

1/2" SPACING

40° DEFLECTION

Nominal Size		Nom Duct ft2	Core Area ft2	Core Vel, fpm	200	300	400	500	600	700	800	900	1000
W Width	H Height				Ps	-0.01	-0.03	-0.05	-0.07	-0.11	-0.14	-0.19	-0.24
6	6	0.25	0.15	CFM	30	40	60	70	90	100	120	130	150
				NC	<20	<20	<20	20	24	28	32	35	38
8	6	0.33	0.21	CFM	40	60	90	110	130	150	170	190	210
				NC	<20	<20	<20	21	26	30	33	36	39
8	8	0.44	0.30	CFM	60	90	120	150	180	210	240	270	300
				NC	<20	<20	<20	23	27	31	35	38	41
12	6	0.50	0.34	CFM	70	100	140	170	200	240	270	310	340
				NC	<20	<20	<20	23	28	32	35	38	41
10	10	0.69	0.52	CFM	100	150	210	260	310	360	410	460	520
				NC	<20	<20	<20	25	30	34	37	40	43
14	8	0.78	0.58	CFM	120	170	230	290	350	410	460	520	580
				NC	<20	<20	20	25	30	34	38	41	43
16	8	0.89	0.67	CFM	130	200	270	340	400	470	540	610	670
				NC	<20	<20	20	26	31	35	38	41	44
12	12	1.00	0.78	CFM	160	240	310	390	470	550	630	710	780
				NC	<20	<20	21	27	32	36	39	42	45
20	8	1.11	0.86	CFM	170	260	340	430	510	600	690	770	860
				NC	<20	<20	21	27	32	36	39	42	45
18	10	1.25	1.00	CFM	200	300	400	500	600	700	800	900	1000
				NC	<20	<20	22	28	33	37	40	43	46
14	14	1.36	1.11	CFM	220	330	440	550	660	770	890	1000	1110
				NC	<20	<20	22	28	33	37	40	44	46
24	10	1.67	1.36	CFM	270	410	540	680	810	950	1080	1220	1360
				NC	<20	<20	23	29	34	38	41	44	47
16	16	1.78	1.49	CFM	300	450	590	740	890	1040	1190	1340	1490
				NC	<20	<20	24	30	34	38	42	45	48
24	12	2.00	1.67	CFM	330	500	670	830	1000	1170	1340	1500	1670
				NC	<20	<20	24	30	35	39	42	45	48
22	16	2.44	2.09	CFM	420	630	840	1050	1260	1470	1680	1890	2090
				NC	<20	<20	25	31	36	40	43	46	49
20	20	2.78	2.41	CFM	480	720	960	1200	1450	1690	1930	2170	2410
				NC	<20	<20	26	32	36	40	44	47	50
22	22	3.36	2.95	CFM	590	890	1180	1480	1770	2070	2360	2660	2950
				NC	<20	<20	27	33	37	41	45	48	51
24	24	4.00	3.55	CFM	710	1070	1420	1780	2130	2490	2840	3200	3550
				NC	<20	20	28	33	38	42	46	49	51
36	18	4.50	4.00	CFM	800	1200	1600	2000	2400	2800	3200	3600	4000
				NC	<20	21	28	34	39	43	46	49	52
30	24	5.00	4.50	CFM	900	1350	1800	2250	2700	3150	3600	4050	4500
				NC	<20	21	29	34	39	43	47	50	52
36	24	6.00	5.44	CFM	1090	1630	2180	2720	3260	3810	4350	4900	5440
				NC	<20	22	29	35	40	44	47	50	53
30	30	6.25	5.69	CFM	1140	1710	2280	2850	3410	3980	4550	5120	5690
				NC	<20	22	30	35	40	44	48	51	53
42	24	7.00	6.38	CFM	1280	1910	2550	3190	3830	4470	5110	5740	6380
				NC	<20	23	30	36	41	45	48	51	54
48	24	8.00	7.33	CFM	1470	2200	2930	3660	4400	5130	5860	6590	7330
				NC	<20	23	31	36	41	45	49	52	54
36	36	9.00	8.33	CFM	1670	2500	3330	4160	5000	5830	6660	7490	8330
				NC	<20	24	31	37	42	46	49	52	55
38	38	10.03	9.32	CFM	1860	2790	3730	4660	5590	6520	7450	8380	9320
				NC	<20	24	32	38	42	46	50	53	56
42	38	11.08	10.33	CFM	2070	3100	4130	5170	6200	7230	8270	9300	10330
				NC	<20	25	32	38	43	47	50	53	56
48	40	13.33	12.51	CFM	2500	3750	5000	6250	7500	8750	10000	11260	12510
				NC	<20	26	33	39	44	48	51	54	57
48	44	14.67	13.80	CFM	2760	4140	5520	6900	8280	9660	11040	12420	13800
				NC	<20	26	33	39	44	48	51	55	57
48	48	16.00	15.10	CFM	3020	4530	6040	7550	9060	10570	12080	13590	15100
				NC	<20	26	34	40	44	48	52	55	58

Notes:

- Nominal size represents duct size.

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: 10⁻¹² watts) room attenuation that is subtracted from the power levels in each of the 2nd thru 7th octave bands

Pressure

- P_s represents static pressure requirement. Total pressure can be calculated as P_t = P_s + P_v
- P_v is the air velocity pressure in the duct and is calculated as P_v = (Velocity/4005)²
- All pressures are stated and calculated in inches of water

Opposed Blade Volume Control Dampers (OBD) - wide open

- Increase Static Pressure P_s x 1.15 when used with an OBD
- Increase NC +3 when used with an OBD

1/2" SPACING

0° DEFLECTION

Nominal Size		Nom Duct ft2	Core Area ft2	Core Vel, fpm	200	300	400	500	600	700	800	900	1000
W Width	H Height				Ps	-0.01	-0.01	-0.02	-0.03	-0.05	-0.07	-0.09	-0.11
6	6	0.25	0.15	CFM	30	40	60	70	90	100	120	130	150
				NC	<20	<20	<20	<20	<20	21	25	28	31
8	6	0.33	0.21	CFM	40	60	90	110	130	150	170	190	210
				NC	<20	<20	<20	<20	<20	23	27	30	33
8	8	0.44	0.30	CFM	60	90	120	150	180	210	240	270	300
				NC	<20	<20	<20	<20	20	25	28	31	34
12	6	0.50	0.34	CFM	70	100	140	170	200	240	270	310	340
				NC	<20	<20	<20	<20	21	25	29	32	35
10	10	0.69	0.52	CFM	100	150	210	260	310	360	410	460	520
				NC	<20	<20	<20	<20	23	27	31	34	37
14	8	0.78	0.58	CFM	120	170	230	290	350	410	460	520	580
				NC	<20	<20	<20	<20	23	27	31	34	37
16	8	0.89	0.67	CFM	130	200	270	340	400	470	540	610	670
				NC	<20	<20	<20	<20	24	28	32	35	38
12	12	1.00	0.78	CFM	160	240	310	390	470	550	630	710	780
				NC	<20	<20	<20	<20	24	29	32	36	38
20	8	1.11	0.86	CFM	170	260	340	430	510	600	690	770	860
				NC	<20	<20	<20	20	25	29	33	36	39
18	10	1.25	1.00	CFM	200	300	400	500	600	700	800	900	1000
				NC	<20	<20	<20	20	25	30	33	37	39
14	14	1.36	1.11	CFM	220	330	440	550	660	770	890	1000	1110
				NC	<20	<20	<20	21	26	30	34	37	40
24	10	1.67	1.36	CFM	270	410	540	680	810	950	1080	1220	1360
				NC	<20	<20	<20	22	27	31	35	38	41
16	16	1.78	1.49	CFM	300	450	590	740	890	1040	1190	1340	1490
				NC	<20	<20	<20	22	27	31	35	38	41
24	12	2.00	1.67	CFM	330	500	670	830	1000	1170	1340	1500	1670
				NC	<20	<20	<20	23	28	32	36	39	42
22	16	2.44	2.09	CFM	420	630	840	1050	1260	1470	1680	1890	2090
				NC	<20	<20	<20	24	29	33	37	40	43
20	20	2.78	2.41	CFM	480	720	960	1200	1450	1690	1930	2170	2410
				NC	<20	<20	<20	24	29	34	37	40	43
22	22	3.36	2.95	CFM	590	890	1180	1480	1770	2070	2360	2660	2950
				NC	<20	<20	<20	25	30	34	38	41	44
24	24	4.00	3.55	CFM	710	1070	1420	1780	2130	2490	2840	3200	3550
				NC	<20	<20	20	26	31	35	39	42	45
36	18	4.50	4.00	CFM	800	1200	1600	2000	2400	2800	3200	3600	4000
				NC	<20	<20	20	27	32	36	39	43	46
30	24	5.00	4.50	CFM	900	1350	1800	2250	2700	3150	3600	4050	4500
				NC	<20	<20	21	27	32	36	40	43	46
36	24	6.00	5.44	CFM	1090	1630	2180	2720	3260	3810	4350	4900	5440
				NC	<20	<20	22	28	33	37	41	44	47
30	30	6.25	5.69	CFM	1140	1710	2280	2850	3410	3980	4550	5120	5690
				NC	<20	<20	22	28	33	37	41	44	47
42	24	7.00	6.38	CFM	1280	1910	2550	3190	3830	4470	5110	5740	6380
				NC	<20	<20	22	29	34	38	41	45	48
48	24	8.00	7.33	CFM	1470	2200	2930	3660	4400	5130	5860	6590	7330
				NC	<20	<20	23	29	34	38	42	45	48
36	36	9.00	8.33	CFM	1670	2500	3330	4160	5000	5830	6660	7490	8330
				NC	<20	<20	24	30	35	39	43	46	49
38	38	10.03	9.32	CFM	1860	2790	3730	4660	5590	6520	7450	8380	9320
				NC	<20	<20	24	30	35	39	43	46	49
42	38	11.08	10.33	CFM	2070	3100	4130	5170	6200	7230	8270	9300	10330
				NC	<20	<20	25	31	36	40	44	47	50
48	40	13.33	12.51	CFM	2500	3750	5000	6250	7500	8750	10000	11260	12510
				NC	<20	<20	25	31	36	41	44	48	50
48	44	14.67	13.80	CFM	2760	4140	5520	6900	8280	9660	11040	12420	13800
				NC	<20	<20	26	32	37	41	45	48	51
48	48	16.00	15.10	CFM	3020	4530	6040	7550	9060	10570	12080	13590	15100
				NC	<20	<20	26	32	37	42	45	48	51

Notes:

- Nominal size represents duct size.

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: 10⁻¹² watts) room attenuation that is subtracted from the power levels in each of the 2nd thru 7th octave bands

Pressure

- P_s represents static pressure requirement. Total pressure can be calculated as P_t = P_s + P_v
- P_v is the air velocity pressure in the duct and is calculated as P_v = (Velocity/4005)²
- All pressures are stated and calculated in inches of water

Opposed Blade Volume Control Dampers (OBD) - wide open

- Increase Static Pressure P_s x 1.15 when used with an OBD
- Increase NC +3 when used with an OBD

3/4" SPACING

0° DEFLECTION

Nominal Size		Nom Duct ft2	Core Area ft2	Core Vel, fpm	200	300	400	500	600	700	800	900	1000
W Width	H Height				Ps	-0.005	-0.01	-0.02	-0.03	-0.04	-0.06	-0.08	-0.10
6	6	0.25	0.15	CFM	30	40	60	70	90	100	120	130	150
				NC	<20	<20	<20	<20	<20	<20	22	25	28
8	6	0.33	0.21	CFM	40	60	90	110	130	150	170	190	210
				NC	<20	<20	<20	<20	<20	20	24	27	30
8	8	0.44	0.30	CFM	60	90	120	150	180	210	240	270	300
				NC	<20	<20	<20	<20	<20	22	25	28	31
12	6	0.50	0.34	CFM	70	100	140	170	200	240	270	310	340
				NC	<20	<20	<20	<20	<20	22	26	29	32
10	10	0.69	0.52	CFM	100	150	210	260	310	360	410	460	520
				NC	<20	<20	<20	<20	20	24	28	31	34
14	8	0.78	0.58	CFM	120	170	230	290	350	410	460	520	580
				NC	<20	<20	<20	<20	20	24	28	31	34
16	8	0.89	0.67	CFM	130	200	270	340	400	470	540	610	670
				NC	<20	<20	<20	<20	21	25	29	32	35
12	12	1.00	0.78	CFM	160	240	310	390	470	550	630	710	780
				NC	<20	<20	<20	<20	21	26	29	33	35
20	8	1.11	0.86	CFM	170	260	340	430	510	600	690	770	860
				NC	<20	<20	<20	<20	22	26	30	33	36
18	10	1.25	1.00	CFM	200	300	400	500	600	700	800	900	1000
				NC	<20	<20	<20	<20	22	27	30	34	36
14	14	1.36	1.11	CFM	220	330	440	550	660	770	890	1000	1110
				NC	<20	<20	<20	<20	23	27	31	34	37
24	10	1.67	1.36	CFM	270	410	540	680	810	950	1080	1220	1360
				NC	<20	<20	<20	<20	24	28	32	35	38
16	16	1.78	1.49	CFM	300	450	590	740	890	1040	1190	1340	1490
				NC	<20	<20	<20	<20	24	28	32	35	38
24	12	2.00	1.67	CFM	330	500	670	830	1000	1170	1340	1500	1670
				NC	<20	<20	<20	20	25	29	33	36	39
22	16	2.44	2.09	CFM	420	630	840	1050	1260	1470	1680	1890	2090
				NC	<20	<20	<20	21	26	30	34	37	40
20	20	2.78	2.41	CFM	480	720	960	1200	1450	1690	1930	2170	2410
				NC	<20	<20	<20	21	26	31	34	37	40
22	22	3.36	2.95	CFM	590	890	1180	1480	1770	2070	2360	2660	2950
				NC	<20	<20	<20	22	27	31	35	38	41
24	24	4.00	3.55	CFM	710	1070	1420	1780	2130	2490	2840	3200	3550
				NC	<20	<20	<20	23	28	32	36	39	42
36	18	4.50	4.00	CFM	800	1200	1600	2000	2400	2800	3200	3600	4000
				NC	<20	<20	<20	24	29	33	36	40	43
30	24	5.00	4.50	CFM	900	1350	1800	2250	2700	3150	3600	4050	4500
				NC	<20	<20	<20	24	29	33	37	40	43
36	24	6.00	5.44	CFM	1090	1630	2180	2720	3260	3810	4350	4900	5440
				NC	<20	<20	<20	25	30	34	38	41	44
30	30	6.25	5.69	CFM	1140	1710	2280	2850	3410	3980	4550	5120	5690
				NC	<20	<20	<20	25	30	34	38	41	44
42	24	7.00	6.38	CFM	1280	1910	2550	3190	3830	4470	5110	5740	6380
				NC	<20	<20	<20	26	31	35	38	42	45
48	24	8.00	7.33	CFM	1470	2200	2930	3660	4400	5130	5860	6590	7330
				NC	<20	<20	20	26	31	35	39	42	45
36	36	9.00	8.33	CFM	1670	2500	3330	4160	5000	5830	6660	7490	8330
				NC	<20	<20	21	27	32	36	40	43	46
38	38	10.03	9.32	CFM	1860	2790	3730	4660	5590	6520	7450	8380	9320
				NC	<20	<20	21	27	32	36	40	43	46
42	38	11.08	10.33	CFM	2070	3100	4130	5170	6200	7230	8270	9300	10330
				NC	<20	<20	22	28	33	37	41	44	47
48	40	13.33	12.51	CFM	2500	3750	5000	6250	7500	8750	10000	11260	12510
				NC	<20	<20	22	28	33	38	41	45	47
48	44	14.67	13.80	CFM	2760	4140	5520	6900	8280	9660	11040	12420	13800
				NC	<20	<20	23	29	34	38	42	45	48
48	48	16.00	15.10	CFM	3020	4530	6040	7550	9060	10570	12080	13590	15100
				NC	<20	<20	23	29	34	39	42	45	48

Notes:

- Nominal size represents duct size.

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: 10⁻¹² watts) room attenuation that is subtracted from the power levels in each of the 2nd thru 7th octave bands

Pressure

- P_s represents static pressure requirement. Total pressure can be calculated as P_t = P_s + P_v
- P_v is the air velocity pressure in the duct and is calculated as P_v = (Velocity/4005)²
- All pressures are stated and calculated in inches of water

Opposed Blade Volume Control Dampers (OBD) - wide open

- Increase Static Pressure P_s x 1.15 when used with an OBD
- Increase NC +3 when used with an OBD

3/4" SPACING

40° DEFLECTION

Nominal Size		Nom Duct ft2	Core Area ft2	Core Vel, fpm	200	300	400	500	600	700	800	900	1000
W Width	H Height				Ps	-0.01	-0.02	-0.04	-0.05	-0.08	-0.11	-0.14	-0.18
6	6	0.25	0.15	CFM	30	40	60	70	90	100	120	130	150
				NC	<20	<20	<20	<20	20	24	28	31	34
8	6	0.33	0.21	CFM	40	60	90	110	130	150	170	190	210
				NC	<20	<20	<20	<20	22	26	29	32	35
8	8	0.44	0.30	CFM	60	90	120	150	180	210	240	270	300
				NC	<20	<20	<20	<20	23	27	31	34	37
12	6	0.50	0.34	CFM	70	100	140	170	200	240	270	310	340
				NC	<20	<20	<20	<20	24	28	31	34	37
10	10	0.69	0.52	CFM	100	150	210	260	310	360	410	460	520
				NC	<20	<20	<20	21	26	30	33	36	39
14	8	0.78	0.58	CFM	120	170	230	290	350	410	460	520	580
				NC	<20	<20	<20	21	26	30	34	37	39
16	8	0.89	0.67	CFM	130	200	270	340	400	470	540	610	670
				NC	<20	<20	<20	22	27	31	34	37	40
12	12	1.00	0.78	CFM	160	240	310	390	470	550	630	710	780
				NC	<20	<20	<20	23	28	32	35	38	41
20	8	1.11	0.86	CFM	170	260	340	430	510	600	690	770	860
				NC	<20	<20	<20	23	28	32	35	38	41
18	10	1.25	1.00	CFM	200	300	400	500	600	700	800	900	1000
				NC	<20	<20	<20	24	29	33	36	39	42
14	14	1.36	1.11	CFM	220	330	440	550	660	770	890	1000	1110
				NC	<20	<20	<20	24	29	33	36	40	42
24	10	1.67	1.36	CFM	270	410	540	680	810	950	1080	1220	1360
				NC	<20	<20	<20	25	30	34	37	40	43
16	16	1.78	1.49	CFM	300	450	590	740	890	1040	1190	1340	1490
				NC	<20	<20	20	26	30	34	38	41	44
24	12	2.00	1.67	CFM	330	500	670	830	1000	1170	1340	1500	1670
				NC	<20	<20	20	26	31	35	38	41	44
22	16	2.44	2.09	CFM	420	630	840	1050	1260	1470	1680	1890	2090
				NC	<20	<20	21	27	32	36	39	42	45
20	20	2.78	2.41	CFM	480	720	960	1200	1450	1690	1930	2170	2410
				NC	<20	<20	22	28	32	36	40	43	46
22	22	3.36	2.95	CFM	590	890	1180	1480	1770	2070	2360	2660	2950
				NC	<20	<20	23	29	33	37	41	44	47
24	24	4.00	3.55	CFM	710	1070	1420	1780	2130	2490	2840	3200	3550
				NC	<20	<20	24	29	34	38	42	45	47
36	24	6.00	5.44	CFM	1090	1630	2180	2720	3260	3810	4350	4900	5440
				NC	<20	<20	25	31	36	40	43	46	49
42	24	7.00	6.38	CFM	1280	1910	2550	3190	3830	4470	5110	5740	6380
				NC	<20	<20	26	32	37	41	44	47	50
48	24	8.00	7.33	CFM	1470	2200	2930	3660	4400	5130	5860	6590	7330
				NC	<20	<20	27	32	37	41	45	48	50
36	36	9.00	8.33	CFM	1670	2500	3330	4160	5000	5830	6660	7490	8330
				NC	<20	20	27	33	38	42	45	48	51
42	38	11.08	10.33	CFM	2070	3100	4130	5170	6200	7230	8270	9300	10330
				NC	<20	21	28	34	39	43	46	49	52
48	40	13.33	12.51	CFM	2500	3750	5000	6250	7500	8750	10000	11260	12510
				NC	<20	22	29	35	40	44	47	50	53
48	44	14.67	13.80	CFM	2760	4140	5520	6900	8280	9660	11040	12420	13800
				NC	<20	22	29	35	40	44	47	50	53
48	48	16.00	15.10	CFM	3020	4530	6040	7550	9060	10570	12080	13590	15100
				NC	<20	22	30	36	40	44	48	51	54

Notes

- Nominal size represents duct size.

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: 10⁻¹² watts) room attenuation that is subtracted from the power levels in each of the 2nd thru 7th octave bands

Pressure

- P_s represents static pressure requirement. Total pressure can be calculated as P_t = P_s + P_v
- P_v is the air velocity pressure in the duct and is calculated as P_v = (Velocity/4005)²
- All pressures are stated and calculated in inches of water

Opposed Blade Volume Control Dampers (OBD) - wide open

- Increase Static Pressure P_s x 1.15 when used with an OBD
- Increase NC +3 when used with an OBD