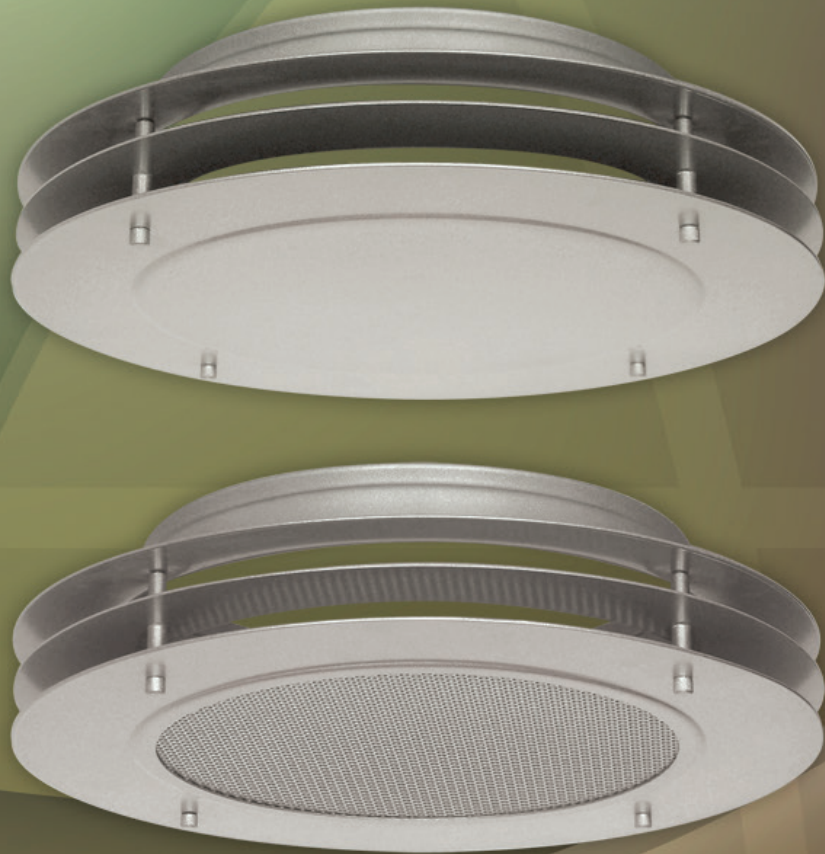


AIRCONCEPTS

AIR DISTRIBUTION PRODUCTS



SPD/SPDV SERIES

SPD/SPDV

SPD



Saturn Plaque Diffuser

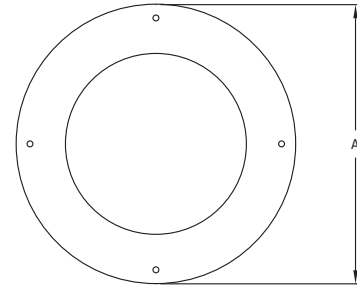
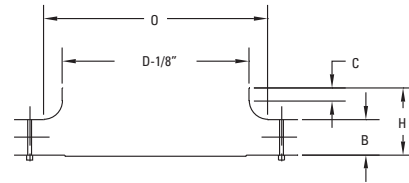
US Patent

SPD Dimensions in Inches

MODEL	A	B	C	D	H	O
SPD-04	7-1/2	2	1-1/4	4	3-3/4	5-1/8
SPD-06	10	2	1-3/16	6	4	7-1/2
SPD-08	12	2	1-3/16	8	4	9-1/2
SPD-10	15	2	1	10	4	11-7/8
SPD-12	17	2	1	12	4	13-7/8
SPD-14	20	2	1-1/4	14	4-1/2	16-3/8
SPD-16	22	2	1-1/4	16	4-1/2	18-3/8
SPD-20	28	3	1-1/2	20	6-1/4	23-3/8
SPD-24	34	4	1-1/2	24	7-1/2	27-7/8

High Velocity/High Aspiration Air Outlet

- Distinctive round design
- Horizontal air pattern
- Surface or exposed duct mount
- SPDV has a removable blank-off which adds a vertical air pattern component when removed
- Also available in a 24"x24" aluminum lay-in panel

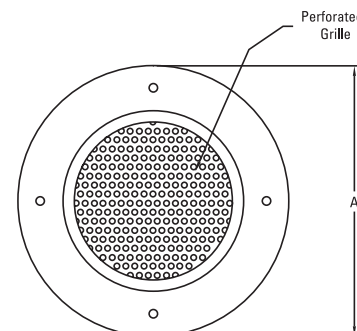
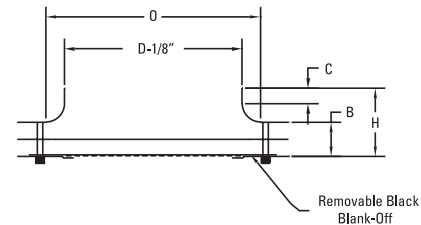


Construction

Heavy gauge aluminum

Finishes

- Standard: #52 White powder coat
- Optional standard: #00 Mill
- #10 Clear anodized
- #12 Anodized powder coat
- #42 Gloss black powder coat
- #43 Flat black powder coat
- #62 Grey prime powder coat
- #72 Silver metallic powder coat
- Custom colors available



SPDV



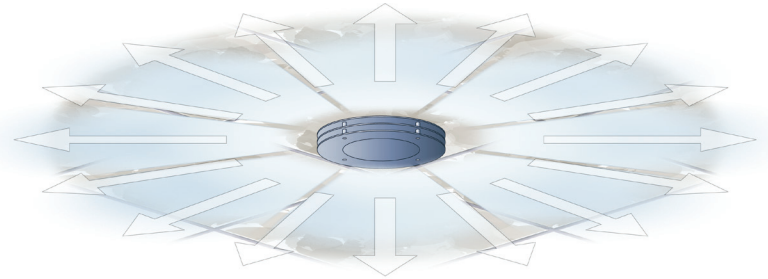
Saturn Plaque Diffuser
– Variable Pattern

US Patent

SPDV Dimensions in Inches

MODEL	A	B	C	D	H	O
SPDV-04	7-1/2	2	1-1/4	4	3-3/4	5-1/8
SPDV-06	10	2	1-3/16	6	4	7-1/2
SPDV-08	12	2	1-3/16	8	4	9-1/2
SPDV-10	15	2	1	10	4	11-7/8
SPDV-12	17	2	1	12	4	13-7/8
SPDV-14	20	2	1-1/4	14	4-1/2	16-3/8
SPDV-16	22	2	1-1/4	16	4-1/2	18-3/8
SPDV-20	28	3	1-1/2	20	6-1/4	23-3/8
SPDV-24	34	4	1-1/2	24	7-1/2	27-7/8

Radial Air Pattern



SPD/SPDV with blank-off installed have a 360° radial horizontal diffusion pattern. SPD radial air pattern performance data should be used for both diffusers.

MODEL	Duct Velocity Velocity Pressure	400 0.01	600 0.022	800 0.04	1000 0.062	1200 0.089	1400 0.122	1600 0.16
SPD-04	CFM	35	52	70	87	105	122	140
	Total Pressure	0.014	0.032	0.057	0.089	0.128	0.178	0.228
	NC	<20	<20	<20	<20	<20	<20	<20
	Radius of Diffusion	1-2-3	2-3-5	3-4-8	3-5-9	4-7-10	5-7-11	6-8-12
SPD-06	CFM	78	118	157	196	235	274	314
	Total Pressure	0.015	0.034	0.061	0.094	0.136	0.184	0.238
	NC	<20	<20	<20	<20	<20	22	26
	Radius of Diffusion	2-3-5	3-4-8	3-5-9	4-6-10	5-8-11	6-8-12	7-9-13
SPD-08	CFM	140	210	280	350	420	490	560
	Total Pressure	0.017	0.038	0.067	0.105	0.151	0.206	0.266
	NC	<20	<20	<20	<20	23	28	32
	Radius of Diffusion	2-3-6	3-5-10	4-7-11	6-8-13	7-10-14	8-11-15	9-12-16
SPD-10	CFM	218	327	436	545	654	763	873
	Total Pressure	0.018	0.04	0.072	0.112	0.161	0.22	0.286
	NC	<20	<20	<20	20	26	31	35
	Radius of Diffusion	3-5-9	4-6-13	6-9-14	7-10-16	8-11-17	10-13-19	11-14-21
SPD-12	CFM	314	471	628	785	942	1099	1256
	Total Pressure	0.02	0.044	0.078	0.122	0.175	0.252	0.306
	NC	<20	<20	<20	23	29	34	38
	Radius of Diffusion	4-6-12	5-7-15	7-11-17	8-12-18	10-14-21	12-16-23	13-17-25
SPD-14	CFM	428	641	855	1069	1283	1497	1710
	Total Pressure	0.025	0.057	0.1	0.157	0.219	0.302	0.396
	NC	<20	<20	21	29	35	40	44
	Radius of Diffusion	5-6-13	6-8-16	8-12-20	10-14-23	12-17-26	13-19-29	15-20-31
SPD-16	CFM	558	838	1117	1396	1675	1954	2234
	Total Pressure	0.035	0.078	0.14	0.222	0.319	0.432	0.556
	NC	<20	<20	27	35	41	46	50
	Radius of Diffusion	5-7-14	7-10-18	9-14-22	11-17-25	14-20-28	15-21-31	18-22-33
SPD-20	CFM	872	1308	1744	2180	2616	3052	3488
	Total Pressure	0.03	0.068	0.119	0.186	0.269	0.366	0.476
	NC	<20	<20	28	36	42	47	51
	Radius of Diffusion	6-9-17	9-13-25	11-18-28	14-21-32	18-24-35	20-26-38	22-28-41
SPD-24	CFM	1256	1885	2513	3141	3769	4397	5026
	Total Pressure	0.04	0.091	0.161	0.252	0.362	0.492	0.645
	NC	<20	21	30	38	44	49	53
	Radius of Diffusion	7-10-20	10-15-30	13-20-35	17-25-39	21-30-43	23-32-46	27-34-50

Performance data based on ASHRAE 70-06

RADIUS OF DIFFUSION: Horizontal distance (THROW) in feet from the Diffuser at which the maximum velocity has been reduced to specified terminal velocity (Vt).

TERMINAL VELOCITY: Maximum velocity (Vt) in feet per minute at the specified distance from the outlet face (THROW) 150 fpm, 100 fpm and 50 fpm respectively.

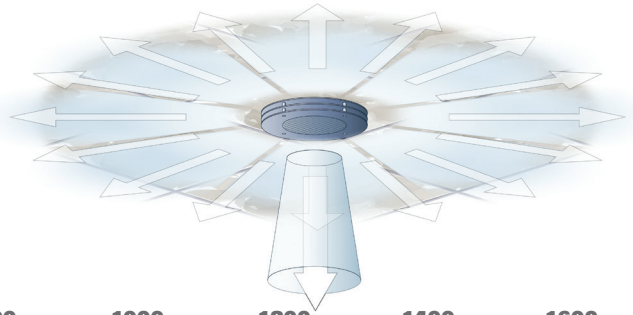
AIRFLOW CFM: Standard air density and isothermal conditions.

TOTAL PRESSURE: Inches of water gauge required.

NOISE CRITERIA: Noise criteria (NC) curve which is not exceeded with a Room Attenuation of 10db and based on Sound Power Level Re: 10-12 watts.

Combination Air Pattern

SPDV with blank-off removed has a combination air pattern that is a radial horizontal diffusion pattern with a vertical projection component. Approximately 50% of the airflow is projected in a vertical column through the perforated center of the plaque. SPDV combination air pattern performance data should be used for this unit.



MODEL	Duct Velocity Velocity Pressure	400 0.01	600 0.022	800 0.04	1000 0.062	1200 0.089	1400 0.122	1600 0.16
SPDV-04	CFM	35	52	70	87	105	122	140
	Total Pressure	0.012	0.026	0.047	0.075	0.104	0.146	0.188
	NC	<20	<20	<20	<20	<20	<20	<20
	Radius of Diffusion	0.5-1-2	1-2-3	2-3-5	2-3-6	3-4-7	3-5-8	4-6-9
	Vertical Projection	1-2	1-3	2-4	3-6	3-7	4-8	5-10
SPDV-06	CFM	78	118	157	196	235	274	314
	Total Pressure	0.013	0.028	0.05	0.079	0.113	0.153	0.203
	NC	<20	<20	<20	<20	<20	21	25
	Radius of Diffusion	2-3-4	2-3-5	3-4-7	3-4-8	3-5-9	4-6-10	5-7-12
	Vertical Projection	1-3	2-4	3-6	4-7	4-9	5-10	6-12
SPDV-08	CFM	140	210	280	350	420	490	560
	Total Pressure	0.013	0.029	0.053	0.082	0.118	0.162	0.211
	NC	<20	<20	<20	<20	<20	24	28
	Radius of Diffusion	2-3-5	2-3-6	3-4-8	4-6-10	4-7-11	5-8-12	5-9-13
	Vertical Projection	2-4	3-6	4-8	5-10	6-12	7-14	8-16
SPDV-10	CFM	218	327	436	545	654	763	873
	Total Pressure	0.014	0.03	0.054	0.084	0.12	0.165	0.218
	NC	<20	<20	<20	<20	22	26	31
	Radius of Diffusion	2-3-7	3-4-9	3-5-10	4-6-12	6-8-14	7-9-15	8-10-16
	Vertical Projection	2-5	4-7	5-10	6-12	7-15	9-17	10-19
SPDV-12	CFM	314	471	628	785	942	1099	1256
	Total Pressure	0.014	0.031	0.055	0.087	0.124	0.17	0.227
	NC	<20	<20	<20	<20	25	29	34
	Radius of Diffusion	3-4-8	4-6-12	5-8-13	6-10-15	7-11-16	8-12-18	9-13-20
	Vertical Projection	3-6	4-9	6-12	7-15	9-18	10-21	12-24
SPDV-14	CFM	428	641	855	1069	1283	1497	1710
	Total Pressure	0.015	0.032	0.058	0.09	0.129	0.177	0.234
	NC	<20	<20	<20	21	27	32	36
	Radius of Diffusion	3-5-9	5-7-13	6-9-15	7-11-17	8-12-19	9-15-23	10-16-23
	Vertical Projection	4-7	5-9	7-14	8-18	10-21	12-25	13-28
SPDV-16	CFM	558	838	1117	1396	1675	1954	2234
	Total Pressure	0.015	0.035	0.061	0.095	0.137	0.186	0.245
	NC	<20	<20	<20	25	31	36	40
	Radius of Diffusion	4-5-10	6-8-15	7-11-17	8-13-20	9-14-23	10-17-26	11-19-29
	Vertical Projection	5-8	6-12	8-15	9-19	11-24	13-26	15-31
SPDV-20	CFM	872	1308	1744	2180	2616	3052	3488
	Total Pressure	0.015	0.032	0.057	0.088	0.128	0.174	0.228
	NC	<20	<20	21	26	33	38	42
	Radius of Diffusion	5-7-12	8-10-19	9-14-22	10-16-25	12-19-29	13-22-33	14-24-37
	Vertical Projection	7-10	8-16	10-19	11-24	14-30	16-33	19-39
SPDV-24	CFM	1256	1885	2513	3141	3769	4397	5026
	Total Pressure	0.015	0.037	0.064	0.095	0.13	0.19	0.25
	NC	<20	<20	23	28	35	40	44
	Radius of Diffusion	6-8-15	9-12-23	11-16-28	12-19-31	14-24-36	15-27-40	17-29-45
	Vertical Projection	9-13	10-19	13-25	15-30	18-37	20-40	23-46

Performance data based on ASHRAE 70-06

RADIUS OF DIFFUSION: Horizontal distance (THROW) in feet from the Diffuser at which the maximum velocity has been reduced to specified terminal velocity (Vt).

TOTAL PRESSURE: Inches of water gauge required.

TERMINAL VELOCITY: Maximum velocity (Vt) in feet per minute at the specified distance from the outlet face (THROW) 150 fpm, 100 fpm and 50 fpm respectively.

AIRFLOW CFM: Standard air density and isothermal conditions.

VERTICAL PROJECTION: Vertical distance (THROW) in feet - minimum value is 20-degree heating to 0 fpm terminal velocity and maximum value is 20-degree cooling to 100 fpm terminal velocity.

NOISE CRITERIA: Noise criteria (NC) curve which is not exceeded with a Room Attenuation of 10db and based on Sound Power Level Re: 10-12 watts.



