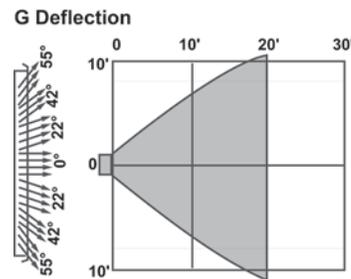
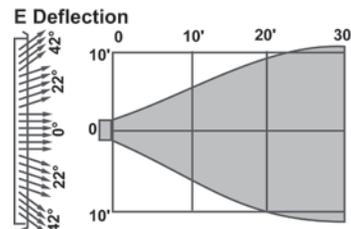
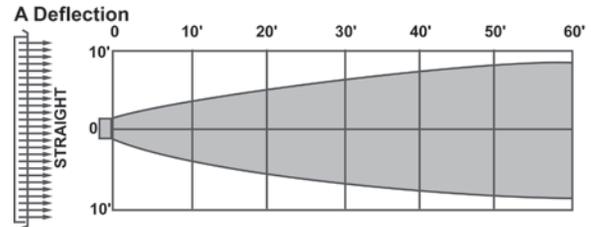


Recommended NC Criteria

	Communication Environment	Typical Occupancy
< NC 25	Extremely quiet environment; suppressed speech is quite audible; suitable for acute pickup of all sounds.	Broadcasting studios, concert halls, music rooms.
NC 30	Very quiet office; suitable for large conferences; telephone use satisfactory.	Residences, theaters, libraries, executive offices, directors rooms.
NC 35	Quiet office; satisfactory for conference at a 15-foot table; normal voice 10 to 30 feet; telephone use satisfactory.	Private offices, schools, hotel guestrooms, courtrooms, churches, hospital rooms.
NC 40	Satisfactory for conferences at a 6-to 8-foot table; normal voice 6 to 12 feet; telephone use satisfactory.	General office, labs, dining rooms.
NC 45	Satisfactory for conferences at a 4- to 5-foot table; normal voice 3 to 6 feet; raised voice 6 to 12 feet; telephone use occasionally difficult.	Retail stores, cafeterias, lobby areas, large drafting and engineering offices, reception areas.
> NC 50	Unsatisfactory for conference of more than two or three persons; normal voice 1 to 2 feet; raised voice 3 to 6 feet; telephone use slightly difficult.	Computer rooms, stenographic pools, print machine rooms, process areas.

Air Pattern Obtained with Various Deflection Settings



Velocity Limitations for Various Applications

The sound caused by an air outlet in operation is directly proportional to the velocity of the air passing through it. By selecting outlets of proper sizes, face velocities can be controlled within safe sound limits.

The following recommended face velocities are within the safe sound limits for most applications, when NC data are not available.

Application	Recommended Velometer Velocities
Broadcasting Studios	500 FPM
Residences	500 to 750 FPM
Apartments	500 to 750 FPM
Churches	500 to 750 FPM
Hotel Guestrooms	500 to 750 FPM
Legitimate Theaters	500 to 1000 FPM
Private Offices, acoustically treated	500 to 1000 FPM
Private Offices, not treated	1000 to 1250 FPM
Motion Picture Theaters	1000 to 1250 FPM
General Offices	1250 to 1500 FPM
Stores, upper floors	1500 FPM
Stores, main floors	1500 FPM
Industrial Buildings	1500 to 2000 FPM

Rezzin Square Ceiling Diffuser

2-Way Corner

Two-Way Corner Air Pattern

Neck Velocity		300	400	500	600	700
Neck Size 6"	CFM	60	80	100	120	135
Ak 0.284	Ps	0.002	0.004	0.006	0.008	0.011
Vt 75	Throw	2.5	3.5	4.0	5.0	6.0
Vt 100	Throw	2.5	3.0	4.0	4.5	5.5
Vt 150	Throw	1.5	2.0	2.5	3.0	3.5
Neck size 7"	CFM	82	109	136	164	191
Ak 0.267	Ps	0.009	0.016	0.025	0.037	0.050
Vt 75	Throw	4.0	5.0	6.0	7.5	8.5
Vt 100	Throw	3.5	4.5	5.5	7.0	8.0
Vt 150	Throw	2.5	3.0	4.0	4.5	5.5
Neck size 8"	CFM	105	140	175	209	244
Ak 0.251	Ps	0.016	0.029	0.045	0.065	0.088
Vt 75	Throw	5.0	6.5	8.0	9.5	11.0
Vt 100	Throw	4.5	6.0	7.5	9.0	10.5
Vt 150	Throw	3.0	4.0	5.0	6.0	7.0

3-Way

Three-Way Air Pattern

Neck Velocity		300	400	500	600	700
Neck Size 6"	CFM	60	80	100	120	135
Ak 0.247	Ps	0.002	0.004	0.006	0.008	0.011
Vt 75 S/L	Throw	2.0 2.5	3.0 3.5	3.5 4.5	4.5 5.5	5.0 6.0
Vt 100 S/L	Throw	2.0 2.5	3.0 3.5	3.5 4.0	4.0 5.0	5.0 6.0
Vt 150 S/L	Throw	1.5 1.5	2.0 2.0	2.5 3.0	3.0 3.5	3.0 4.0
Neck Size 7"	CFM	80	110	135	165	190
Ak 0.243	Ps	0.009	0.016	0.026	0.037	0.050
Vt 75 S/L	Throw	2.5 4.0	3.5 5.5	4.5 7.0	5.5 8.5	6.0 9.5
Vt 100 S/L	Throw	2.5 3.5	3.5 5.3	4.0 6.3	5.0 7.5	5.5 9.0
Vt 150 S/L	Throw	1.8 2.5	2.5 3.5	3.0 4.5	3.5 5.5	4.0 6.0
Neck Size 8"	CFM	105	140	175	210	245
Ak 0.239	Ps	0.016	0.029	0.046	0.066	0.090
Vt 75 S/L	Throw	3.0 5.5	4.0 7.5	5.0 9.0	6.0 11.0	7.0 13.0
Vt 100 S/L	Throw	3.0 5.0	3.5 7.0	4.5 8.5	5.5 10.5	6.5 12.0
Vt 150 S/L	Throw	2.0 3.5	2.5 4.5	3.0 6.0	3.5 7.0	4.5 8.0

4-Way

Four-Way Air Pattern

Neck Velocity		300	400	500	600	700
Neck Size 6"	CFM	60	80	100	120	135
Ak 0.210	Ps	0.001	0.002	0.003	0.005	0.006
Vt 75	Throw	3.0	3.5	4.5	5.5	6.5
Vt 100	Throw			4.5	5.0	6.0
Vt 150	Throw	1.5	2.5	3.0	3.5	4.0
Neck Size 7"	CFM	80	110	135	165	190
Ak 0.209	Ps	0.003	0.005	0.008	0.011	0.015
Vt 75	Throw	3.8		6.0	7.5	8.5
Vt 100	Throw	3.5	4.5	5.5	7.0	8.0
Vt 150	Throw	2.5	3.0	4.0	4.5	5.5
Neck Size 8"	CFM	105	140	175	210	245
Ak 0.209	Ps	0.005	0.008	0.013	0.018	0.025
Vt 75	Throw	4.5	6.0	7.5	9.0	10.5
Vt 100	Throw	4.0	5.5	7.0	8.5	10.0
Vt 150	Throw	3.0	3.5	4.5	5.5	6.5

Rezzin Round Ceiling Diffuser

Face Velocity		300	400	500	600	700	800	900	1000
Neck Size 6" Ak .224	CFM	67	89	112	134	157	179	201	224
	Ps	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
	Throw	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00
Neck Size 7" Ak .229	CFM	69	92	115	137	160	183	206	229
	Ps	0.05	0.09	0.13	0.19	0.26	0.34	0.43	0.53
	Throw	1.75	2.25	2.75	3.25	3.75	4.25	5.00	5.50
Neck Size 8" Ak .235	CFM	70	94	117	141	164	188	211	235
	Ps	0.10	0.17	0.26	0.38	0.52	0.67	0.85	1.05
	Throw	2.00	2.50	3.00	3.50	4.00	4.50	5.50	6.00

Terminal Velocity of 50 FPM