

# PERFORMANCE DATA

## SC-VDR-XX ROUND VAV Diffuser

### SUPPLY

Neck Size, Ø	Nom Duct Area, ft <sup>2</sup>	Neck Velocity	300	400	500	600	700	800	1000	1200	1400	1600
6	0.196	Velocity Press	0.01	0.01	0.02	0.02	0.03	0.04	0.06	0.09	0.12	0.16
		CFM	60	80	100	120	140	160	200	240	270	310
		Ps	0.02	0.03	0.05	0.07	0.10	0.13	0.21	0.30	0.37	0.49
		NC	<20	<20	<20	22	26	29	36	41	44	48
		Throw	1   2   3	1   2   4	2   3   5	2   3   7	3   4   8	3   4   9	4   5   11	4   7   13	5   7   15	6   8   16
8	0.349	CFM	100	140	170	210	240	280	350	420	490	560
		Ps	0.01	0.03	0.04	0.06	0.08	0.11	0.17	0.25	0.34	0.44
		NC	<20	<20	<20	<20	23	27	33	38	42	46
		Throw	1   2   4	2   3   5	2   3   7	3   4   8	3   5   9	4   5   11	5   7   14	5   8   16	6   10   19	7   11   22
		10	0.545	CFM	160	220	270	330	380	440	550	650
Ps	0.01			0.02	0.03	0.04	0.06	0.07	0.12	0.16	0.22	0.29
NC	<20			<20	<20	22	26	30	36	41	45	49
Throw	1   2   5			2   3   7	3   4   8	3   5   10	4   6   12	5   7   14	6   8   17	7   10   20	8   12   23	9   13   27
12	0.785			CFM	240	310	390	470	550	630	790	940
		Ps	0.01	0.02	0.04	0.05	0.07	0.10	0.15	0.22	0.30	0.39
		NC	<20	<20	<20	21	25	29	35	40	44	48
		Throw	2   3   6	3   4   8	3   5   10	4   6   12	5   7   14	6   8   17	7   10   21	8   12   25	10   14   29	11   17   33
		15	1.227	CFM	370	490	610	740	860	980	1230	1470
Ps	0.01			0.02	0.03	0.04	0.06	0.07	0.11	0.16	0.22	0.29
NC	<20			<20	<20	22	26	30	36	41	45	49
Throw	2   4   8			3   5   10	4   6   13	5   8   15	6   9   18	7   10   20	9   13   26	10   15   31	12   18   36	14   20   41
18	1.767			CFM	530	710	880	1060	1240	1410	1770	2120
		Ps	0.01	0.02	0.03	0.05	0.07	0.08	0.13	0.19	0.26	0.34
		NC	<20	<20	<20	23	27	30	37	42	46	50
		Throw	2   5   9	4   6   12	5   8   15	6   9   19	7   11   22	8   12   25	10   15   31	12   19   37	14   22   43	16   25   49

#### Notes:

- Neck velocity is fpm, feet per minute.

#### Test Standard

- ANSI / ASHRAE standard 70
- Isothermal conditions
- Non-uniform air flow into diffusers increase sound levels, operating pressures, and can distort the air distribution pattern into the space

#### Sound Levels

- NC is noise criteria curve that will not be exceeded at the operating point. This is determined by assuming a 10dB (ref: 10<sup>-12</sup> watts) room attenuation that is subtracted from the power levels in each of the 2nd thru 7th octave bands

#### Throw

- The numbers shown are throw distances, in feet, measured along the jet trajectory axis relating to terminal velocities of 150, 100, & 50 fpm and include a surface effect.
- Terminal velocity is the air speed, in feet per minute, measured in the supply air stream.
- For exposed duct installations, throws are 70% of the table values above.

#### Pressure

- P<sub>s</sub> represents static pressure, inches of water
- P<sub>t</sub> total pressure can be calculated by adding the Velocity pressure and Static pressure (P<sub>s</sub>), inches of water
- All pressures are stated and calculated in inches of water.

### RETURN

Neck Size, Ø	Nom Duct Area, ft <sup>2</sup>	Neck Velocity	300	400	500	600	700	800	900	1000	1100	1200
6	0.196	Velocity Press	0.01	0.01	0.02	0.02	0.03	0.04	0.05	0.06	0.08	0.09
		CFM	60	80	100	120	140	160	180	200	220	240
		-Ps	0.03	0.06	0.09	0.13	0.17	0.23	0.29	0.35	0.43	0.51
		NC	<20	<20	<20	22	26	29	33	36	38	41
8	0.349	CFM	100	140	170	210	240	280	310	350	380	420
		-Ps	0.03	0.06	0.09	0.13	0.17	0.24	0.29	0.37	0.43	0.53
		NC	<20	<20	<20	<20	23	27	30	33	35	38
		Throw	1   2   4	2   3   5	2   3   7	3   4   8	3   5   9	4   5   11	5   7   14	5   8   16	6   10   19	7   11   22
10	0.545	CFM	160	220	270	330	380	440	490	550	600	650
		-Ps	0.02	0.04	0.07	0.10	0.13	0.17	0.22	0.27	0.32	0.38
		NC	<20	<20	<20	22	26	30	33	36	39	41
		Throw	1   2   5	2   3   7	3   4   8	3   5   10	4   6   12	5   7   14	6   8   17	7   10   20	8   12   23	9   13   27
12	0.785	CFM	240	310	390	470	550	630	710	790	860	940
		-Ps	0.04	0.07	0.12	0.17	0.23	0.30	0.38	0.48	0.56	0.67
		NC	<20	<20	<20	21	25	29	32	35	37	40
		Throw	2   3   6	3   4   8	3   5   10	4   6   12	5   7   14	6   8   17	7   10   21	8   12   25	10   14   29	11   17   33
15	1.227	CFM	370	490	610	740	860	980	1100	1230	1350	1470
		-Ps	0.04	0.06	0.10	0.14	0.19	0.25	0.31	0.39	0.47	0.56
		NC	<20	<20	<20	22	26	30	33	36	39	41
		Throw	2   4   8	3   5   10	4   6   13	5   8   15	6   9   18	7   10   20	9   13   26	10   15   31	12   18   36	14   20   41
18	1.767	CFM	530	710	880	1060	1240	1410	1590	1770	1940	2120
		Ps	0.01	0.02	0.03	0.05	0.07	0.08	0.11	0.13	0.16	0.19
		NC	<20	<20	<20	23	27	30	34	37	39	42
		Throw	2   5   9	4   6   12	5   8   15	6   9   19	7   11   22	8   12   25	10   15   31	12   19   37	14   22   43	16   25   49

#### Notes:

- Neck velocity is fpm, feet per minute.

#### Test Standard

- ANSI / ASHRAE standard 70

#### Sound Levels

- NC is noise criteria curve that will not be exceeded at the operating point. This is determined by assuming a 10dB (ref: 10<sup>-12</sup> watts) room attenuation that is subtracted from the power levels in each of the 2nd thru 7th octave bands

#### Pressure

- PS represents negative static pressure, inches of water
- PT total pressure can be calculated by adding the Velocity pressure and Static pressure (Ps), inches of water
- All pressures are stated and calculated in inches of water.



5351 E. Thompson Road Suite 128, Indianapolis, IN 46237  
 Phone: 317.361.0830  
[www.specifiedcontrols.com](http://www.specifiedcontrols.com)