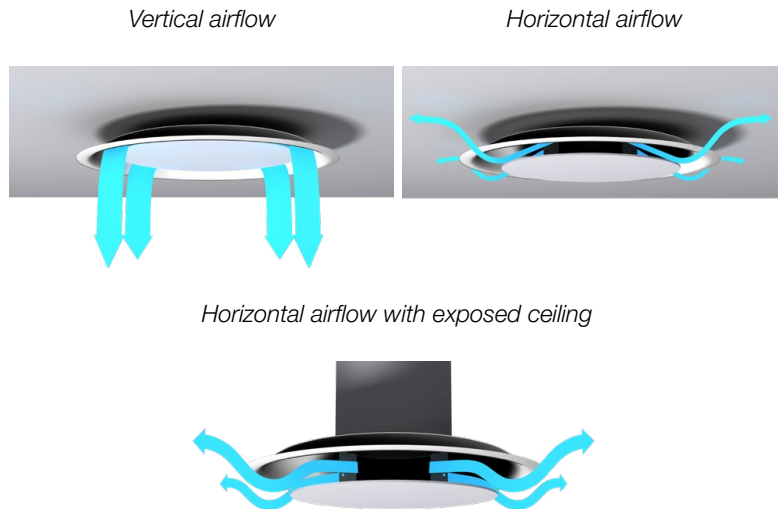
## Round Plaque Diffuser

Round Plaque Diffusers (RPD) provide a balance between engineering and architectural needs, with a flush appearance and superior VAV performance in both ceiling and exposed duct mounting applications.



## ADJUSTABLE AIRFLOW

- + Well suited for both heating and cooling applications, the smooth plaque face is easily adjustable to three positions.
- + Adjustment positions include: vertical, horizontal for ceiling installations, and horizontal for exposed ductwork installations.



## SUPERIOR PERFORMANCE

- + The one-piece, aerodynamic outer cone helps prevent ceiling smudging by preventing entrained room air from directly contacting the ceiling.
- + Together, the outer cone and plaque face deliver a tight, 360° radial horizontal air pattern, even at low airflows, making the RPD ideal for VAV applications.

## EASILY REMOVABLE PLAQUE FACE

- + The plaque face is easily removed and reinstalled without special tools allowing for quick and easy maintenance, installation and adjustability.

## TYPICAL APPLICATIONS

The RPD is designed for ceiling and exposed duct mounting applications that require flexibility for both heating and cooling with adjustment between horizontal and vertical air patterns.

### CONSTRUCTION

- + Size
  - RPD - 6 in. to 14 in.
  - ARPD - 6 in. to 12 in.
- + Options
  - Plaque retainer cable
  - Accessory dampers, equalizing grid, backpan insulation, etc.
- + Material
  - Steel (RPD)
  - Aluminum (ARPD)

# PERFORMANCE DATA

Size	Neck Velocity (fpm)	400	500	600	700	800	900	1000	1200	1400	
		Velocity Pressure (in. w.g.)	.010	.016	.022	.031	.040	.050	.062	.090	.122
6 in.	Plaque Position	Flow Rate (cfm)	79	98	118	137	157	177	196	236	275
	Center	Total Pressure, in. w.g.	0.014	0.022	0.032	0.044	0.057	0.073	0.090	0.129	0.176
		Sound (NC)	0.004	0.007	0.010	0.013	0.017	0.022	0.027	0.039	0.054
		N.C. (Noise Criteria)	-	-	-	-	-	-	15	21	26
		Horizontal Throw (ft)	1-2-4	2-3-5	2-3-5	2-4-5	3-4-6	3-4-6	3-5-7	4-5-7	4-5-8
	Down	Total Pressure, in. w.g.	0.015	0.024	0.035	0.047	0.062	0.078	0.096	0.139	0.189
		Sound (NC)	0.005	0.008	0.012	0.017	0.022	0.028	0.034	0.049	0.067
		N.C. (Noise Criteria)	-	-	-	-	-	-	16	22	27
		Horizontal Throw (ft)	1-2-5	2-3-6	2-4-7	3-4-8	3-5-8	4-5-9	4-6-9	5-7-10	6-8-11
	Up	Total Pressure, in. w.g.	0.039	0.061	0.088	0.120	0.156	0.198	0.244	0.352	0.479
		Sound (NC)	0.029	0.046	0.066	0.089	0.117	0.147	0.182	0.262	0.357
		N.C. (Noise Criteria)	-	-	-	-	16	19	23	29	34
		10°F Heating	11	12	13	14	15	16	17	18	20
20°F Heating		10	11	12	13	14	15	15	17	18	
30°F Heating		9	11	12	12	13	14	15	16	18	
40°F Heating		9	10	11	12	12	13	14	15	16	
Vertical Projection to 50fpm											

NC 20

Size	Neck Velocity (fpm)	400	500	600	700	800	900	1000	1200	1400	
		Velocity Pressure (in. w.g.)	.010	.016	.023	.031	.040	.051	.063	.090	.122
8 in.	Plaque Position	Flow Rate (cfm)	140	175	209	244	279	314	349	419	489
	Center	Total Pressure, in. w.g.	0.019	0.030	0.043	0.058	0.076	0.096	0.118	0.171	0.232
		Sound (NC)	-	-	-	-	-	-	-	20	25
		Horizontal Throw (ft)	2-3-6	3-4-8	3-5-10	4-6-11	4-6-13	5-7-14	5-8-16	6-10-19	7-11-22
	Down	Total Pressure, in. w.g.	0.016	0.025	0.036	0.049	0.064	0.081	0.100	0.144	0.196
		Sound (NC)	-	-	-	-	-	-	-	19	23
		Horizontal Throw (ft)	2-3-6	3-4-8	3-5-9	4-5-11	4-6-12	5-7-14	5-8-15	6-9-18	7-11-21
	Up	Total Pressure, in. w.g.	0.045	0.070	0.101	0.137	0.179	0.227	0.280	0.403	0.549
		Sound (NC)	-	-	-	-	18	21	24	29	33
		10°F Heating	10	11	12	13	13	14	15	16	18
		20°F Heating	9	10	11	11	12	13	14	15	16
		30°F Heating	8	9	10	10	11	12	12	14	15
		40°F Heating	7	8	9	9	10	11	11	12	13
Vertical Projection to 50fpm											

NC 20

10 in.	Plaque Position	Flow Rate (cfm)	218	273	327	382	436	491	545	654	763
	Center	Total Pressure, in. w.g.	0.019	0.030	0.043	0.058	0.076	0.096	0.118	0.171	0.232
		Sound (NC)	-	-	-	-	16	19	22	28	32
		Horizontal Throw (ft)	3-4-8	3-5-10	4-6-11	4-7-13	5-8-15	6-9-17	6-10-19	8-11-23	9-13-27
	Down	Total Pressure, in. w.g.	0.016	0.025	0.036	0.049	0.064	0.081	0.100	0.144	0.196
		Sound (NC)	-	-	-	-	16	19	22	27	31
		Horizontal Throw (ft)	2-4-7	3-5-9	4-6-11	4-7-13	5-7-15	6-8-17	6-9-19	7-11-22	9-13-26
	Up	Total Pressure, in. w.g.	0.024	0.037	0.053	0.072	0.095	0.120	0.148	0.213	0.290
		Sound (NC)	-	-	-	-	15	19	22	28	33
		10°F Heating	11	12	14	15	16	17	17	19	21
		20°F Heating	10	11	12	13	14	15	16	17	19
		30°F Heating	9	10	11	12	13	13	14	16	17
		40°F Heating	8	9	10	10	11	12	13	14	15
Vertical Projection to 50fpm											

NC 20

NC 30

**Performance Notes:**

1. Tested in accordance with ASHRAE Standard 70 – 2023 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
2. Air flow is in cfm.
3. All pressures are in in. w.g.
4. Vertical projections are to terminal velocities of 50 fpm.
5. Throw values are measured in feet for terminal velocities of 150 fpm (minimum), 100 fpm (middle) and 50 fpm (maximum)
6. Throw data is based on supply air and room air being at isothermal conditions, unless otherwise noted.
7. NC values are based on room absorption of 10 dB re 10<sup>-12</sup> Watts and one diffuser.
8. Blanks "-" indicate an NC level below 15.

# PERFORMANCE DATA

Size	Neck Velocity (fpm)		400	500	600	700	800	900	1000	1200	1400
	Velocity Pressure (in. w.g.)		.010	.016	.023	.031	.040	.051	.063	.090	.122
12 in.	Plaque Position	Flow Rate, Flow Rate (cfm)	314	393	471	550	628	707	785	942	1099
	Center	Total Pressure, in. w.g.	0.019	0.030	0.043	0.058	0.076	0.096	0.118	0.171	0.232
		Sound (NC)	-	-	-	18	22	26	29	34	39
		Horizontal Throw (ft)	3-5-9	4-6-11	5-7-14	5-8-16	6-9-18	7-10-21	8-11-23	9-14-28	11-16-32
	Down	Total Pressure, in. w.g.	0.016	0.025	0.036	0.049	0.064	0.081	0.100	0.144	0.196
		Sound (NC)	-	-	-	19	23	26	29	34	38
		Horizontal Throw (ft)	3-4-9	4-6-11	4-7-14	5-8-16	6-9-18	7-10-21	7-11-23	9-13-28	10-16-32
	Up	Total Pressure, in. w.g.	0.032	0.050	0.071	0.097	0.127	0.161	0.198	0.285	0.389
		Sound (NC)	-	-	-	19	23	27	30	35	40
		10°F Heating	13	14	16	17	18	19	20	22	24
		20°F Heating	12	13	14	15	16	17	18	20	22
		30°F Heating	10	11	13	14	15	15	16	18	19
40°F Heating		9	10	11	12	13	14	14	16	17	
			NC 20				NC 30			NC 40	
14 in.	Plaque Position	Flow Rate (cfm)	428	535	641	748	855	962	1069	1283	1497
	Center	Total Pressure, in. w.g.	0.019	0.030	0.043	0.058	0.076	0.096	0.118	0.171	0.232
		Sound (NC)	-	-	19	24	28	31	34	40	44
		Horizontal Throw (ft)	4-6-11	5-7-14	6-9-17	7-10-20	8-11-23	9-13-26	10-14-29	11-17-34	13-20-40
	Down	Total Pressure, in. w.g.	0.016	0.025	0.036	0.049	0.064	0.081	0.100	0.144	0.196
		Sound (NC)	-	15	20	24	28	31	34	39	43
		Horizontal Throw (ft)	3-5-10	4-6-13	5-8-16	6-9-18	7-10-21	8-12-23	9-13-26	10-16-31	12-18-36
	Up	Total Pressure, in. w.g.	0.031	0.048	0.069	0.094	0.122	0.155	0.191	0.276	0.375
		Sound (NC)	-	18	22	27	30	33	36	41	45
		10°F Heating	13	14	15	17	18	19	20	22	24
		20°F Heating	11	12	14	15	16	17	18	19	21
		30°F Heating	10	11	12	13	14	14	15	17	18
40°F Heating		8	9	10	11	12	12	13	14	15	
			NC 20				NC 30			NC 40	

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