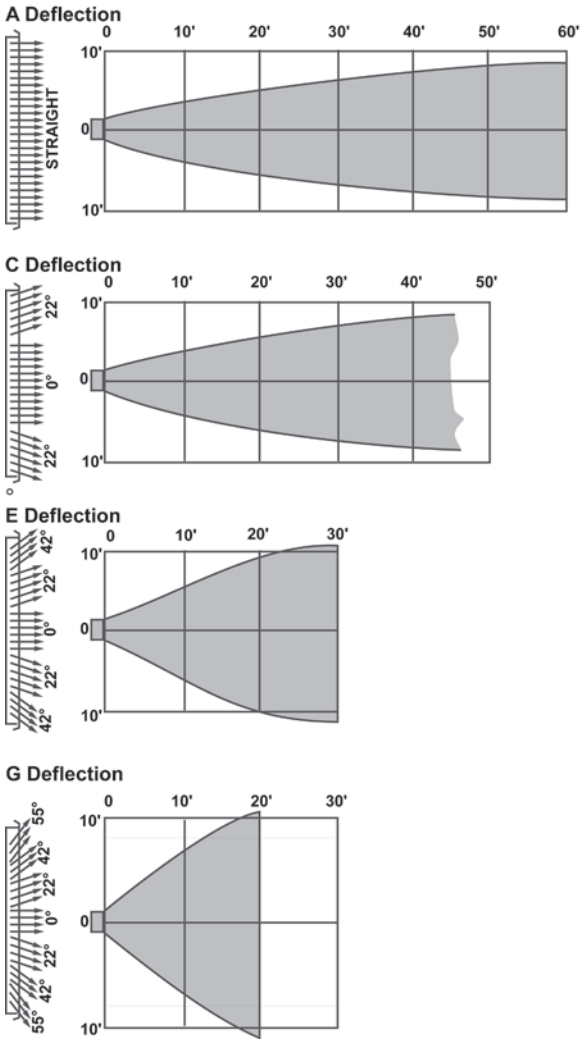
Recommended NC Criteria

	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

Recommended Noise Criteria and Face Velocity Ranges are on page 19.

700/AL700 Nonvision Door Grille

PERFORMANCE BASED ON NOMINAL SIZES SHOWN IN BOLD

				NC 20			NC 30					NC 40
Nominal Duct Size (in)	**Nominal Duct Area sq. ft**	**Core Area sq. ft**	**Core Velocity Velocity Pressure CT-700 Static Pressure T-700 Static Pressure**	**200 0.003 0.028 0.027**	**250 0.004 0.044 0.043**	**300 0.006 0.063 0.062**	**350 0.008 0.086 0.084**	**400 0.010 0.113 0.110**	**450 0.013 0.143 0.139**	**500 0.016 0.176 0.172**	**550 0.019 0.213 0.208**	**600 0.022 0.254 0.247**
6x6	**0.25**	**0.19**	Airflow, cfm NC (Noise Criteria)	38 15	48 20	57 24	67 27	76 30	86 32	95 34	105 36	114 38
8x6	**0.33**	**0.26**	Airflow, cfm NC (Noise Criteria)	52 16	65 21	78 25	91 28	104 31	117 33	160 36	143 38	156 39
10x6	**0.42**	**0.34**	Airflow, cfm NC (Noise Criteria)	68 18	85 22	102 26	119 29	136 32	153 35	170 37	187 39	204 41
8x8	**0.44**	**0.37**	Airflow, cfm NC (Noise Criteria)	74 18	93 23	111 26	130 30	148 32	167 35	185 37	204 39	222 41
12x6	**0.50**	**0.41**	Airflow, cfm NC (Noise Criteria)	82 18	103 23	123 27	144 30	164 33	185 35	205 38	226 40	246 41
14x6	**0.58**	**0.48**	Airflow, cfm NC (Noise Criteria)	96 19	120 24	144 28	168 32	192 34	216 37	240 39	264 41	288 43
16x6 **12x8**	**0.67**	**0.57**	Airflow, cfm NC (Noise Criteria)	114 20	143 24	171 28	200 31	228 34	257 36	285 38	314 40	342 42
10x10	**0.69**	**0.59**	Airflow, cfm NC (Noise Criteria)	118 20	148 25	177 28	207 32	236 34	266 37	295 39	325 41	354 43
18x6	**0.75**	**0.63**	Airflow, cfm NC (Noise Criteria)	126 20	158 25	189 29	221 32	252 35	284 37	315 39	347 41	378 43
20x6 **12x10**	**0.83**	**0.72**	Airflow, cfm NC (Noise Criteria)	144 21	180 25	216 29	252 33	288 35	324 38	360 40	396 42	432 44
22x6	**0.92**	**0.77**	Airflow, cfm NC (Noise Criteria)	154 21	193 26	231 30	270 33	308 36	347 38	385 40	424 42	462 44
24x6 **12x12**	**1.00**	**0.88**	Airflow, cfm NC (Noise Criteria)	176 22	220 26	264 30	308 33	352 36	396 39	440 41	484 43	528 45
30x6 **18x10**	**1.25**	**1.11**	Airflow, cfm NC (Noise Criteria)	222 23	278 27	333 31	389 34	444 37	500 40	555 42	611 44	666 46
14x14	**1.36**	**1.22**	Airflow, cfm NC (Noise Criteria)	244 23	305 28	366 32	437 358	488 38	549 40	610 42	671 44	732 46
18x12	**1.50**	**1.35**	Airflow, cfm NC (Noise Criteria)	270 24	338 28	405 32	473 35	540 38	608 41	675 43	743 45	810 47
22x10	**1.53**	**1.37**	Airflow, cfm NC (Noise Criteria)	274 24	343 28	411 32	480 35	548 38	617 41	685 43	754 45	822 47
30x8 **24x10**	**1.67**	**1.49**	Airflow, cfm NC (Noise Criteria)	298 24	373 28	447 32	522 35	596 38	671 41	745 43	820 45	894 47
42x6 **18x14**	**1.75**	**1.59**	Airflow, cfm NC (Noise Criteria)	318 24	398 29	477 33	557 36	636 39	716 41	795 43	875 45	954 47
16x16	**1.78**	**1.62**	Airflow, cfm NC (Noise Criteria)	324 24	405 29	486 33	567 36	648 39	729 41	810 44	891 46	972 47
24x12 18x16	**2.00**	**1.82**	Airflow, cfm NC (Noise Criteria)	364 25	455 30	546 33	637 37	728 39	819 42	910 44	1001 46	1092 48
16x18	**2.25**	**2.07**	Airflow, cfm NC (Noise Criteria)	414 25	518 30	621 34	725 37	828 40	932 42	1035 45	1139 47	1242 48
24x14	**2.33**	**2.14**	Airflow, cfm NC (Noise Criteria)	428 26	535 30	642 34	749 37	856 40	963 42	1070 45	1177 47	1284 49
30x12	**2.50**	**2.29**	Airflow, cfm NC (Noise Criteria)	458 26	573 31	687 34	802 38	916 40	1031 43	1145 45	1260 47	1374 49
24x16	**2.67**	**2.46**	Airflow, cfm NC (Noise Criteria)	493 26	615 31	738 35	861 38	984 41	1107 43	1230 45	1353 47	1476 49
20x20	**2.78**	**2.57**	Airflow, cfm NC (Noise Criteria)	514 26	643 31	771 35	900 38	1028 41	1157 43	1258 46	1414 48	1542 49
30x16 **24x20**	**3.33**	**3.11**	Airflow, cfm NC (Noise Criteria)	622 27	778 32	933 36	1089 39	1244 42	1400 44	1555 46	1711 48	1866 50
22x22	**3.36**	**3.14**	Airflow, cfm NC (Noise Criteria)	628 27	785 32	942 36	1099 39	1256 42	1413 44	1570 46	1727 48	1884 50
24x22	**3.67**	**3.43**	Airflow, cfm NC (Noise Criteria)	686 28	858 32	1029 36	1201 39	1372 42	1544 45	1715 47	1887 49	2058 51
30x18	**3.75**	**3.50**	Airflow, cfm NC (Noise Criteria)	700 28	875 32	1050 36	1225 39	1400 42	1575 45	1750 47	1925 49	2100 51
24x24	**4.00**	**3.75**	Airflow, cfm NC (Noise Criteria)	750 28	938 33	1125 36	1313 40	1500 43	1688 45	1875 47	2063 49	2250 51
30x24	**5.00**	**4.71**	Airflow, cfm NC (Noise Criteria)	942 29	1178 34	1413 37	1649 41	1884 43	2120 46	2355 48	2591 50	2826 52
28x28	**5.44**	**5.16**	Airflow, cfm NC (Noise Criteria)	1032 29	1290 34	1548 38	1806 41	2064 44	2322 46	2580 49	2838 51	2096 52
30x28	**5.83**	**5.51**	Airflow, cfm NC (Noise Criteria)	1102 30	1378 34	1653 38	1929 41	2204 44	2480 47	2755 49	3031 51	3306 53
30x30	**6.25**	**5.94**	Airflow, cfm NC (Noise Criteria)	1188 30	1485 35	1782 38	2079 42	2376 44	2673 47	2970 49	3267 51	3564 53

NC 50

- Static pressures are negative, in inches of water, measured per ANSI/ASHRAE Standard 70-2006
- NC based on room absorption of 10dB, re 10^{-12} watts, measured per ANSI/ASHRAE Standard 70-2006

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