

Design: Castle



Core Area Sq. Feet	Nominal Duct Size in Inches	Core Velocity	100	200	300	400	500	600	700	800	900	1000
		Velocity Pressure	0.001	0.002	0.006	0.01	0.016	0.022	0.031	0.04	0.051	0.062
		TP: Total Pressure	0.003	0.014	0.031	0.056	0.09	0.131	0.175	0.225	0.29	0.355
0.2	10x4 6x6	CFM	20	40	60	80	100	120	140	160	180	200
		NC				16	22	27	31	34	37	40
		4-Way, 45° Fixed			4-6-9	5-8-13	6-9-15	8-11-18	9-13-21	10-14-20	11-16-23	12-17-25
		2-Way, 45° Fixed			5-7-11	6-9-15	8-11-18	9-14-22	10-15-21	12-17-25	13-20-32	15-22-35
		1-Way, Straight			6-9-14	8-11-18	9-14-22	11-15-22	12-18-26	14-21-34	16-24-38	16-26-42
0.26	12x4 8x6	CFM	25	50	80	105	130	155	180	210	235	260
		NC			10	17	23	28	32	35	38	41
		4-Way, 45° Fixed		3-4-7	4-5-6	6-9-14	7-10-16	8-12-20	10-13-19	11-15-22	12-17-25	13-20-32
		2-Way, 45° Fixed		3-5-8	5-6-8	7-9-12	8-12-20	10-14-20	11-16-23	13-19-31	14-21-34	16-24-38
		1-Way, Straight		4-5-6	6-8-11	8-11-15	10-14-20	12-17-24	13-20-32	15-23-37	17-26-41	19-28-45
0.3	14x4	CFM	30	60	90	120	150	180	210	240	270	300
		NC			10	18	23	28	32	36	39	42
		4-Way, 45° Fixed		3-4-7	4-5-6	6-8-10	7-10-13	9-12-17	10-14-20	11-16-23	12-18-26	14-21-33
		2-Way, 45° Fixed		3-5-8	5-7-9	7-10-13	9-12-17	10-14-20	12-17-24	13-20-32	16-24-38/	16-24-39
		1-Way, Straight		4-5-6	6-8-11	8-11-16	10-15-21	12-17-25	14-21-34	16-24-38	18-27-43	20-29-47
0.35	16x4 12x5 10x6 8x8	CFM	35	70	105	140	175	210	245	280	315	350
		NC			11	18	24	29	33	37	39	42
		4-Way, 45° Fixed		3-4-7	5-7-11	6-9-15	8-11-18	9-13-21	10-15-21	12-17-24	13-19-31	14-21-34
		2-Way, 45° Fixed		4-6-9	5-8-13	7-10-13	9-13-21	10-15-21	12-17-25	14-21-33	15-23-37	17-26-41
		1-Way, Straight		4-5-6	7-9-12	9-12-17	10-15-21	12-18-26	15-22-35	17-25-40	18-27-44	20-31-49
0.4	18x4 12x6	CFM	40	80	120	160	200	240	280	320	360	400
		NC			12	19	25	30	34	37	40	43
		4-Way, 45° Fixed		3-5-8	5-6-7	6-8-11	8-11-15	9-13-18	11-15-22	12-17-25	13-20-32	15-22-35
		2-Way, 45° Fixed		4-6-9	6-8-10	8-10-14	9-13-18	11-15-22	12-18-26	14-21-34	16-24-38	18-26-42
		1-Way, Straight		5-6-7	7-9-12	9-13-18	11-15-22	13-19-31	15-22-36	17-26-41	19-29-46	21-32-51
0.45	20x4 14x6 10x8	CFM	45	90	135	180	225	270	315	360	405	450
		NC			12	19	26	30	34	38	41	44
		4-Way, 45° Fixed		3-5-8	5-6-8	6-9-15	8-12-19	10-13-19	11-15-22	12-18-26	14-21-33	15-23-37
		2-Way, 45° Fixed		4-6-9	6-8-10	8-12-19	10-13-19	11-16-23	13-19-31	15-22-35	16-24-39	18-27-44
		1-Way, Straight		5-7-11	7-11-17	9-14-22	11-16-23	13-20-32	15-23-37	18-26-42	20-29-47	22-33-53
0.55	24x4 16x6 12x8	CFM	55	110	165	220	275	330	385	440	495	550
		NC			13	20	26	31	35	39	41	44
		4-Way, 45° Fixed	2-3-4	3-5-8	5-7-12	7-10-16	8-12-20	10-14-20	12-17-24	13-19-31	15-22-35	16-24-39
		2-Way, 45° Fixed	2-3-5	6-6-10	6-9-15	8-12-20	10-14-20	12-17-25	14-21-33	15-23-37	17-26-41	19-29-46
		1-Way, Straight	2-4-6	5-7-12	8-11-18	10-13-19	12-17-25	14-21-34	16-24-39	18-27-44	21-31-50	23-35-56
0.62	18x6 10x10	CFM	60	125	185	250	310	370	435	495	560	620
		NC			13	21	27	32	36	39	42	45
		4-Way, 45° Fixed	2-3-4	4-6-9	5-8-13	7-11-17	9-13-21	10-15-21	12-17-24	13-20-32	15-22-36	17-25-40
		2-Way, 45° Fixed	2-3-5	4-6-10	6-9-15	8-12-20	10-16-25	12-17-25	14-21-34	16-24-38	18-27-43	20-29-47
		1-Way, Straight	2-3-6	5-7-12	8-11-18	10-14-20	12-19-30	15-22-35	17-26-41	19-29-46	21-32-51	24-36-57
0.7	30x4 20x6 14x8 12x10	CFM	70	140	210	280	350	420	490	560	630	700
		NC	0	0	14	21	27	32	36	40	42	45
		4-Way, 45° Fixed	2-3-5	4-6-9	5-8-13	7-11-17	9-13-21	10-15-21	12-17-25	14-21-33	15-23-37	17-26-41
		2-Way, 45° Fixed	2-4-6	5-7-11	7-10-16	9-13-20	10-15-21	12-18-26	15-22-35	17-25-40	18-27-44	20-31-49
		1-Way, Straight	3-4-7	5-8-13	8-12-19	10-15-21	12-19-30	15-22-36	18-26-42	20-29-47	22-33-53	25-37-59
0.81	36x4 24x6 16x8 14x10	CFM	80	160	245	325	405	485	565	650	730	810
		NC			15	22	28	33	37	40	43	46
		4-Way, 45° Fixed	2-3-5	4-6-9	6-9-14	8-11-18	9-14-22	11-15-22	12-18-26	14-21-34	16-24-38	18-27-43
		2-Way, 45° Fixed	2-4-6	5-7-11	7-10-16	9-14-22	11-15-22	13-19-31	15-22-36	17-26-41	19-29-46	21-32-51
		1-Way, Straight	3-4-7	5-8-13	8-12-20	11-15-22	13-20-32	16-24-38	18-27-44	20-31-49	23-34-55	26-39-62
0.87	18x8 12x12	CFM	85	175	260	350	435	520	610	695	785	870
		NC			15	22	28	33	37	40	43	46
		4-Way, 45° Fixed	2-3-5	4-6-9	6-9-14	8-12-19	10-13-19	11-16-23	13-19-31	15-22-35	16-24-39	18-27-43
		2-Way, 45° Fixed	2-4-6	5-7-11	7-11-17	9-14-22	11-16-23	13-20-32	15-23-37	18-26-42	20-39-47	22-32-52
		1-Way, Straight	3-4-7	6-9-14	8-12-20	11-15-22	13-20-32	16-24-39	19-28-45	21-31-50	23-35-56	26-39-63

Core Area Sq. Feet	Nominal Duct Size in Inches	Core Velocity	100	200	300	400	500	600	700	800	900	1000
		Velocity Pressure	0.001	0.002	0.006	0.01	0.016	0.022	0.031	0.04	0.051	0.062
		TP: Total Pressure	0.003	0.014	0.031	0.056	0.09	0.131	0.175	0.225	0.29	0.355
1.02	30x6 20x8 16x10 14x12	CFM	100	205	305	410	510	610	715	815	920	1020
		NC			16	23	29	34	38	41	44	47
		4-Way, 45° Fixed	2-3-5	4-6-10	6-9-15	8-12-19	10-14-20	12-17-24	13-20-32	15-22-36	17-26-41	19-28-45
		2-Way, 45° Fixed	2-4-6	5-7-12	7-11-17	10-13-19	12-17-24	14-21-33	16-24-29	18-27-43	20-31-49	23-34-55
		1-Way, Straight	3-4-7	6-9-14	9-13-21	11-17-27	14-21-34	17-25-40	19-29-46	22-32-52	25-37-59	27-41-65
1.15	24x8 18x10 16x12	CFM	115	230	345	460	575	690	805	920	1040	1150
		NC			16	24	30	34	38	42	45	48
		4-Way, 45° Fixed	2-3-5	4-6-10	6-9-15	8-12-20	10-15-21	12-17-25	14-21-33	16-24-38	18-26-42	19-29-46
		2-Way, 45° Fixed	2-4-6	5-7-12	8-11-18	10-13-19	12-17-25	14-21-34	17-25-40	19-28-45	21-31-50	23-35-56
		1-Way, Straight	3-5-8	6-9-15	9-14-22	12-17-24	15-22-35	17-26-41	20-29-47	22-34-54	25-37-60	28-42-68
1.25	36x6 20x10 14x14	CFM	125	250	375	500	625	750	875	1000	1120	1250
		NC			16	24	30	35	39	42	45	48
		4-Way, 45° Fixed	2-3-5	4-5-6	6-8-11	8-12-20	10-15-21	12-17-25	14-21-34	16-24-38	18-27-43	20-29-47
		2-Way, 45° Fixed	2-4-6	5-6-8	8-10-14	10-14-20	12-18-26	15-22-35	17-26-41	19-29-46	21-32-51	24-26-57
		1-Way, Straight	3-5-8	6-8-11	9-13-18	12-17-25	15-22-35	18-26-42	20-30-48	23-34-55	26-39-62	29-43-69
1.35	16x14 18x12	CFM	135	270	405	540	675	810	945	1080	1220	1350
		NC			17	24	30	35	39	42	45	48
		4-Way, 45° Fixed	2-4-6	4-5-6	7-10-16	9-13-21	10-15-21	12-18-26	15-22-35	16-24-39	18-27-43	20-30-48
		2-Way, 45° Fixed	3-4-7	5-7-9	8-12-19	10-15-21	12-18-26	15-22-36	18-26-42	20-29-47	22-33-53	25-37-59
		1-Way, Straight	3-5-8	6-8-11	10-13-19	12-17-25	15-22-36	18-27-43	21-31-50	23-35-56	26-39-63	29-44-70
1.53	30x8 24x10 20x12 18x14 16x16	CFM	155	305	460	610	765	920	1070	1220	1380	1530
		NC			17	25	31	36	40	43	46	49
		4-Way, 45° Fixed	2-4-6	5-6-7	7-10-16	9-13-21	11-15-22	13-19-31	15-22-36	17-25-40	19-28-45	21-31-50
		2-Way, 45° Fixed	3-4-7	5-7-9	8-12-19	10-15-21	13-20-32	15-23-37	18-27-43	20-30-48	23-34-55	25-37-60
		1-Way, Straight	3-5-8	7-9-12	10-13-19	12-18-26	15-23-37	18-27-44	21-32-51	24-26-58	27-41-65	30-46-73
1.82	36x8 30x10 24x12 20x14 18x16	CFM	182	365	545	730	910	1090	1270	1460	1640	1820
		NC			18	26	32	36	40	44	47	50
		4-Way, 45° Fixed	2-4-6	5-6-7	7-11-17	9-14-22	11-16-23	13-20-32	15-23-37	18-26-42	20-29-47	22-33-53
		2-Way, 45° Fixed	3-4-7	6-8-10	8-12-20	11-16-23	14-21-33	16-24-29	19-28-45	21-31-50	24-36-57	26-39-63
		1-Way, Straight	3-5-8	7-9-12	10-14-20	13-20-32	16-24-39	19-29-46	22-34-54	25-37-60	29-42-68	32-48-76
2.1	24x14 30x16 18x18	CFM	210	420	630	840	1050	1260	1470	1680	1890	2100
		NC	0	0	19	26	32	37	41	44	47	50
		4-Way, 45° Fixed	2-4-6	5-6-8	8-11-18	10-13-19	12-17-24	14-21-34	16-24-39	18-27-44	20-31-49	23-34-55
		2-Way, 45° Fixed	3-4-7	6-8-10	9-13-21	12-17-24	14-21-34	17-25-40	19-29-46	22-32-52	25-37-59	28-41-66
		1-Way, Straight	4-6-9	7-10-13	10-15-21	14-21-33	17-25-40	20-30-48	23-34-55	26-39-62	29-44-70	33-50-80
2.35	36x10 30x12 24x16 20x18	CFM	235	470	705	940	1180	1410	1640	1880	2120	2350
		NC			19	27	33	37	41	45	48	51
		4-Way, 45° Fixed	2-4-6	5-6-8	8-11-18	10-14-20	12-17-25	15-22-35	17-25-40	19-28-45	21-31-50	24-36-57
		2-Way, 45° Fixed	3-5-8	6-8-11	9-14-22	12-17-24	15-22-35	18-26-42	20-30-48	22-34-54	25-38-61	28-42-68
		1-Way, Straight	4-6-9	7-10-13	11-15-22	14-21-33	18-26-42	20-31-49	24-36-57	27-40-64	30-45-72	34-51-82
2.68	36x12 30x14 24x18 20x20	CFM	270	535	805	1070	1340	1610	1880	2140	2410	2680
		NC			20	27	33	38	42	45	48	51
		4-Way, 45° Fixed	3-4-7	5-7-9	8-12-19	10-15-21	12-18-26	15-22-36	18-26-42	20-29-47	22-32-52	25-37-59
		2-Way, 45° Fixed	3-5-8	6-8-11	9-14-22	12-17-25	15-22-36	20-30-48	20-31-49	23-35-56	26-39-62	29-44-70
		1-Way, Straight	4-6-9	8-10-14	11-16-23	15-22-35	18-27-43	21-32-51	25-37-59	28-41-66	31-47-75	35-53-85
3.15	36x16 30x18 24x24	CFM	315	630	945	1260	1580	1890	2200	2520	2840	3150
		NC		10	20	28	34	39	43	46	49	52
		4-Way, 45° Fixed	3-4-7	5-7-9	8-12-19	11-15-22	13-19-31	15-23-37	18-27-43	20-31-49	23-34-55	26-39-62
		2-Way, 45° Fixed	3-5-8	7-9-12	10-14-20	12-18-26	16-24-38	19-28-45	21-32-51	24-36-58	27-41-65	30-46-73
		1-Way, Straight	4-5-6	8-11-15	12-17-24	15-22-36	19-28-45	22-3-53	26-39-62	29-43-69	33-49-79	37-56-89
3.65	36x18 30x20	CFM	365	730	1100	1460	1820	2190	2560	2920	3280	3650
		NC		11	21	29	35	39	43	47	50	53
		4-Way, 45° Fixed	3-4-7	5-7-9	8-12-19	11-15-22	13-19-31	15-23-37	18-27-43	21-31-50	24-36-57	27-40-64
		2-Way, 45° Fixed	3-5-8	7-9-12	10-14-20	12-18-26	16-24-38	19-28-45	21-32-51	25-37-60	28-42-68	32-48-76
		1-Way, Straight	4-5-6	8-11-15	12-17-24	15-22-36	19-28-45	22-33-53	26-39-62	30-45-72	34-51-83	38-57-92

CFM: Cubic Feet per Minute

*All pressures are in inches of water.

Page #2 of 2

FPM: Feet per Minute

* Blank areas denote NC values less than 10 and CFM values less than 50.

TP: Total Pressure, inches w.g.

*Throw values are measured in feet for terminal velocities of 150/100/50 FPM.

T: Throw in feet

*Throw values are based on fixed louvers set at 45 degrees.

NC: Noise Criteria

* Throw may be increased or decreased by as much as 20% by changing angle of louver.