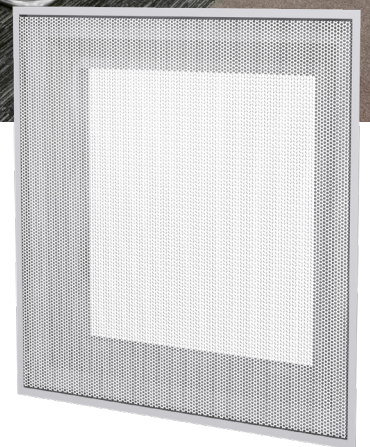


# PDDR

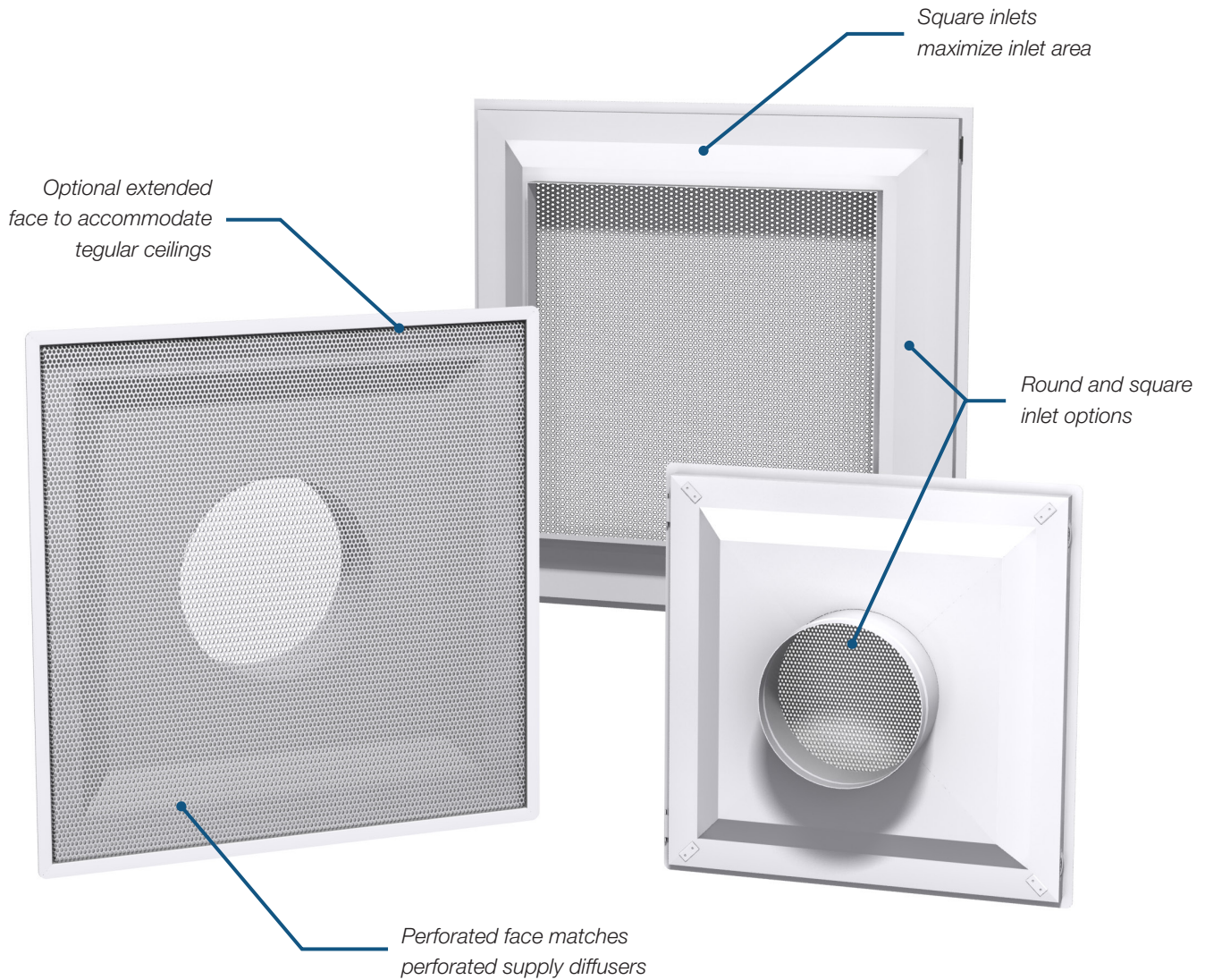
PERFORATED RETURN DIFFUSER



# PDDR

## Perforated Return Diffuser

The Perforated Return Diffuser (PDDR) is designed to match the PDF, PDN, PDC, PDSP and PDMC perforated supply diffusers in appearance and detail. Similar to the perforated supply diffusers, the PDDR is available in five frame styles and six module sizes.





### CONNECTION OPTIONS

- + The PDDR is available with a variety of inlet sizes for both ducted and ceiling plenum return applications.
- + To maximize inlet area, square inlets are sized only 2 in. less than the ceiling module size.

### EASILY REMOVABLE PERFORATED FACE

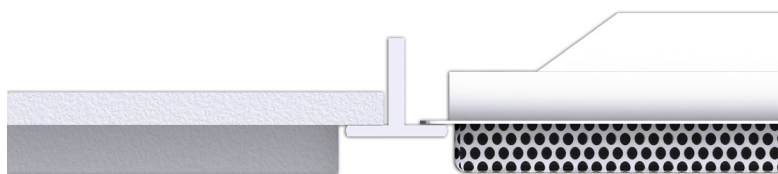
- + This diffuser features quick-release latches on the hinged, perforated face.

### LIGHT SHIELD

- + For plenum returns an optional light shield can be used to minimize sightlines into the ceiling space.

### EXTENDED FACE

- + An extended face option is available to accommodate tegular style ceilings by extending the diffuser face 3/8 in. below the t-bar plane so that the diffuser face is flush with tegular ceiling panels.



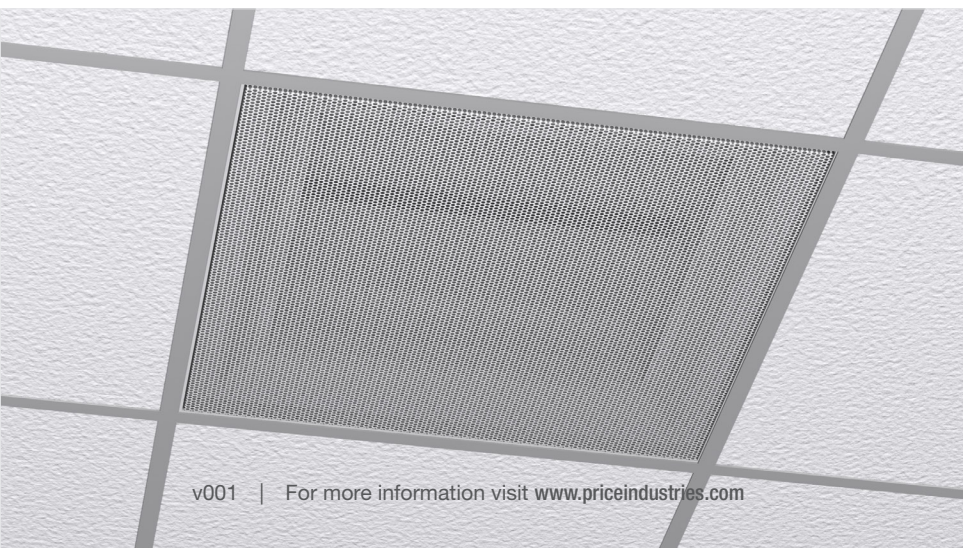
*PDDR extended face*

### TYPICAL APPLICATIONS

The PDDR is a perforated face diffuser designed for return applications. With a wide array of sizes and frame options, the PDDR is suitable for most ceiling types.

### CONSTRUCTION

- + Material
  - Steel (PDDR)
  - Optional aluminum face
- + Inlet
  - Round
  - Square
- + Size
  - 12 in. x 12 in.
  - 24 in. x 12 in.
  - 16 in. x 16 in.
  - 20 in. x 20 in..
  - 24 in. x 24 in.
  - Additional sizes available on select models
- + Options
  - Extended face (Style 15)
  - Fire rated construction (PDDR-FR)
  - Light shield
  - Complete range of available accessory dampers, backpan insulation, etc.
  - Optional beaded extended neck (2 1/2 in. tall) for easy flex duct connection



## PERFORMANCE DATA

### PDDR – 12 in. x 12 in. Module

Neck Size (in.)	Face Module (in.)	Neck Velocity (fpm)		200	300	400	500	600	700	800	900	1000
		Neg. Static Pressure (in. w.g.)		.007	.015	.027	.042	.061	.083	.108	.137	.169
		Velocity Pressure (in. w.g.)		.002	.006	.010	.016	.022	.031	.040	.050	.062
6 Ø	12 x 12	Flow Rate (cfm)		39	59	78	98	118	137	157	176	196
		Sound (NC)		-	-	-	-	-	-	-	-	-
6 x 6	12 x 12	Flow Rate (cfm)		50	75	100	125	150	175	200	225	250
		Sound (NC)		-	-	-	-	-	-	-	-	-

### PDDR – 16 in. x 16 in. Module

Neck Size (in.)	Face Module (in.)	Neck Velocity (fpm)		200	300	400	500	600	700	800	900	1000
		Neg. Static Pressure (in. w.g.)		.007	.015	.027	.042	.061	.083	.108	.137	.169
		Velocity Pressure (in. w.g.)		.002	.006	.010	.016	.022	.031	.040	.050	.062
6 Ø	16 x 16	Flow Rate (cfm)		39	59	78	98	118	137	157	176	196
		Sound (NC)		-	-	-	-	-	-	-	-	-
6 x 6	16 x 16	Flow Rate (cfm)		50	75	100	125	150	175	200	225	250
		Sound (NC)		-	-	-	-	-	-	-	-	-
8 Ø	16 x 16	Flow Rate (cfm)		70	105	140	175	209	244	279	314	349
		Sound (NC)		-	-	-	-	-	-	-	-	-
8 x 8	16 x 16	Flow Rate (cfm)		89	133	178	222	266	311	355	400	444
		Sound (NC)		-	-	-	-	-	-	-	-	-
10 Ø	16 x 16	Flow Rate (cfm)		109	164	218	273	327	382	436	491	545
		Sound (NC)		-	-	-	-	-	-	-	-	15
10 x 10	16 x 16	Flow Rate (cfm)		139	208	278	347	416	486	555	625	694
		Sound (NC)		-	-	-	-	-	-	-	-	16

### PDDR – 20 in. x 20 in. Module

Neck Size (in.)	Face Module (in.)	Neck Velocity (fpm)		200	300	400	500	600	700	800	900	1000
		Neg. Static Pressure (in. w.g.)		.007	.015	.027	.042	.061	.083	.108	.137	.169
		Velocity Pressure (in. w.g.)		.002	.006	.010	.016	.022	.031	.040	.050	.062
6 Ø	20 x 20	Flow Rate (cfm)		39	59	78	98	118	137	157	176	196
		Sound (NC)		-	-	-	-	-	-	-	-	-
6 x 6	20 x 20	Flow Rate (cfm)		50	75	100	125	150	175	200	225	250
		Sound (NC)		-	-	-	-	-	-	-	-	-
8 Ø	20 x 20	Flow Rate (cfm)		70	105	140	175	209	244	279	314	349
		Sound (NC)		-	-	-	-	-	-	-	-	-
8 x 8	20 x 20	Flow Rate (cfm)		89	133	178	222	266	311	355	400	444
		Sound (NC)		-	-	-	-	-	-	-	-	-
10 Ø	20 x 20	Flow Rate (cfm)		109	164	218	273	327	382	436	491	545
		Sound (NC)		-	-	-	-	-	-	-	-	16
10 x 10	20 x 20	Flow Rate (cfm)		139	208	278	347	416	486	555	625	694
		Sound (NC)		-	-	-	-	-	-	-	-	16
12 Ø	20 x 20	Flow Rate (cfm)		157	236	314	393	471	550	628	707	785
		Sound (NC)		-	-	-	-	-	-	-	-	16
12 x 12	20 x 20	Flow Rate (cfm)		200	300	400	500	600	700	800	900	1000
		Sound (NC)		-	-	-	-	-	-	-	-	17
14 Ø	20 x 20	Flow Rate (cfm)		207	311	414	518	622	725	829	932	1036
		Sound (NC)		-	-	-	-	-	-	-	-	18

**Performance Notes:**

1. Tested in accordance with ASHRAE Standard 70 – 2006 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
2. Airflow is in cfm.
3. All pressures are in in. w.g.
4. NC values are based on room absorption of 10 dB re 10<sup>-12</sup> Watts and one diffuser.
5. Blanks "-" indicate an NC level below 15.

## PERFORMANCE DATA

### PDDR – 24 in. x 12 in. Module

Neck Size (in.)	Face Module (in.)	Neck Velocity (fpm) Neg. Static Pressure (in. w.g.) Velocity Pressure (in. w.g.)	200 .007 .002	300 .015 .006	400 .027 .010	500 .042 .016	600 .061 .022	700 .083 .031	800 .108 .040	900 .137 .050	1000 .169 .062
6 Ø	12 x 12	Flow Rate (cfm)	39	59	78	98	118	137	157	176	196
		Sound (NC)	-	-	-	-	-	-	-	-	-
6 x 6	12 x 12	Flow Rate (cfm)	50	75	100	125	150	175	200	225	250
		Sound (NC)	-	-	-	-	-	-	-	-	-
18 x 6	24 x 12	Flow Rate (cfm)	150	225	300	375	450	525	600	675	750
		Sound (NC)	-	-	-	-	-	-	-	-	16

### PDDR – 24 in. x 24 in. Module

Neck Size (in.)	Face Module (in.)	Neck Velocity (fpm) Neg. Static Pressure (in. w.g.) Velocity Pressure (in. w.g.)	200 .007 .002	300 .015 .006	400 .027 .010	500 .042 .016	600 .061 .022	700 .083 .031	800 .108 .040	900 .137 .050	1000 .169 .062
6 Ø	24 x 24	Flow Rate (cfm)	39	59	78	98	118	137	157	176	196
		Sound (NC)	-	-	-	-	-	-	-	-	-
6 x 6	24 x 24	Flow Rate (cfm)	50	75	100	125	150	175	200	225	250
		Sound (NC)	-	-	-	-	-	-	-	-	-
8 Ø	24 x 24	Flow Rate (cfm)	70	105	140	175	209	244	279	314	349
		Sound (NC)	-	-	-	-	-	-	-	-	-
8 x 8	24 x 24	Flow Rate (cfm)	89	133	178	222	266	311	355	400	444
		Sound (NC)	-	-	-	-	-	-	-	-	-
10 Ø	24 x 24	Flow Rate (cfm)	109	164	218	273	327	382	436	491	545
		Sound (NC)	-	-	-	-	-	-	-	-	-
10 x 10	24 x 24	Flow Rate (cfm)	139	208	278	347	416	486	555	625	694
		Sound (NC)	-	-	-	-	-	-	-	-	16
12 Ø	24 x 24	Flow Rate (cfm)	157	236	314	393	471	550	628	707	785
		Sound (NC)	-	-	-	-	-	-	-	-	16
12 x 12	24 x 24	Flow Rate (cfm)	200	300	400	500	600	700	800	900	1000
		Sound (NC)	-	-	-	-	-	-	-	-	17
14 Ø	24 x 24	Flow Rate (cfm)	207	311	414	519	622	725	829	932	1036
		Sound (NC)	-	-	-	-	-	-	-	-	18
14 x 14	24 x 24	Flow Rate (cfm)	272	408	544	681	817	953	1089	1225	1361
		Sound (NC)	-	-	-	-	-	-	-	-	18
15 Ø	24 x 24	Flow Rate (cfm)	245	368	491	614	736	859	982	1104	1227
		Sound (NC)	-	-	-	-	-	-	-	16	19
15 x 15	24 x 24	Flow Rate (cfm)	313	469	625	782	938	1094	1250	1407	1563
		Sound (NC)	-	-	-	-	-	-	-	-	18
18 x 18	24 x 24	Flow Rate (cfm)	450	675	900	1125	1350	1575	1800	2025	2250
		Sound (NC)	-	-	-	-	-	17	22	26	29

### PDDR – Plenum Return

Neck Size (in.)	Face Module (in.)	Neck Velocity (fpm) Neg. Static Pressure (in. w.g.) Velocity Pressure (in. w.g.)	200 .007 .002	300 .015 .006	400 .027 .010	500 .042 .016	600 .061 .022	700 .083 .031	800 .108 .040	900 .137 .050	1000 .169 .062
10 x 10	12 x 12	Flow Rate (cfm)	139	208	278	347	416	486	555	625	694
		Sound (NC)	-	-	-	-	18	22	26	29	31
14 x 14	16 x 16	Flow Rate (cfm)	272	408	544	681	817	953	1089	1225	1361
		Sound (NC)	-	-	-	15	20	24	27	30	33
18 x 18	20 x 20	Flow Rate (cfm)	450	675	900	1125	1350	1575	1800	2025	2250
		Sound (NC)	-	-	-	16	21	25	28	31	34
22 x 10	24 x 12	Flow Rate (cfm)	306	458	611	764	917	1069	1222	1375	1528
		Sound (NC)	-	-	-	15	20	24	27	30	33
22 x 22	24 x 24	Flow Rate (cfm)	672	1008	1344	1681	2017	2353	2689	3025	3361
		Sound (NC)	-	-	-	17	22	26	29	32	35
46 x 22	48 x 24	Flow Rate (cfm)	1406	2018	2811	3514	4217	4919	5622	6325	7028
		Sound (NC)	-	-	-	19	24	28	31	34	37

**Performance Notes:**

1. Tested in accordance with ASHRAE Standard 70 – 2006 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
2. Airflow is in cfm.
3. All pressures are in in. w.g.
4. NC values are based on room absorption of 10 dB re 10<sup>-12</sup> Watts and one diffuser.
5. Blanks "-" indicate an NC level below 15.