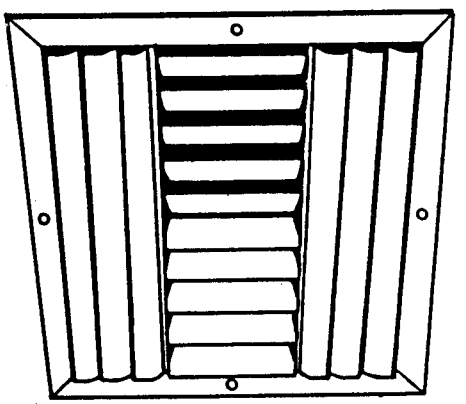
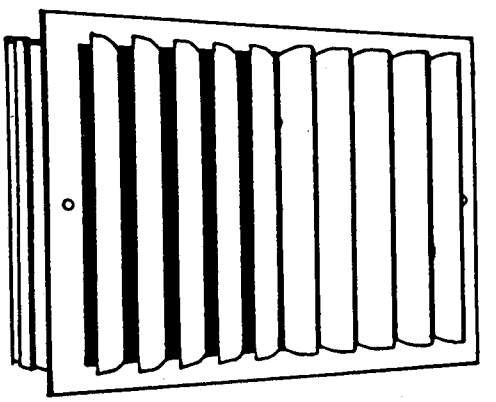
GOLDEN STAR ™

SAUDI AIR CONTROL SYSTEM
INDUSTRIAL REGISTRATION NO.353





EXTRUDED ALUMINUM CEILING AND SIDEWALL DIFFUSERS

النجمة الذهبية ™

المصنع السعودي لصناعة فتحات وضوابط توزيع الهواء

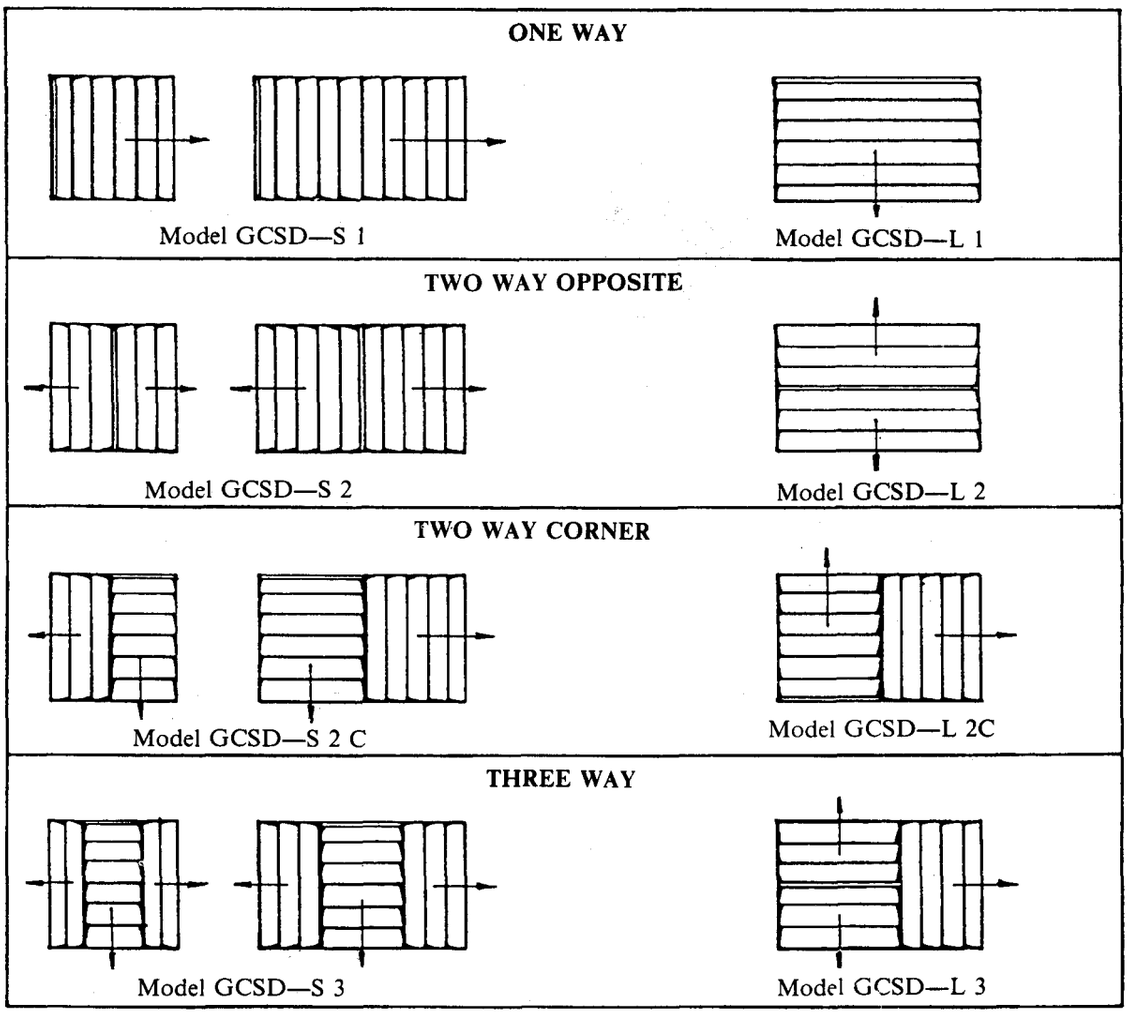
ترخيص صناعي رقم ٣٥٣ / ص

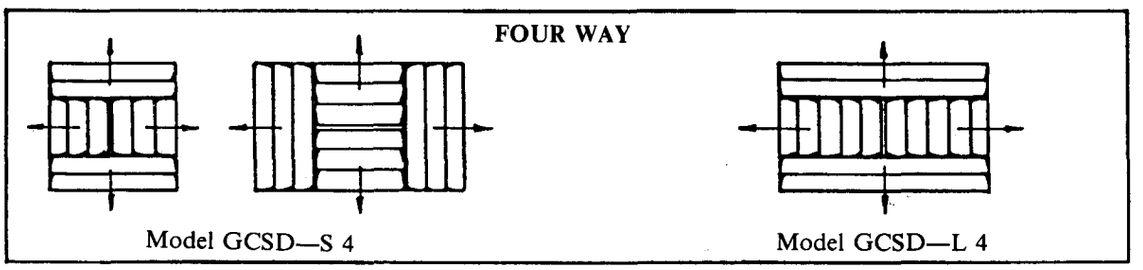
CEILING AND SIDEWALL DIFFUSERS

OUTSTANDING FEATURES:

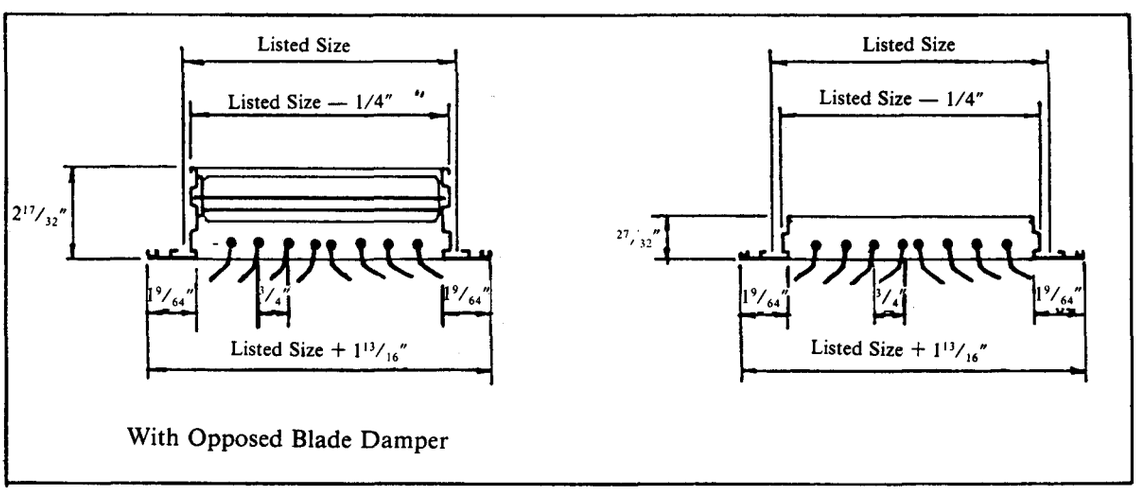
Designed for ceiling, high and low sidewall applications.
Angle-Curved blade which are individually adjustable from face of diffuser.
Frame type is adaptable for flush mounting in walls or ceiling and in suspended ceiling T-Bars.
Opposed blade damper is adjustable from face of diffuser.
Available in square and rectangular types with 1, 2, 3, or 4 way patterns.
For larger sizes, multi-sections are being assembled with double-channel joining strips.
All extruded aluminum constructions.
Standard finish: Anodized. Other colors (Optional).

AIR DEFLECTION PATTERNS

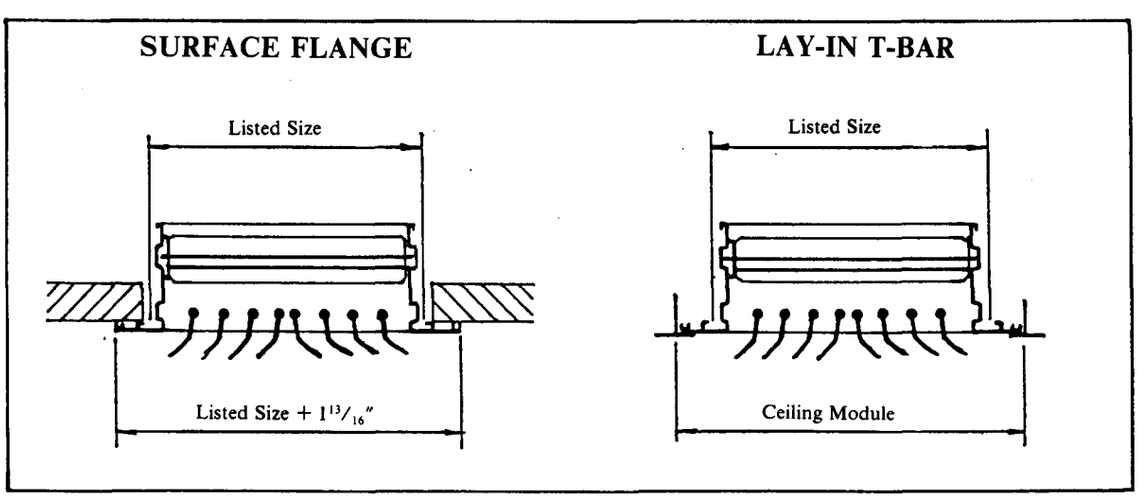




DIMENSIONAL DETAILS



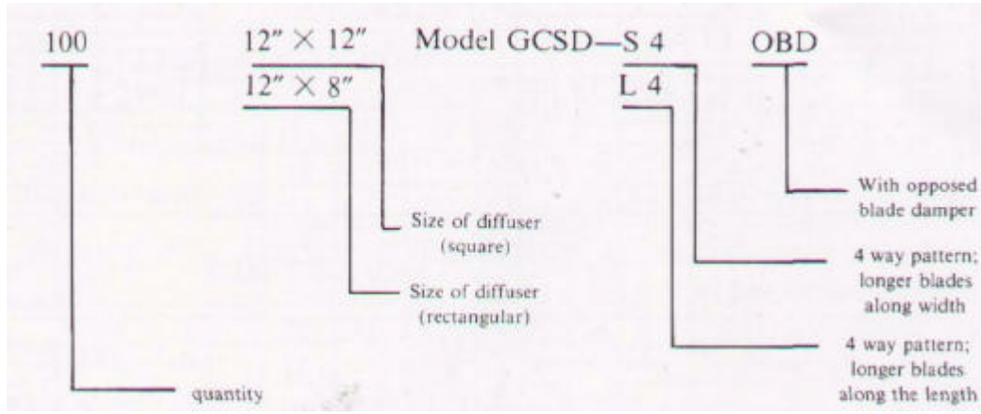
BORDERS



GOLDEN STAR
SAUDI AIR CONTROL SYSTEM

HOW TO ORDER

EXAMPLE :

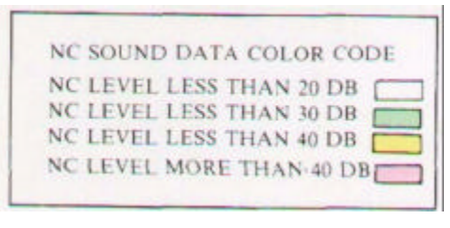


PERFORMANCE DA TA

SIZE	Pattern	Core Vel.	100	200	300	400	500	600	700	800	900	1000
		Vel. Press.	.0006	.0025	.0056	.01	.016	.022	.03	.04	.05	.06
		Tot. Press.	.003	.014	.03	.055	.09	.13	.174	.224	.29	.35
8" X 4" Ac - .156	CFM		15	30	50	65	80	95	110	125	140	155
	1	Throw, Ft.			8-13	10-17	13-21	15-24	17-28	19-32	22-36	24-39
	2				7-11	9-15	11-18	13-21	15-24	17-28	19-31	21-34
	3				6-10	8-13	10-16	12-19	13-22	15-25	17-28	19-31
	4				6-9	7-12	9-14	11-17	12-20	14-23	15-25	17-28
10" X 4" 8" x 5" 6" X 6" Ac - .194	CFM		20	40	60	SO	1 (K)	120	135	155	175	195
	1				9-14	1 1 -1	14-23	17-27	19-31	21-35	24-40	27-44
	2				8-12	10-16	12-20	15-24	16-27	19-31	21-35	23-39
	3	throw. Ft.			7-11	9-15	11-18	13-22	15-24	17-28	19-31	21-35
	4				6-10	8-13	10-16	12-20	J 3-22	15-25	17-28	19-32
12" X 4" 10" X 5" 8" X 6" Ac - .25	CFM		25	50	75	100	125	150	175	200	225	250
	1			6-10	9-1 5	12-20	15-25	18-30	21-35	24-40	27-45	30-50
	2	Throw. Ft.		6-9	8-13	1 MS	13-22	16-26	19-31	21-35	24-39	26-44
	3			5-8	7-12	10-16	12-20	14-24	17-28	19-32	21-35	24-39
	4			5-7	7-11	9-14	11-18	13-21	15-25	17-28	19-32	22-35
16" X 4" 10" X 6" 8" X 8" Ac - .35	CFM		35	70	105	140	175	210	245	280	315	350
	1	Throw, Ft.		6-10	9-15	12-19	15-24	18-29	21-33	24-3 S	27-43	30-48
	2			6-9	8-13	11-17	13-21	16-25	18-29	21-33	23-37	26-41
	3			5-8	7-12	10-15	12-19	14-23	17-26	19-30	21-34	23-37
	4			5-7	7-10	9-14	11-17	13-20	15-24	17-27	19-30	21-34
18" X 4" 12" X 6" Ac - .40	CFM		41)	SO	120	160	200	240	280	320	360	400
	1	Throw. Ft,		7-11	10-16	13-21	16-26	19-31	22-36	26-41	29-46	32-51
	2			6-9	9-14	11-18	14-22	17-27	20-31	22-35	25-40	28-44
	3			5-8	8-12	10-16	13-20	15-24	18-28	20-32	23-36	25-40
	4			5-8	7-11	9-15	12-18	14-22	16-25	18-29	20-32	23-36

PERFORMANCE DA TA

SIZE	Pattern	Core Vel.	100	200	300	400	500	600	700	800	900	1 000
		Vol. Press.	.0006	0025	.0056	.01	.016	.022	.03	.04	.05	.06
		Tot. Press.	.003	.014	.03	.055	.09	.13	.174	.224	.29	.35
20" X 4"		CFM	45	90	135	175	220	265	310	355	400	440
14" X 6"	1			7-11	11-17	14-21	17-27	20-32	24-38	27-43	30-48	33-53
10" X 8"	2			6-10	9-15	12-19	15-23	18-28	21-33	24-37	27-42	29-46
	3	Throw, Ft.		6-9	8-1 3	11-17	13-21	16-25	19-30	21-34	24-38	26-42
Ac = .44	4			5-8	8-12	10-15	12-19	15-23	17-27	19-31	22-34	24-38
10" X 10"		CFM	55	105	160	215	265	320	370	425	480	530
16" X 6"	1		4-6	8-12	11-18	15-24	19-29	22-35	26-41	29-47	33-53	37-58
12" X 8"	2		4-6	7-10	10-16	13-21	16-26	19-31	22-36	26-41	29-46	32-51
	3	Throw, Ft.	3-5	6-9	9-14	12-19	15-23	18-28	20-32	23-37	26-42	29-46
Ac = .53	4		3-5	6-8	8-13	11-17	13-21	16-25	18-29	21-33	24-38	26-41
30" X 4"		CFM	70	140	210	280	350	420	490	560	630	700
20" X 6"	1		5-7	9-14	13-20	17-27	21-34	25-40	30-47	34-54	38-60	42-67
12" X 10"	2		4-6	8-12	11-18	15-24	19-29	22-35	26-41	29-47	33-53	37-58
	3	Throw, Ft.	4-6	7-11	10-16	14-21	17-26	20-32	23-37	27-42	30-47	33-52
Ac = .70	4		3-5	6-10	9-14	12-19	15-24	18-29	21-33	24-38	27-43	30-47
		CFM	80	160	240	320	400	480	560	640	720	800
24" X 6"	1		5-8	9-15	14-22	18-29	23-36	27-43	32-50	36-57	40-64	45-71
14" X 10"	2		4-7	8-13	12-19	16-25	20-31	24-37	28-44	31-50	35-56	39-62
	3	Throw, Ft.	4-6	7-12	11-17	14-23	18-28	21-34	25-39	28-45	32-50	35-56
Ac = .80	4		3-5	7-10	10-15	13-20	16-26	19-31	22-36	26-41	29-46	32-51
		CFM	85	170	255	340	425	510	595	680	765	850
18" X 8"	1		5-8	10-15	14-22	19-30	23-37	28-44	33-52	37-59	42-66	46-74
12" X 12"	2		4-7	8-13	12-20	16-26	20-32	24-39	28-45	32-51	36-58	40-64
	3	Throw. Ft.	4-6	8-12	11-18	15-23	18-29	22-35	26-41	29-46	33-52	36-58
Ac = .85	4		4-6	7-1 1	10-16	13-21	17-26	20-31	23-37	26-42	30-47	33-52
20" X 8"		C FM	95	190	285	380	475	570	665	760	855	950
16" X 10"	1		5-8	10-16	15-24	20-31	25-39	30-47	34-55	39-62	44-70	49-78
14" X 12"	2		5-7	9-14	13-21	17-27	22-34	26-41	30-48	34-54	38-61	43-68
	3	Throw, Ft.	4-7	8-13	12-19	16-25	19-31	23-37	27-43	31-49	35-55	38-61
Ac = .95	4		4-6	7-11	11-17	14-22	18-28	21-33	24-39	28-44	31-50	35-55
		CFM	115	225	340	455	565	680	790	905	1020	1130
24" X 8"	1		6-9	11-17	16-26	22-35	27-43	32-51	37-60	43-68	48-77	53-85
16" X 12"	2		5-8	10-15	14-23	19-30	23-37	28-45	33-52	37-59	42-67	46-74
	3	Throw. Ft.	5-7	9-14	13-20	17-27	21-34	25-40	29-47	34-53	38-60	42-67
Ac = 1.13	4		4-6	8-12	12-18	16-24	19-30	23-36	27-42	30-48	34-54	38-60



PERFORMANCE DA TA

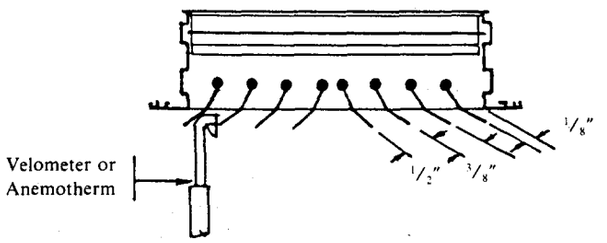
SIZE	Pattern	Core Vel.	100	200	300	400	500	600	700	800	900	1000
		Vel. Press.	.0006	.0025	.0056	.01	.016	.022	.03	.04	.05	.06
		Tot. Press.	.003	.014	.03	.055	.09	.13	.174	.224	.29	.35
		CFM	120	235	355	475	590	710	825	945	1065	11 80
20" X 10"	1		6-9	10-1 S	15-26	20-35	25-44	30-52	35-61	40-70	45-78	50-87
14" X 14"	2		5-8	9-15	13-23	18-31	22-38	26-46	31-53	36-61	39-68	44-76
	3	Throw. Ft.	4-7	8-14	12-21	16-28	20-34	24-41	28-48	32-55	36-61	39-68
Ac = 1.18	4		4-7	7-13	11-19	15-25	18-31	22-37	25-43	29-49	32-56	36-61
		CFM	150	300	450	600	750	900	1050	1200	1350	1500
18" X 14"	1		6-9	11-17	17-26	22-34	28-43	33-52	39-60	44-69	50-77	55-86
16" X 16"	2		5-8	1 0-15	15-23	20-30	24-37	29-45	34-52	39-60	43-67	48-74
	3	Throw. Ft.	5-7	9-14	13-20	18-27	22-34	26-40	30-47	35-54	39-60	43-67
Ac - 1.5	4		4-6	8-12	12-18	16-24	20-30	24-37	28-43	31-49	35-55	39-61
36" *X* 8"		CFM	180	360	540	720	900	1080	1260	1440	1620	1800
24" X 12"	1		5-8	10-16	14-24	19-32	24-40	28-48	33-56	38-64	42-72	47-80
20" X 14"	2		5-7	9-14	13-21	17-28	21-35	25-42	29-49	33-56	37-63	41-70
	3	Throw. Ft.	4-7	8-13	11-19	15-25	19-32	22-38	26-44	30-50	33-57	37-63
Ac = I.S	4		4-6	7-12	10-17	14-23	17-29	20-34	24-40	27-46	30-51	33-57
		CFM	200	400	600	800	1000	1200	1400	1600	1 800	2000
20" X 16"	1		5-9	10-17	15-26	20-34	25-43	30-51	35-59	40-68	45-76	50-85
18" X 18"	2		5-8	9-15	13-22	18-30	22-37	26-44	30-52	35-59	39-66	43-74
	3	Throw. Ft.	4-7	8-14	12-20	16-27	20-33	24-40	27-47	31-53	35-60	39-66
Ac = 2.0	4		4-6	7-12	11-18	14-24	18-30	21-36	25-42	28-48	32-54	35-60
		CFM	260	520	780	1040	1300	1560	1820	2080	2340	2600
	1		5-9	10-18	15-26	19-35	24-44	29-52	33-61	38-70	43-78	48-87
20" X 20"	2		5-8	9-16	13-23	17-31	21-38	25-46	29-53	33-61	37-68	41-76
	3	Throw. Ft.	4-7	8-14	12-21	15-28	19-34	23-41	26-48	30-55	34-61	37-68
Ac = 2.6	4		4-7	7-13	10-19	14-25	17-31	20-37	24-43	27-49	30-55	34-62
		C FM	315	630	945	1260	1580	1890	2200	2520	2840	3 150
	1		5-9	10-18	15-27	20-36	25-45	30-53	34-62	38-71	44-80	49-89
36" X 14"	2		5-8	9-16	13-23	17-31	22-39	26-46	30-54	34-62	39-70	43-77
	3	Throw. Ft	4-7	8-14	12-21	16-28	20-35	23-42	27-49	31-56	35-63	38-69
Ac =3.15	4		4-7	7-13	11-20	14-26	18-33	21-39	24-45	28-52	31-58	35-65
		CFM	360	720	1080	1440	1800	2160	2520	2880	3240	3600
36" *X* 16"	1		6-10	11-19	16-29	21-38	26-48	32-57	37-66	42-76	47-85	52-95
24" X 24"	2		5-9	10-17	14-25	19-33	23-41	28-50	32-58	37-66	41-74	46-82
	3	Throw. Ft	5-8	9-15	13-23	17-30	21-37	25-45	29-52	33-59	37-67	41-74
Ac = 3.6	4		4-7	8-14	11-20	15-27	19-34	22-40	26-47	30-54	33-60	37-67

NC SOUND DATA COLOR CODE
NC LEVEL LESS THAN 20 DB
NC LEVEL LESS THAN 30 DB
NC LEVEL LESS THAN 40 DB
NC LEVEL MORE THAN 40 DB

PERFORMANCE NOTES & SYMBOLS

TOTAL PRESSURE — in inches of water. Equals to the sum of static pressure plus velocity pressure.
VELOCITY PRESSURE — in inches of water.
CFM — cubic feet if air per minute.
CORE VELOCITY — in feet per minute (fpm).
Ac — Core Effective Area in ft^2.
THROW — is the distance measured in feet that the air stream travels from outlet at a given terminal velocity. Throws are based on maximum terminal velocity of 50 fpm and minimum terminal velocity of 100 fpm. Temperature difference between supply air and average room temperature is 20°F.
NC LEVEL—'NOISE CRITERIA , db. — are based on 8 db room attenuation; re: 10^{12} watts. Color coding denotes each type of NC values. If the vanes are adjusted to full open position, the NC values will be reduced by approximately 7 db.

BALANCING PROCEDURE



1. Set the vanes at the desired settings as shown so that it directs the flow of air to be discharged parallel to the face of the diffuser.
2. Take velocity readings on tip of diffuser vanes on each throw. Average the readings.
3. Calculate CFM.

CFM = Ac X Average Velocity.