



ENGINEERING DATA

SDD-1 One Way Series											See Footnotes A & C																		
SIZE	Velocity		300			400			500			600			700			800			900			1000			1200		
	Duct Pt		0.007			0.011			0.017			0.024			0.034			0.044			0.055			0.068			0.1		
6x6	Eff.Area .13 ft ²	CFM	46			56			66			74			90			105			119			130			150		
		NC	<20			<20			<20			<20			<20			20-25			20-25			25-30			25-30		
		Throw	3.5	4	4.5	4.5	5	5.5	5.5	6	6.5	6	7	8	7	8	9	7	8	9	8	10	12	9	11	13	10.5	13	15.5
8x8	Eff.Area .20 ft ²	CFM	60			75			90			4			119			135			150			165			195		
		NC	<20			<20			<20			<20			<20			20-25			20-25			25-30			25-30		
		Throw	4.5	5	5.5	5.5	6	6.5	6.5	7	7.5	7	8	9	8.5	10	11.5	9.5	11	12.5	9.5	12	14.5	10.5	13	15.5	13	16	19
10x10	Eff.Area .29 ft ²	CFM	93			114			135			153			177			205			233			262			318		
		NC	<20			<20			<20			<20			<20			20-25			20-25			25-30			25-30		
		Throw	5.5	6	6.5	6.5	7	7.5	7	8	9	8.5	10	11.5	10	12	13.5	12	14	16	12	15	18	13.5	17	20	16	20	24
12x12	Eff.Area .42 ft ²	CFM	136			172			208			258			300			338			376			423			517		
		NC	<20			<20			<20			<20			20-25			20-25			25-30			30			35		
		Throw	6.5	7	7.5	7	8	9	9	10	11	10	12	14	13	15	17	14.5	17	20	15	19	23	18	22	26	20	25	30
14x14	Eff.Area .59 ft ²	CFM	198			253			308			356			414			457			500			555			665		
		NC	<20			<20			<20			<20			20-25			20-25			25-30			30			35		
		Throw	9	10	11	10	11	12	11.5	13	14.5	13	15	17	15.5	18	21	18	21	24	19	24	30	22	27	32	26	32	38
16x16	Eff.Area .79 ft ²	CFM	255			307			397			460			530			588			650			720			850		
		NC	<20			<20			20-25			25			25-30			30-35			35			35-40			>40		
		Throw	11.5	13	14.5	12.5	14	15.5	14.5	16	18	15.5	18	21	18	21	24	20	24	28	22	27	32	25	31	37	30	38	46



ENGINEERING DATA

SDD-2 Two Way Series											See Footnotes A & C																		
SIZE	Velocity		300			400			500			600			700			800			900			1000			1200		
	Duct Pt		0.007			0.011			0.017			0.024			0.034			0.044			0.055			0.068			0.1		
6x6	Eff.Area .13 ft ²	CFM	47			56			65			76			89			105			121			131			149		
		NC	<20			<20			<20			<20			<20			<20			25			30					
		Throw	2	2	2	2.5	3	3.5	3.5	4	4.5	4.5	5	5.5	5	6	7	5.5	6.5	7.5	5.5	7	8.5	6.5	8	9.5	8	10	12
8x8	Eff.Area .20 ft ²	CFM	57			74			91			106			120			135			149			165			195		
		NC	<20			<20			<20			<20			<20			<20			25			30					
		Throw	2.5	3	3.5	3.5	4	4.5	4.5	5	5.5	5	6	7	6	7	8	7	8	9	7	9	11	8.5	10.5	12.5	10.5	13	15.5
10x10	Eff.Area .29 ft ²	CFM	98			116			134			153			177			205			233			262			318		
		NC	<20			<20			<20			<20			<20			25			25			30			35		
		Throw	3.5	4	4.5	4.5	5	5.5	5.5	6	6.5	6	7	8	7	8	9	7.5	9	10.5	8	10	12	10	12	14	12	15	18
12x12	Eff.Area .42 ft ²	CFM	124			168			212			255			297			337			376			423			517		
		NC	<20			<20			<20			<20			<20			25			25			30			35		
		Throw	4.5	5	5.5	5.5	6	6.5	6.5	7	7.5	7	8	9	8.5	10	11.5	10	11.5	13	10.5	13	15.5	12	15	18	14.5	18	22
14x14	Eff.Area .59 ft ²	CFM	204			253			302			356			406			458			510			560			660		
		NC	<20			<20			<20			<20			<20			25			25			30			35		
		Throw	4.5	5	5.5	6.5	7	7.5	8	9	10	9.5	11	12.5	11	13	15	12	14.5	16.5	13	16	19	14.5	18	22	16	20	24
16x16	Eff.Area .79 ft ²	CFM	255			307			397			460			530			588			650			720			850		
		NC	<20			<20			20-25			25			25-30			30-35			35			35-40			>40		
		Throw	11.5	13	14.5	12.5	14	15.5	14.5	16	18	15.5	18	21	18	21	24	20	24	28	22	27	32	25	31	37	30	38	46



ENGINEERING DATA

SDD-2C Two Corner Series																							See Footnotes A & C						
SIZE	Velocity		300			400			500			600			700			800			900			1000			1200		
	Duct Pt		0.007			0.011			0.017			0.024			0.034			0.044			0.055			0.068			0.1		
6x6	Eff.Area .13 ft ²	CFM	46			56			66			74			90			105			119			130			150		
		NC	<20			<20			<20			<20			<20			<20			<20			25			30		
		Throw	2	2	2	2.5	3	3.5	3.5	4	4.5	4.5	5	5.5	5	6	7	5.5	6.5	7.5	5.5	7	8.5	6.5	8	9.5	8	10	12
8x8	Eff.Area .20 ft ²	CFM	60			75			90			104			119			135			150			165			195		
		NC	<20			<20			<20			<20			<20			<20			<20			25			30		
		Throw	2.5	3	3.5	3.5	4	4.5	4.5	5	5.5	5	6	7	6	7	8	7	8	9	7	9	11	8.5	10.5	12.5	10.5	13	15.5
10x10	Eff.Area .29 ft ²	CFM	93			114			135			153			177			205			233			262			318		
		NC	<20			<20			<20			<20			<20			25			25			30			35		
		Throw	3.5	4	4.5	4.5	5	5.5	5.5	6	6.5	6	7	8	7	8	9	7.5	9	10.5	8	10	12	10	12	14	12	15	18
12x12	Eff.Area .42 ft ²	CFM	136			172			208			258			300			338			376			423			517		
		NC	<20			<20			<20			<20			<20			<20			25			30			35		
		Throw	4.5	5	5.5	5.5	6	6.5	6.5	7	7.5	7	8	9	8.5	10	11.5	10	11.5	13	10.5	13	15.5	12	15	18	14.5	18	22
14x14	Eff.Area .59 ft ²	CFM	198			253			308			356			414			457			500			555			665		
		NC	<20			<20			<20			<20			<20			25			25			30			35		
		Throw	4.5	5	5.5	6.5	7	7.5	8	9	10	9.5	11	12.5	11	13	15	12	14.5	16.5	13	16	19	14.5	18	22	16	20	24
16x16	Eff.Area .79 ft ²	CFM	255			307			397			460			530			588			650			720			850		
		NC	<20			<20			20-25			25			25-30			30-35			35			35-40			>40		
		Throw	11.5	13	14.5	12.5	14	15.5	14.5	16	18	15.5	18	21	18	21	24	20	24	28	22	27	32	25	31	37	30	38	46



ENGINEERING DATA

SDD-3 Three Way Series		See Footnotes A & C																											
SIZE	Velocity	300			400			500			600			700			800			900			1000			1200			
	Duct Pt	0.007			0.011			0.017			0.024			0.034			0.044			0.055			0.068			0.1			
6x6	Eff.Area .13 ft ²	CFM	56			46			66			74			91			105			119			130			150		
		NC	<20			<20			<20			<20			<20			<20			<20			25			30		
		Throw A	2.5	3	3.5	3	3.5	4	3.5	4	4.5	4.5	5	6	4.5	5.5	6.5	5	6	7	5.5	7	8.5	6.5	8	9.5	8	10	12
		Throw B	2.5	3	3.5	2.5	3	3.5	3	3.5	4	3	3.5	4	3.5	4	4.5	4.5	5	6	5	6	7	5.5	6	7.5	6	7	8
8x8	Eff.Area .20 ft ²	CFM	63			76			89			104			119			136			152			166			195		
		NC	<20			<20			<20			<20			<20			<20			<20			25			30		
		Throw A	2.5	3	3.5	3.5	4	4.5	4.5	5	5.5	5	6	7	6	7	8	6.5	7.5	8.5	6.5	8	9.5	9	9	11	9	11	13
		Throw B	2	5.3	3.5	3	3.5	4	3	3.5	4	4	4.5	5	5	6	7.5	5	6.5	8	6	7	8	6.5	7	8.5	7	8	10
10x10	Eff.Area .29 ft ²	CFM	92			114			136			157			173			203			233			262			318		
		NC	<20			<20			<20			<20			<20			<20			<20			25			30		
		Throw A	2.5	3	3.5	4.5	5	5.5	6.5	7	7.5	7	8	9	8.5	10	11.5	9.5	11	12.5	9.5	12	14.5	10.5	13	15.5	13	16	19
		Throw B	2.5	3	3.5	3.5	4	5	4	5	6	5	6	7	6	7.5	8	6.5	8	9	7	9	11	8	10	12	10	12	14
12x12	Eff.Area .42 ft ²	CFM	136			172			208			258			297			339			380			425			517		
		NC	<20			<20			<20			<20			<20			25			25			30			35		
		Throw A	5.5	6	6.5	6.5	7	7.5	7.5	8.5	9.5	8.5	10	11.5	9.5	11	12.5	11.5	13.5	15.5	12	15	18	13	17	20	16	20	24
		Throw B	4	5	6	4.5	6	7	5	6.5	8	6	8	9.5	7	9	11	8	10.5	12	9	11	13	10.5	12	14	11	13	15
14x14	Eff.Area .59 ft ²	CFM	204			253			302			356			406			453			500			555			665		
		NC	<20			<20			<20			<20			<20			25			25			30			35		
		Throw A	5.5	6	6.5	7	8	9	9	10	11	10	11.5	13	11	13	15	12	14	16	12.5	15.5	19	14.4	18	22	18	22	26
		Throw B	4	5	6	5	6.5	7	6	7	8.5	7	8.5	9.5	8	9.5	11	8	11.5	13	10	12	14	11	13.5	15	13	15	19
16x16	Eff.Area .79 ft ²	CFM	255			307			397			460			530			588			650			720			850		
		NC	<20			<20			20-25			25			25-30			30-35			35			35-40			>40		
		Throw A	12	13	14.5	12.5	14	15.5	14.5	16	18	15.5	18	21	18	21	24	20	24	28	22	27	32	25	31	37	30	38	46
		Throw B	8	9.5	11	9	10	12	10	12	15	12	14	16	13	15	18	15	18	20	18	20	23	20	22	25	24	27	31



ENGINEERING DATA

SDD-4 Four Way Series											See Footnotes A & C																		
SIZE	Velocity		300			400			500			600			700			800			900			1000			1200		
	Duct Pt		0.007			0.011			0.017			0.024			0.034			0.044			0.055			0.068			0.1		
6x6	Eff.Area .13 ft ²	CFM	44			54			64			76			91			106			121			131			149		
		NC	<20			<20			<20			<20			<20			25			25			25			30		
		Throw	1	1	1	2	2	2	2	3	3.5	3.5	4	4.5	4.5	5	6	4.5	5.5	6.5	5	6	07	5.5	7	8.5	7	9	11
8x8	Eff.Area .20 ft ²	CFM	57			74			91			106			119			134			149			165			195		
		NC	<20			<20			<20			<20			<20			25			25			25			30		
		Throw	2	2	2	2.5	3	3.5	3.5	4	4.5	4.5	5	5.5	5	6	7	6	7	8	6.5	8	9.5	8	10	12	9.5	12	14.5
10x10	Eff.Area .29 ft ²	CFM	94			114			134			153			173			205			237			264			316		
		NC	<20			<20			<20			<20			<20			25			25			25			30		
		Throw	2.5	3	3.5	3.5	4	4.5	4.5	5	5.5	5	6	7	6	7	8	7	8	9	7	9	11	9.5	12	14.5	10.5	13	15.5
12x12	Eff.Area .42 ft ²	CFM	128			168			208			252			287			336			384			427			513		
		NC	<20			<20			<20			<20			<20			25			25			25			30		
		Throw	3.5	4	4.5	4.5	5	5.5	5.5	6	6.5	6	7	8	7	8	9	7.5	9	10.5	8	10	12	9	11	13	10.5	13	15.5
14x14	Eff.Area .59 ft ²	CFM	198			253			308			364			406			453			500			555			665		
		NC	<20			<20			<20			<20			25			25			25			30			35		
		Throw	5.5	6	6.5	6.5	7	7.5	8	9	10	9.5	11	12.5	11	13	15	12.5	14.5	17	13	16	19	13.5	17	20	12	15	18
16x16	Eff.Area .79 ft ²	CFM	255			307			397			460			530			588			650			720			850		
		NC	<20			<20			20-25			25			25-30			30-35			35			35-40			>40		
		Throw	11.5	13	14.5	12.5	14	15.5	14.4	16	17.5	15.5	18	21	18	21	24	20	24	28	22	27	32	25	31	37	30	38	46

ENGINEERING FOOTNOTES

Footnote A:

Size: Nominal size or the duct opening.

Effective Area: The space between the vanes actually utilized by the air.

Velocity: The actual velocity of the air through the vanes measured with a velometer or similar device.

Duct Pt: The total pressure behind the register in the duct forcing that air through the register.

Throw: The throws noted in the tables are the distance from the register to where the air stream velocity has dropped to not under 100/75/50 F.P.M.

Footnote B:

Size: Nominal size or the duct opening.

Effective Area: The space between the vanes actually utilized by the air.

Velocity: The actual velocity of the air through the vanes measured with a velometer or similar device.

Duct Ps: The static pressure in the duct behind the grille. The static load on the fan chargeable against that grille. Velometer readings are taken between grille vanes giving actual velocity.

Footnote C:

Noise Criteria: NC "A" scale. (1) Below NC25 extremely quiet. (2) Below NC30 Quiet Office.

(3) Below NC35 Conference Rooms; normal voice 10-30 ft. (4) Below NC40 Conference Rooms; 6-12 ft. normal voice.

(5) NC45 Conference Rooms; 3-6 ft. normal voice.

Footnote D:

1) Tested without filters. Typical disposable 1" capacity is 2 cfm per square inch of gross filter area. Recommended velocity is 300-400 fpm. Velocities higher than 500 fpm will decrease filter performance. Increase flow resistance, and possibly blow off agglomerates of collected dirt. Velocity measured 1" from face.

2) Generally the more surface area of media you have in an air filter the lower pressure drop you will have across the filter.

3) Lower face velocities (the air speed at the face of the filter) will also produce less pressure drop across the filter while higher return air velocities cause higher pressure drop and can cause the filter to blow off agglomerates. Ashrae calls out for 300 FPM face velocity across the filter face. This is the ideal return air velocity. Actual face velocities will vary depending on the system design."

Example: 20x25 filter = 3.47 SF x 300 FPM face velocity = 1041 CFM

20x25 filter = 3.47 SF x 500 FPM face velocity = 1736 CFM

Footnote E:

Size: Nominal size or the duct opening.

Effective Area: The space between the vanes actually utilized by the air.

Velocity: The actual velocity of the air through the vanes measured with a velometer or similar device.

Duct Pt: The total pressure behind the register in the duct forcing that air through the register.

Throw: The throws noted in the tables are the distance from the register to where the air stream velocity has dropped to not under 100/75/50 F.P.M.

Noise Criteria: NC "A" scale. (1) Below NC25 extremely quiet. (2) Below NC30 Quiet Office. (3) Below NC35 Conference Rooms; normal voice 10-30 ft. (4) Below NC40 Conference Rooms; 6-12 ft. normal voice. (5) NC45 Conference Rooms; 3-6 ft. normal voice.