

- AL-1/AL-2 - 0° DEFLECTION, 1/4" BARS ON 1/2" CENTERS
- TL-1N/TL-2N - 0° DEFLECTION, 1/8" BARS ON 1/4" CENTERS
- TL-15N/TL-25N - 15° DEFLECTION, 1/8" BARS ON 1/4" CENTERS

NOMINAL DUCT HEIGHT	Core Velocity , fpm		300		400		500		600		700		800		900		1000		1100									
	Ps, inches w.g.		0.02		0.03		0.05		0.08		0.11		0.14		0.18		0.22		0.26									
1.5	CFM / FOOT		8		10		13		16		18		21		23		26		29									
	NC		<20		<20		<20		<20		21		24		26		28		30									
	Throw	SIDE WALL	3	5	9	4	6	11	5	8	13	6	9	14	7	11	15	8	11	16	9	12	17	10	13	18	11	13
SILL / FLOOR		2	4	7	3	5	9	4	6	10	5	7	11	6	9	12	6	9	13	7	9	13	8	10	14	9	10	15
2	CFM / FOOT		20		27		34		41		47		54		61		68		74									
	NC		<20		<20		<20		22		25		28		30		32		34									
	Throw	SIDE WALL	5	7	15	7	10	18	8	12	21	10	15	23	11	17	24	13	18	26	15	20	28	16	21	29	18	22
SILL / FLOOR		4	6	12	6	8	14	6	9	17	8	12	18	9	13	19	10	14	21	12	16	22	13	17	23	14	17	24
2.5	CFM / FOOT		33		44		55		66		77		87		98		109		120									
	NC		<20		<20		20		24		27		30		32		34		36									
	Throw	SIDE WALL	6	9	19	8	13	23	10	16	26	13	19	29	15	22	31	17	23	33	19	25	35	21	26	37	22	27
SILL / FLOOR		5	7	15	6	10	18	8	13	21	10	15	23	12	17	24	13	18	26	15	20	28	17	21	29	17	21	31
3	CFM / FOOT		45		60		76		91		106		121		136		151		166									
	NC		<20		<20		22		26		29		31		34		36		38									
	Throw	SIDE WALL	7	11	22	10	15	27	12	18	31	15	22	34	17	26	36	20	27	39	22	29	41	25	31	43	26	32
SILL / FLOOR		6	9	17	8	12	21	9	14	24	12	17	27	13	21	28	16	21	31	17	23	32	20	24	34	21	25	36
3.5	CFM / FOOT		58		77		96		116		135		154		173		193		212									
	NC		<20		<20		23		27		30		32		35		37		39									
	Throw	SIDE WALL	8	12	25	11	17	31	14	21	35	17	25	38	19	29	41	22	31	44	25	33	47	28	35	49	30	36
SILL / FLOOR		6	9	20	9	13	24	11	17	28	13	20	30	15	23	32	17	24	35	20	26	37	22	28	39	24	28	40
4	CFM / FOOT		70		94		117		141		164		187		211		234		258									
	NC		<20		<20		24		27		31		33		36		38		40									
	Throw	SIDE WALL	9	14	27	12	18	34	15	23	38	18	27	42	21	32	45	24	34	48	27	36	51	31	38	54	33	40
SILL / FLOOR		7	11	21	9	14	27	12	18	30	14	21	33	17	25	36	19	27	38	21	28	40	24	30	43	26	32	45
5	CFM / FOOT		95		127		159		191		222		254		286		318		349									
	NC		<20		21		25		29		32		35		37		39		41									
	Throw	SIDE WALL	11	16	32	14	21	40	18	27	45	21	32	49	25	37	53	28	40	56	32	42	60	36	45	63	38	47
SILL / FLOOR		9	13	25	11	17	32	14	21	36	17	25	39	20	29	42	22	32	44	25	33	47	28	36	50	30	37	52
6	CFM / FOOT		120		160		201		241		281		321		361		401		441									
	NC		<20		22		26		30		33		36		38		40		42									
	Throw	SIDE WALL	12	18	36	16	24	45	20	30	50	24	36	55	28	42	59	32	45	63	36	47	67	40	50	71	43	53
SILL / FLOOR		9	14	28	13	19	36	16	24	40	19	28	43	22	33	47	25	36	50	28	37	53	32	40	56	34	42	58
8	CFM / FOOT		170		227		284		341		397		454		511		568		624									
	NC		<20		23		28		31		34		37		39		42		44									
	Throw	SIDE WALL	14	21	43	19	29	53	24	36	60	29	43	65	33	50	70	38	53	75	43	57	80	48	60	84	51	62
SILL / FLOOR		11	17	34	15	23	42	19	28	47	23	34	51	26	40	55	30	42	59	34	45	63	38	47	66	40	49	70
10	CFM / FOOT		220		294		367		441		514		587		661		734		808									
	NC		<20		24		29		32		36		38		41		43		45									
	Throw	SIDE WALL	16	24	49	22	32	61	27	41	68	32	49	74	38	57	80	43	61	86	49	64	91	54	68	96	58	71
SILL / FLOOR		13	19	39	17	25	48	21	32	54	25	39	58	30	45	63	34	48	68	39	51	72	43	54	76	46	56	79
12	CFM / FOOT		270		360		451		541		631		721		811		901		991									
	NC		<20		25		30		33		36		39		41		44		46									
	Throw	SIDE WALL	18	27	54	24	36	67	30	45	75	36	54	82	42	63	89	48	67	95	54	71	101	60	75	106	64	79
SILL / FLOOR		14	21	43	19	28	53	24	36	59	28	43	65	33	50	70	38	53	75	43	56	80	47	59	84	51	62	88
18	CFM / FOOT		420		560		701		841		981		1121		1261		1401		1541									
	NC		21		27		32		35		38		41		43		46		47									
	Throw	SIDE WALL	22	34	67	30	45	84	37	56	94	45	67	103	52	78	111	60	84	118	67	89	126	75	94	132	80	98
SILL / FLOOR		17	27	53	24	36	66	29	44	74	36	53	81	41	62	88	47	66	93	53	70	100	59	74	104	63	77	110
24	CFM / FOOT		570		760		951		1141		1331		1521		1711		1901		2091									
	NC		23		28		33		37		40		42		45		47		49									
	Throw	SIDE WALL	26	39	78	35	52	97	43	65	109	52	78	119	61	91	129	70	97	138	78	103	146	87	109	154	93	114
SILL / FLOOR		21	31	62	28	41	77	34	51	86	41	62	94	48	72	102	55	77	109	62	81	115	69	86	122	73	90	128

- Test Standard**
- ANSI / ASHRAE standard 70
 - Isothermal air
 - Data based on 4' active length. For other active lengths, use the following adjustment factors:

If grille length is:	2'	4'	6'	8'	10+'
Add to NC value:	-3	0	+2	+3	+4
Multiply Throw Dist by:	.71	0	1.22	1.41	1.58

- Throw**
- The numbers shown are throw distances, in feet, measured along the jet trajectory axis relating to terminal velocities of 150,100, & 50 fpm, with the jet attached to the ceiling surface. For exposed duct installation with free, unattached jet, multiple sidewall throw distance in table x .70
 - Sill / Floor throw values are the sum of the vertical and horizontal distance the jet travels up an adjacent surface and across the ceiling. This is an attached jet with a surface effect.

- Terminal velocity is the air speed, in feet per minute, measured in the supply air stream.
- Double deflection grilles provide spread control for active lengths up to 10', and throw distances will be reduced as follows: 22-1/2° Deflection: Throw x .70
45° Deflection : Throw x .55

- Sound Levels**
- NC shown is the 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.
 - When used with opposed blade volume control damper (OBD), add +5 NC to value shown for full open damper, and increase pressure by 1.2

- Core Velocity**
- Feet per minute
- Pressure**
- P_s represents static pressure, inches of water
- Return Use**
- Add +5 NC and multiply P_s x 1.20

- TL-1W/TL-2W - 0° DEFLECTION, 1/8" BARS ON 1/2" CENTERS
- TL-15W/TL-25W - 15° DEFLECTION, 1/8" BARS ON 1/2" CENTERS

NOMINAL DUCT HEIGHT	Core Velocity , fpm										
	300	400	500	600	700	800	900	1000	1100		
Throw	Ps, inches w.g.										
	0.01	0.02	0.04	0.05	0.07	0.09	0.12	0.14	0.17		
1.5	CFM / FOOT	8	10	13	16	18	21	23	26	29	
	NC	<20	<20	<20	<20	<20	20	23	25	27	
	SIDE WALL	3 4 8	4 5 11	5 7 13	5 8 14	6 10 15	7 11 16	8 12 17	9 13 18	10 13 19	
	SILL / FLOOR	2 3 6	3 4 9	4 6 10	4 6 11	5 8 12	6 9 13	6 9 13	7 10 14	8 10 15	
2	CFM / FOOT	20	27	34	41	47	54	61	68	74	
	NC	<20	<20	<20	<20	22	24	27	29	31	
	SIDE WALL	4 7 13	6 9 18	7 11 21	9 13 23	10 16 24	12 18 26	13 20 28	15 21 29	16 22 31	
	SILL / FLOOR	3 6 10	5 7 14	6 9 17	7 10 18	8 13 19	9 14 21	10 16 22	12 17 23	13 17 24	
2.5	CFM / FOOT	33	44	55	66	77	87	98	109	120	
	NC	<20	<20	<20	21	24	26	29	31	33	
	SIDE WALL	6 8 17	8 11 23	9 14 26	11 17 29	13 20 31	15 23 33	17 25 35	19 26 37	21 27 39	
	SILL / FLOOR	5 6 13	6 9 18	7 11 21	9 13 23	10 16 24	12 18 26	13 20 28	15 21 29	17 21 31	
3	CFM / FOOT	45	60	76	91	106	121	136	151	166	
	NC	<20	<20	<20	22	25	28	30	32	34	
	SIDE WALL	7 10 20	9 13 26	11 17 31	13 20 34	15 23 36	18 26 39	20 29 41	22 31 43	24 32 46	
	SILL / FLOOR	6 8 16	7 10 21	9 13 24	10 16 27	12 18 28	14 21 31	16 23 32	17 24 34	19 25 36	
3.5	CFM / FOOT	58	77	96	116	135	154	173	193	212	
	NC	<20	<20	<20	23	26	29	31	33	35	
	SIDE WALL	7 11 22	10 15 30	12 19 35	15 22 38	17 26 41	20 30 44	22 33 47	25 35 49	27 36 51	
	SILL / FLOOR	6 9 17	8 12 24	9 15 28	12 17 30	13 21 32	16 24 35	17 26 37	20 28 39	21 28 40	
4	CFM / FOOT	70	94	117	141	164	187	211	234	258	
	NC	<20	<20	20	24	27	30	32	34	36	
	SIDE WALL	8 12 25	11 16 33	14 21 38	16 25 42	19 29 45	22 33 48	25 36 51	27 38 54	30 40 57	
	SILL / FLOOR	6 9 20	9 13 26	11 17 30	13 20 33	15 23 36	17 26 38	20 28 40	21 30 43	24 32 45	
5	CFM / FOOT	95	127	159	191	222	254	286	318	349	
	NC	<20	<20	22	25	28	31	33	36	37	
	SIDE WALL	10 14 29	13 19 38	16 24 45	19 29 49	22 34 53	26 38 56	29 42 60	32 45 63	35 47 66	
	SILL / FLOOR	8 11 23	10 15 30	13 19 36	15 23 39	17 27 42	21 30 44	23 33 47	25 36 50	28 37 52	
6	CFM / FOOT	120	160	201	241	281	321	361	401	441	
	NC	<20	<20	23	26	29	32	34	37	38	
	SIDE WALL	11 16 32	14 22 43	18 27 50	22 32 55	25 38 59	29 43 63	32 47 67	36 50 71	40 53 74	
	SILL / FLOOR	9 13 25	11 17 34	14 21 40	17 25 43	20 30 47	23 34 50	25 37 53	28 40 56	32 42 58	
8	CFM / FOOT	170	227	284	341	397	454	511	568	624	
	NC	<20	20	24	28	31	34	36	38	40	
	SIDE WALL	13 19 39	17 26 51	21 32 60	26 39 65	30 45 70	34 51 75	39 57 80	43 60 84	47 62 88	
	SILL / FLOOR	10 15 31	13 21 40	17 25 47	21 31 51	24 36 55	27 40 59	31 45 63	34 47 66	37 49 70	
10	CFM / FOOT	220	294	367	441	514	587	661	734	808	
	NC	<20	21	25	29	32	35	37	39	41	
	SIDE WALL	15 22 44	19 29 58	24 37 68	29 44 74	34 51 80	39 58 86	44 64 91	49 68 96	54 71 100	
	SILL / FLOOR	12 17 35	15 23 46	19 29 54	23 35 58	27 40 63	31 46 68	35 51 72	39 54 76	43 56 79	
12	CFM / FOOT	270	360	451	541	631	721	811	901	991	
	NC	<20	22	26	30	33	36	38	40	42	
	SIDE WALL	16 24 49	22 32 65	27 40 75	32 49 82	38 57 89	43 65 95	49 71 101	54 75 106	59 79 111	
	SILL / FLOOR	13 19 39	17 25 51	21 32 59	25 39 65	30 45 70	34 51 75	39 56 80	43 59 84	47 62 88	
18	CFM / FOOT	420	560	701	841	981	1121	1261	1401	1541	
	NC	<20	23	28	32	35	37	40	42	44	
	SIDE WALL	20 30 61	27 40 81	34 50 94	40 61 103	47 71 111	54 81 118	61 89 126	67 94 132	74 98 139	
	SILL / FLOOR	16 24 48	21 32 64	27 40 74	32 48 81	37 56 88	43 64 93	48 70 100	53 74 104	58 77 110	
24	CFM / FOOT	570	760	951	1141	1331	1521	1711	1901	2091	
	NC	<20	25	29	33	36	39	41	43	45	
	SIDE WALL	23 35 70	31 47 94	39 59 109	47 70 119	55 82 129	63 94 138	70 103 146	78 109 154	86 114 162	
	SILL / FLOOR	18 28 55	24 37 74	31 47 86	37 55 94	43 65 102	50 74 109	55 81 115	62 86 122	68 90 128	

Test Standard

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- Isothermal air
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Sound Levels

- NC shown is the 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.
- When used with opposed blade volume control damper (OBD), add +5 NC to value shown for full open damper, and increase pressure by 1.2

Core Velocity

- Feet per minute

Pressure

- P_s represents static pressure, inches of water

Return Use

- Add +5 NC and multiply P_s x 1.20