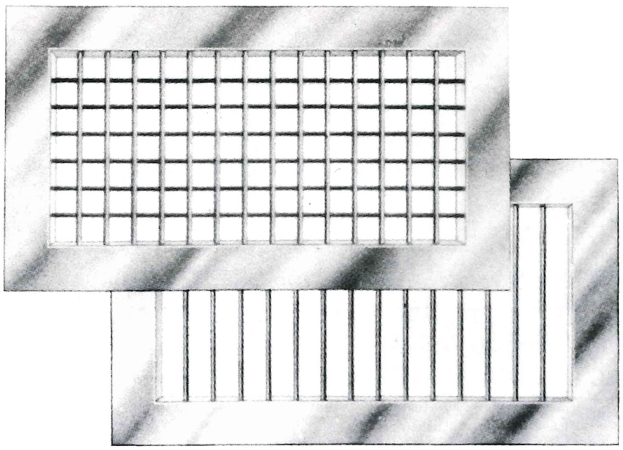
Model SG Registers and Grilles
Double and Single Deflection



Model SG registers and grilles are designed for installation in sidewall or sill and can be used for supply or return air in heating, cooling or ventilating applications. The adjustable blades can be set individually at any position to provide maximum air pattern flexibility

Features

- Choice of extruded aluminium or sheet steel construction.
- Blades with aerofoil cross section for minimum turbulence and low noise level.
- Blades set on 19mm spacing as standard, 16mm or 13mm spacing are also available.
- Polyurethane foam gaskets.

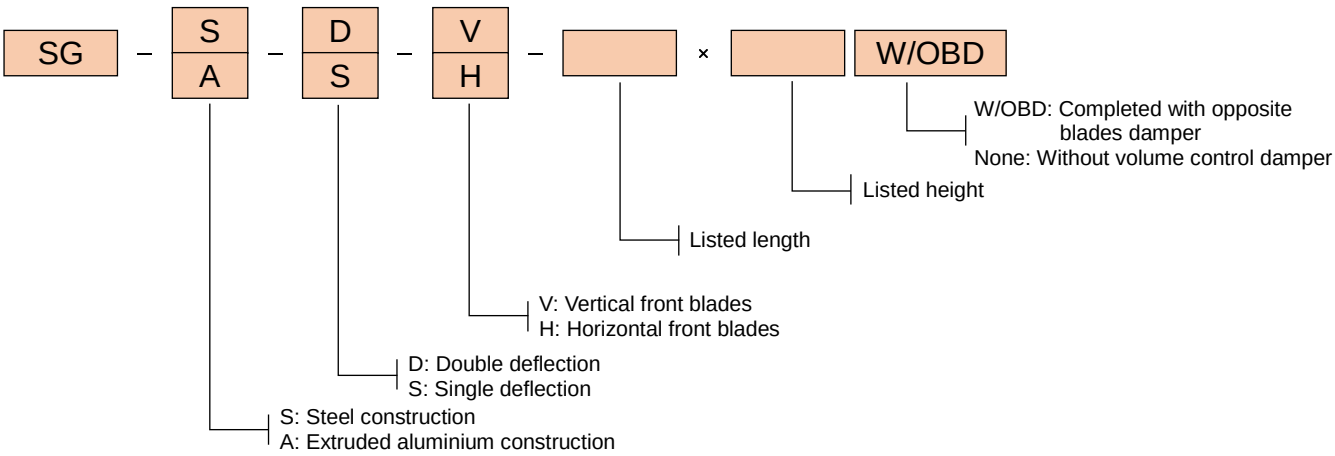
Finish

- Steel construction
  Standard finish is white baked enamel. Special colour finishes are available to match architectural requirements.
- Extruded aluminium construction
  Baked enamel or special anodize finishes are available.

Accessories

- Opposite blade damper (OBD)
  Damper blades move simultaneously in opposite direction. Allow for smooth volume control from fully open to fully close. Smooth operation by turning a single adjustment screw. Dampers manufactured from sheet steel. Standard finish is black baked enamel.

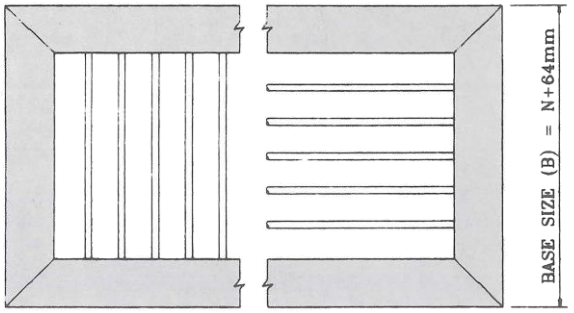
Order Code

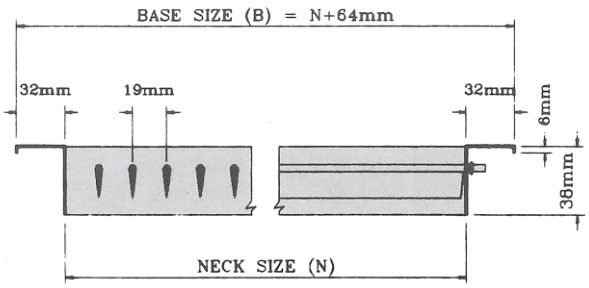


Note: For special finishes and requirements, please specify when ordering.

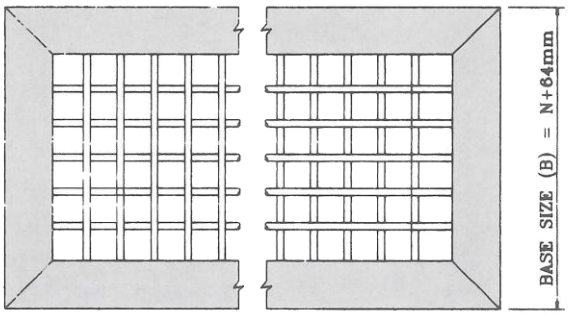
Dimension

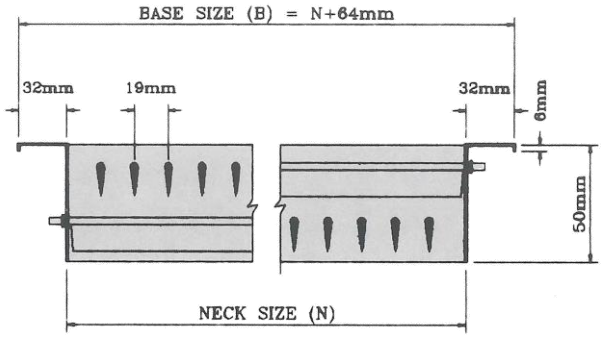
SG-S-S-V/H
Single Deflection (Steel)



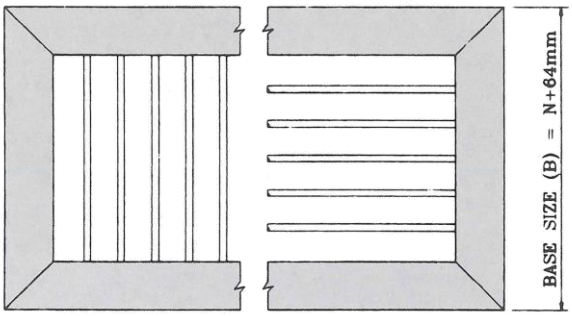


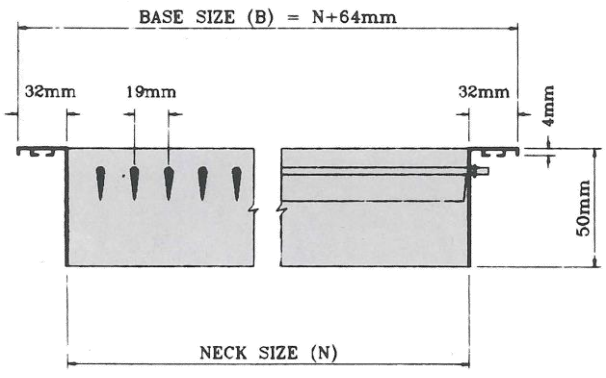
SG-S-D-V/H
Double Deflection (Steel)



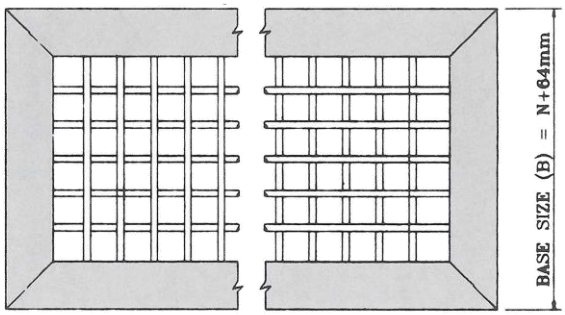


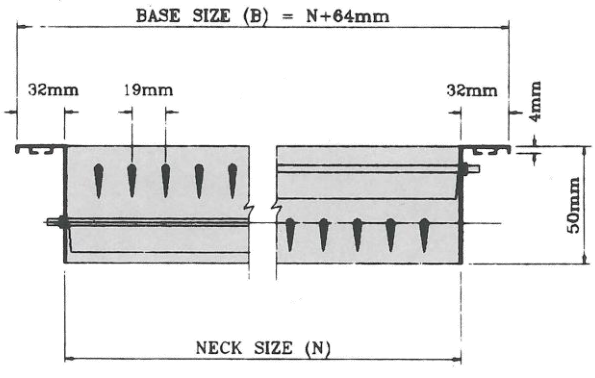
SG-A-S-V/H
Single Deflection (Aluminium)





SG-A-D-V/H
Double Deflection (Aluminium)





Model SG Performance Table

m^3/S	Size	200x100			150x150 200x125 250x100			200x150 250x125 300x100			250x150 300x125 400x100			300x150 350x125 450x100			250x200 350x150 400x125 500x100		
	Deflection	0	22	45	0	22	45	0	22	45	0	22	45	0	22	45	0	22	45
0.023	Velocity	1.8	1.9	2.1	1.4	1.5	1.6												
	Total Press.	4	4	5	2	2	3												
	Throw	3	2.7	1.8	3	2.4	1.8												
	Drop	1.2	0.9	0.4	1	0.9	0.4												
0.035	Velocity	2.7	2.8	3	2.1	2.2	2.4	1.8	1.8	2	1.4	1.5	1.6						
	Total Press.	8	9	12	5	5	7	3	4	4	2	2	3						
	Throw	4.3	4	2.7	3.6	3.3	2.1	3.3	2.7	2.1	2.7	2.4	1.8						
	Drop	1.3	1.2	0.7	1.3	1.2	0.7	1.3	1.2	0.7	1.3	1.2	0.7						
0.047	Velocity	3.6	3.7	4	2.8	2.9	3.2	2.4	2.5	2.7	1.9	2	2.1	1.6	1.7	1.8			
	Total Press.	15	17	22	9	10	13	6	6	8	3	4	5	2	2	3			
	Throw	5.7	4.8	3.6	4.5	4.2	2.7	4.5	3.9	2.7	3.9	3.3	2.4	3.3	3	2.1			
	Drop	1.5	1.2	0.9	1.5	1.3	0.9	1.6	1.3	0.9	1.6	1.3	0.7	1.6	1.3	0.9			
0.059	Velocity	4.4	4.6	5.1	3.6	3.7	4	3	3.1	3.4	2.4	2.5	2.7	2	2.1	2.2	1.8	1.9	2
	Total Press.	23	26	34	14	15	20	9	10	13	5	6	7	3	4	5	3	3	4
	Throw	6.7	6	4.2	6	5.1	3.3	5.4	4.8	3.3	4.8	4.2	3	4.2	3.6	2.7	3.6	3	2.4
	Drop	1.6	1.3	1	1.6	1.5	0.9	1.8	1.5	0.9	1.8	1.5	0.9	1.8	1.5	1	1.9	1.5	0.9
0.070	Velocity	5.4	5.5	6.1	4.3	4.4	4.9	3.6	3.7	4	2.8	2.9	3.2	2.4	2.5	2.7	2.1	2.2	2.4
	Total Press.	34	37	50	20	29	21	13	14	19	8	11	12	5	6	7	4	4	6
	Throw	7.9	7	4.8	7.3	6	4.5	6	5.4	3.9	5.7	5.1	3.3	5.1	4.5	3.3	4.5	3.9	3
	Drop	1.8	1.5	1.2	1.8	1.5	1	1.9	1.5	1	1.9	1.6	1	1.9	1.5	1	2.1	1.6	1
0.082	Velocity	6.2	7	7.5	5	5.2	5.7	4.2	4.3	4.7	3.3	3.4	3.7	2.8	2.9	3.1	2.5	2.6	2.8
	Total Press.	46	51	67	29	40	45	17	19	26	10	11	15	7	8	10	6	6	8
	Throw	9.1	8.5	5.4	7.9	7	4.8	7.3	6.4	4.5	6.7	5.4	3.9	6	5.1	3.6	5.4	4.8	3.3
	Drop	1.9	1.6	1.3	1.8	1.6	1	2.1	1.6	1.2	2.1	1.6	1.2	2.1	1.8	1.2	2.1	1.8	1.2
0.094	Velocity	7.2	7.4	8.1	5.7	5.9	6.5	4.8	4.9	5.4	3.8	3.9	4.3	3.2	3.3	3.6	2.8	2.9	3.2
	Total Press.	60	67	87	35	37	51	23	24	34	13	15	19	9	10	13	7	8	11
	Throw	10.1	9.7	6.4	9.4	8.2	5.7	8.5	7.3	5.1	7.6	6.7	4.5	6.7	5.7	4.2	6	5.1	3.9
	Drop	2.2	1.8	1.3	1.9	1.8	1.2	2.2	1.8	1.3	2.1	1.8	1.2	2.1	1.9	1.2	2.1	1.9	1.3
0.106	Velocity	7.9	8.3	9.2	6.5	6.7	7.3	5.4	5.5	6.1	4.3	4.4	4.8	3.6	3.7	4	3.2	3.3	3.6
	Total Press.	75	85	11	45	48	65	29	31	42	17	19	24	12	13	17	9	10	13
	Throw	12.1	10.9	7.3	10.3	9.1	6.4	9.7	8.2	5.7	8.5	7.3	5.1	7.3	6.4	4.5	6.7	5.7	4.2
	Drop	2.4	1.8	1.5	2.1	1.9	1.2	2.4	1.9	1.3	2.2	1.8	1.3	2.2	1.9	1.3	2.4	2.1	1.3
0.118	Velocity	9	9.2	10.2	7.2	7.4	10.2	7.2	7.4	8.1	6	6.1	6.8	4.8	4.9	5.4	4	4.1	4.5
	Total Press.	95	105	137	55	60	80	35	37	52	21	23	30	14	16	21	11	12	16
	Throw	13.4	11.5	7.6	11.5	9.7	7	10.3	8.8	6.4	9.1	7.9	5.7	8.2	7.3	5.1	7.9	6.7	4.8
	Drop	2.4	1.9	1.5	2.2	1.9	1.5	2.5	2.1	1.5	2.4	1.9	1.5	2.5	1.9	1.5	2.5	2.1	1.5
0.129	Velocity	9.9	10.2	11.2	7.9	8.1	9	6.6	6.8	7.5	5.3	5.4	5.9	4.4	4.5	4.9	3.9	4	4.4
	Total Press.	112	127	167	70	70	100	44	71	65	28	30	36	17	19	25	14	15	20
	Throw	14.3	12.1	8.5	12.5	10.9	7.6	10.9	9.4	7	9.7	8.8	6	8.8	7.9	5.7	8.2	7.3	5.4
	Drop	2.7	2.2	1.6	2.4	2.1	1.6	2.5	2.1	1.5	2.5	2.1	1.5	2.5	2.1	1.6	2.5	2.2	1.5
0.141	Velocity				8.7	8.9	9.8	7.2	7.4	8.2	5.8	5.9	6.5	4.8	4.9	5.4	4.3	4.4	4.9
	Total Press.				80	85	120	51	55	77	30	33	42	21	22	30	17	18	23
	Throw				13.4	11.8	8.5	11.8	10.3	7.6	10.9	9.4	6.7	9.4	8.5	6	8.8	7.9	5.7
	Drop				2.5	2.2	1.8	2.5	2.2	1.6	2.5	2.2	1.6	2.5	2.2	1.6	2.7	2.4	1.6
0.153	Velocity				9.4	9.6	10.6	7.8	8	8.8	6.2	6.4	7	5.2	5.3	5.8	4.7	4.8	5.3
	Total Press.				92	98	137	60	65	90	36	39	57	25	27	35	20	21	27
	Throw				14.3	12.5	9.1	13.8	11.2	8.2	11.8	10	7.3	1	8.8	6.4	9.4	8.5	6.4
	Drop				2.7	2.4	1.6	2.7	2.4	1.6	2.7	2.4	1.6	2.7	2.4	1.6	2.7	2.4	1.6
0.165	Velocity							8.4	8.6	9.5	6.7	6.9	7.5	5.6	5.7	6.3	5.1	5.2	5.7
	Total Press.							70	75	105	41	45	60	28	31	41	23	24	32
	Throw							14	12.5	8.8	12.8	10.9	7.9	10.6	9.4	7	10	8.8	7
	Drop							2.7	2.4	1.8	2.7	2.4	1.8	2.7	2.4	1.6	2.8	2.4	1.6
0.177	Velocity							9	9.2	10.2	7.2	7.4	8.1	6	6.2	6.4	5.4	5.5	6.1
	Total Press.							82	85	120	47	52	67	32	36	32	26	28	36
	Throw							15.2	13.1	9.4	13.4	11.8	8.5	11.8	10.3	7.6	10.9	9.7	7.6
	Drop							2.8	2.5	1.9	2.8	2.4	1.8	2.8	2.5	1.8	2.8	2.5	1.8
0.188	Velocity							9.6	9.9	10.9	7.7	7.9	8.6	6.4	6.6	7.2	5.8	5.9	6.5
	Total Press.							92	95	135	55	60	77	37	40	55	30	32	42
	Throw							16.1	1.31	10	14	12	9.1	12.5	10.9	8.2	11.8	10.3	8.2
	Drop							3	2.7	2.1	3	2.5	1.9	3	2.5	1.9	3	2.5	1.9
0.200	Velocity										8.2	8.4	9.1	6.8	7	7.6	6.1	6.3	6.9
	Total Press.										61	67	85	41	46	62	34	36	47
	Throw										14.9	12.8	10	13.4	11.5	8.8	12.5	10.9	8.8
	Drop										3.3	2.7	2.2	2.3	2.7	2.1	3.2	2.7	2.1
0.212	Velocity										8.6	8.9	9.7	7.2	7.4	8.1	6.5	6.7	7.3
	Total Press.										69	75	95	47	52	70	37	40	52
	Throw										15.2	13.1	10.6	13.7	12.1	9.4	12.8	11.5	9.1
	Drop										3.5	2.8	2.2	3.5	2.8	2.1	3.5	2.8	2.1
0.224	Velocity													7.6	7.8	8.6	69	7	7.7
	Total Press.													53	57	77	41	45	60
	Throw													14.3	12.8	9.7	13.4	11.8	9.5
	Drop													3.5	2.8	2.2	3.5	11.8	2.1
0.236	Velocity													8	8.2	9	7.2	7.4	8.1
	Total Press.													58	65	85	46	50	65
	Throw													14.9	13.4	10	14	12.5	9.7
	Drop													3.6	3	2.2	3.6	3	2.2
0.259	Velocity													8.8	9	9.9	8	8.1	8.9
	Total Press.													70	77	102	56	60	80
	Throw													16.1	14.3	10.3	15.2	13.1	10
	Drop													3.6	2	2.2	3.6	3	2.2

Velocity (m/s)
Total Press. (Pa)
Throw (m)
Drop (m)

NC Sound Data Color Code
NC LEVEL LESS THAN 20
NC LEVEL LESS THAN 30
NC LEVEL LESS THAN 35
NC LEVEL LESS THAN 40
NC LEVEL LESS THAN 50
NC LEVEL MORE THAN 50
DATA BASED ON 8 db ROOM ATENUATION

Model SG Performance Table

m^3/S	Size	250x250 300x200 400x150 500x125 650x100			300x250 500x150 600x125 750x100			300x300 350x250 450x200 600x150			350x300 400x250 500x200 700x150			350x350 400x300 500x250 600x200 850x150			400x400 450x350 550x300 650x250 800x200		
	Deflection	0	22	45	0	22	45	0	22	45	0	22	45	0	22	45	0	22	45
0.023	Velocity Total Press. Throw Drop																		
0.035	Velocity Total Press. Throw Drop																		
0.047	Velocity Total Press. Throw Drop																		
0.059	Velocity Total Press. Throw Drop	1.4 2 3.4 2.1	1.5 2 2.7 1.7	1.6 3 1.5 1.1															
0.070	Velocity Total Press. Throw Drop	1.8 2 4 2.1	1.8 3 3.4 1.7	2.0 4 2.1 1.1	1.4 2 3.4 2.1	1.5 2 2.7 1.7	1.6 2 2.1 1.1	1.2 1 2.7 2.3	1.2 1 2.1 1.8	1.3 3 1.5 1.2									
0.082	Velocity Total Press. Throw Drop	2.0 3 4.6 2.3	2.1 4 4 1.8	2.3 5 2.7 1.2	1.7 2 4 2.3	1.7 2 3.4 2	1.9 3 2.4 1.2	1.4 2 3.4 2.3	1.4 2 2.7 2	1.6 2 1.8 1.4									
0.094	Velocity Total Press. Throw Drop	2.3 4 5.2 2.3	2.4 5 4.6 2.0	2.6 6 3.4 1.4	1.9 3 4.6 2.4	2.0 3 4 2.1	2.2 4 3 1.2	1.6 2 4.3 2.6	1.7 3 3.7 2.3	1.8 3 2.4 1.5	1.4 1 3.4 2.6	1.4 2 3 2.4	1.6 2 2.1 1.7						
0.106	Velocity Total Press. Throw Drop	2.6 6 6.1 2.4	2.7 6 5.2 2.1	2.9 8 4.0 1.4	2.2 4 5.2 2.4	2.2 4 4.3 2.1	2.5 5 3.4 1.4	1.8 2 4.6 2.7	1.9 3 4 2.4	2.0 4 2.7 1.5	1.5 2 4.0 2.9	1.6 2 3.4 2.4	1.8 2 2.4 1.7						
0.118	Velocity Total Press. Throw Drop	2.9 7 6.7 2.6	3.0 8 5.8 2.1	3.2 10 4.3 1.5	2.4 4 5.8 2.6	2.5 5 4.9 2.3	2.7 7 4 1.4	2.0 3 5.2 2.9	2.0 4 4.6 2.6	2.3 4 3.4 1.7	1.7 2 4.5 2.9	1.8 2 3.7 2.4	1.9 3 2.7 1.7						
0.129	Velocity Total Press. Throw Drop	3.2 0 7.3 2.6	3.3 10 6.4 2.3	3.6 13 4.9 1.5	2.6 6 6.7 2.6	2.7 6 5.5 2.4	3.0 8 4.3 1.5	2.2 4 5.8 2.9	2.3 4 5.2 2.6	2.5 5 4 1.8	1.9 3 4.9 2.9	1.9 3 4.3 2.4	2.1 4 3.0 1.7	1.6 2 4.3 2.9	1.7 2 3.4 2.4	1.8 2 2.4 1.7			
0.141	Velocity Total Press. Throw Drop	3.5 10 7.9 2.7	3.6 11 7.0 2.3	4.0 15 5.2 1.7	2.9 7 7 2.7	3.0 7 6.1 2.4	3.3 10 4.6 1.5	2.4 4 6.4 3.0	2.5 5 5.5 2.6	2.7 6 4.3 1.8	2.1 3 5.5 3.0	2.1 4 4.9 2.4	2.3 5 3.7 1.8	1.8 2 4.9 3.0	1.8 3 4.3 2.6	2.0 3 3.0 1.8	1.3 1 3.4 3.0	1.4 1 3.0 2.6	1.5 2 2.1 1.8
0.153	Velocity Total Press. Throw Drop	3.8 12 8.8 2.7	3.9 14 7.6 2.4	4.2 18 5.5 1.7	3.1 8 7.6 2.7	3.2 9 6.7 2.4	3.6 11 5.2 1.7	2.6 5 7.0 3.0	2.7 6 6.1 2.7	2.9 7 4.6 1.8	2.2 4 6.1 3.0	2.3 4 5.5 2.6	2.5 5 4.3 1.8	1.9 3 5.5 3.0	2.0 3 4.9 2.7	2.2 4 3.7 1.8	1.5 1 4.6 3.0	1.5 2 3.7 2.7	1.7 2 2.4 1.8
0.165	Velocity Total Press. Throw Drop	4.1 14 9.5 2.9	4.2 15 8.2 2.4	4.6 20 6.1 1.7	3.4 9 8.2 2.9	3.5 10 7.3 2.4	3.8 13 5.5 1.7	2.8 6 7.3 3.2	2.9 7 6.4 2.7	3.2 9 4.8 2.0	2.4 4 6.4 3.2	2.5 5 5.8 2.6	2.7 6 4.6 1.8	2.1 3 5.8 3.2	2.1 4 5.5 2.7	2.3 4 4.3 1.8	1.6 2 4.9 3.2	1.6 2 4.0 2.7	1.8 2 2.7 1.8
0.177	Velocity Total Press. Throw Drop	4.4 16 10 2.9	4.4 18 8.8 2.6	4.9 23 6.4 1.6	3.6 10 8.8 2.9	3.7 11 7.6 2.6	4.1 15 6.1 1.8	3.0 7 7.6 3.2	3.1 8 6.7 2.9	3.4 10 5.2 2.0	2.6 5 7.0 3.2	2.6 6 6.1 2.7	2.9 7 4.9 2.0	2.2 4 6.1 3.2	2.3 4 5.8 2.9	2.4 1 4.6 2.0	1.7 2 5.2 3.4	1.8 2 4.3 2.9	1.9 3 3.0 2.0
0.188	Velocity Total Press. Throw Drop	4.7 18 10.7 3.0	4.8 20 9.5 2.6	5.2 26 7.0 2.0	3.9 12 9.1 3	4.0 13 8.2 2.6	4.4 17 6.4 1.8	3.2 8 8.2 3.4	3.3 9 7.3 3.0	3.6 11 5.5 2.0	2.8 6 7.3 3.4	2.9 6 6.7 3.0	3.1 8 5.2 2.0	2.4 4 6.7 3.4	2.4 5 6.1 3.0	2.8 6 5.2 2.1	1.8 2 5.8 3.7	1.9 3 4.9 3.0	2.0 3 3.4 2.3
0.200	Velocity Total Press. Throw Drop	5.0 21 11.3 3.2	5.1 23 10.1 2.7	5.6 28 7.6 2.1	4.1 13 9.5 3.2	4.2 15 8.5 2.7	4.6 19 6.7 2.1	3.4 9 8.8 3.4	3.5 10 7.6 3.0	3.8 13 5.8 2.1	2.9 7 7.6 3.4	3.0 7 7.0 3.0	3.3 9 5.5 2.1	2.5 5 7.0 3.4	2.6 5 6.4 3.0	2.8 6 5.8 2.1	1.9 2 6.4 3.7	2.0 3 5.5 3.2	2.2 4 4.0 2.4
0.212	Velocity Total Press. Throw Drop	5.2 24 11.9 3.4	5.4 26 10.4 2.9	5.9 34 8.2 2.1	4.3 13 10 3.4	4.4 16 8.8 2.9	4.9 22 7 2.1	3.6 10 9.1 3.5	3.7 11 7.9 3	4.1 14 6.1 2.1	3.1 7 7.9 3.5	3.2 8 7.3 3.0	3.6 10 5.8 2.1	2.7 5 7.6 3.5	2.7 6 6.7 3.0	3.0 7 6.1 2.1	2.0 3 7 3.7	2.1 3 6.1 3.2	2.2 4 4.6 2.4
0.224	Velocity Total Press. Throw Drop	5.5 26 12.2 3.5	5.6 28 11 2.9	6.2 38 8.5 2.1	4.6 17 10.7 3.5	4.7 18 9.5 2.9	5.2 24 7.3 2.3	3.8 11 9.8 3.7	3.9 12 8.2 3.2	4.3 16 6.4 2.3	3.3 8 8.5 3.7	3.4 9 7.9 3.2	3.7 12 6.1 2.3	2.8 6 7.9 3.7	2.9 6 7.0 3.2	3.1 8 6.4 2.3	2.2 3 7.6 4.0	2.2 4 6.4 3.4	2.4 5 5.2 2.4
0.236	Velocity Total Press. Throw Drop	5.8 29 12.8 3.7	5.9 32 11.3 3	6.6 41 9.1 2.3	4.9 19 11.3 3.7	5.0 20 9.8 3	5.5 27 7.6 2.3	4.0 12 10.1 3.7	4.1 14 8.8 3.2	4.5 18 7.0 2.3	3.5 9 8.8 3.8	3.5 10 8.5 3.2	3.9 13 6.4 2.3	3.0 6 8.2 3.7	3.0 7 7.3 3.2	3.3 9 6.7 2.4	2.3 4 7.9 4.0	2.3 4 7.0 3.4	2.5 5 5.8 2.6
0.259	Velocity Total Press. Throw Drop	6.4 32 13.4 3.7	6.5 38 11.9 3	7.2 50 9.5 2.3	5.3 23 12.2 3.7	5.4 25 10.4 3	6.0 32 7.9 2.3	4.4 15 10.7 3.7	4.5 17 9.5 3.2	5.0 22 7.6 2.3	2.8 11 9.5 3.7	3.9 12 8.8 3.2	4.3 17 7.0 2.3	3.3 8 8.8 3.8	3.4 9 7.9 3.2	3.7 11 7.0 2.4	2.5 4 8.5 4.1	2.5 5 7.6 3.5	2.8 6 6.4 2.7

NC Sound Data Color Code
NC LEVEL LESS THAN 20
NC LEVEL LESS THAN 30
NC LEVEL LESS THAN 35
NC LEVEL LESS THAN 40
NC LEVEL LESS THAN 50
NC LEVEL MORE THAN 50
DATA BASED ON 8 db ROOM ATENUATION

Velocity (m/s)
Total Press. (Pa)
Throw (m)
Drop (m)

Model SG Performance Table

m^3/S	Size	250x200 350x150 400x125 500x100			250x250 300x200 400x150 500x125 650x100			300x250 500x150 600x125 750x100			300x300 350x250 450x200 600x150			350x300 400x250 500x200 700x150			350x350 400x300 500x250 600x200 850x150		
	Deflection	0	22	45	0	22	45	0	22	45	0	22	45	0	22	45	0	22	45
0.283	Velocity	8.2	9	9.8	7	7.1	8	5.8	5.9	6.6	4.9	5	5.5	4.4	4.4	4.9	3.6	3.7	4
	Total Press.	67	69	95	42	46	61	27	29	39	18	20	26	13	14	19	9	10	13
	Throw	16.4	13.7	10.6	14	13.1	10	13.1	11.2	8.5	11.5	10	7.9	10	9.1	7.3	9.4	8.5	7.3
	Drop	3.9	3.2	2.2	3.8	3.2	2.2	3.8	3.2	2.2	3.8	3.2	2.2	3.8	3.2	2.4	4.1	3.3	2.4
0.306	Velocity	8.8	9.7	10.6	7.6	7.7	8.5	6.3	6.4	7.1	5.3	5.4	5.9	4.7	4.8	5.3	3.9	4	4.3
	Total Press.	77	82	110	49	54	70	31	34	45	21	23	31	15	17	22	11	12	15
	Throw	17.9	15.2	11.2	15.2	14	10.6	14	12.1	9.1	12.5	10.9	8.5	10.6	9.7	7.6	10	9.1	7.9
	Drop	4.2	3.3	2.4	4.1	3.3	2.4	4.1	3.3	2.4	4.1	3.3	2.5	4.4	3.8	2.7	4.5	3.8	2.7
0.330	Velocity	9.5	10.4	11.4	8.2	8.3	9.1	6.8	6.9	7.1	5.6	5.8	6.4	5.1	5.2	5.7	4.2	4.3	4.6
	Total Press.	90	82	127	57	61	82	36	40	52	24	27	35	18	20	25	12	16	21
	Throw	19.5	16.7	11.2	16.4	14.9	11.2	14.9	13.1	10	13.4	11.8	9.1	11.5	10.6	8.2	10.9	9.7	8.2
	Drop	4.5	3.6	2.7	4.4	3.5	2.7	4.4	3.5	2.5	4.4	3.5	2.5	4.4	3.8	2.7	4.5	3.8	2.7
0.353	Velocity				8.7	8.9	9.8	7.2	7.4	8.2	6	6.2	6.8	5.4	5.6	6.1	4.4	4.6	5
	Total Press.				66	70	95	42	45	61	28	31	41	20	22	29	13	16	18
	Throw				17.6	15.5	11.8	15.8	14	10.9	14.3	12.8	9.7	12.5	11.5	8.8	11.8	10.6	8.8
	Drop				4.7	3.8	3	4.7	3.6	2.7	4.7	3.6	2.7	4.7	3.9	2.8	5	3.9	2.8
0.371	Velocity				9.3	9.5	10.4	7.7	7.9	8.7	6.5	6.6	7.3	5.8	5.9	6.6	4.7	4.9	5.3
	Total Press.				75	80	107	47	51	67	31	35	46	23	25	33	16	18	23
	Throw				18.7	16.7	12.5	17	14.9	11.8	15.5	13.7	10	13.4	12.5	9.7	12.5	11.5	9.1
	Drop				5	4.1	3.2	4.8	3.8	2.8	5	3.8	2.8	5	4.1	3	5.3	4.1	3
0.424	Velocity							8.7	8.9	9.8	7.3	7.4	8.2	6.5	6.7	7.4	5.4	5.5	6
	Total Press.							61	65	87	40	44	59	29	33	42	21	23	30
	Throw							18.5	16.1	13.1	16.4	14.9	10.6	14.3	13.4	10.6	13.4	11.5	10.3
	Drop							5.1	4.1	3.2	5.1	4.1	3.2	5.3	4.2	3.2	5.4	4.2	3.2
0.471	Velocity										8.1	8.3	9.1	7.3	7.4	8.2	5.9	6.1	6.7
	Total Press.										48	54	72	36	40	52	25	28	37
	Throw										17	15.5	11.5	15.8	14.3	11.2	14.6	12.8	10.9
	Drop										5.4	4.4	3.5	5.4	4.5	3.5	5.6	4.5	3.5
0.519	Velocity										8.9	9.1	10	8	8.2	9	6.5	6.7	7.3
	Total Press.										58	65	87	44	47	62	30	34	44
	Throw										18.9	16.4	12.5	17.3	15.2	11.8	15.8	13.7	11.5
	Drop										5.7	4.7	3.8	5.7	4.8	3.8	5.9	4.8	3.8
0.566	Velocity													8.7	8.9	9.8	7.1	7.3	8
	Total Press.													52	56	75	36	40	53
	Throw													18.5	16.4	12.1	17	14.9	12.5
	Drop													6	5	3.9	6.2	5	3.9
0.613	Velocity																7.7	7.9	8.7
	Total Press.																43	47	62
	Throw																18.2	16.4	13
	Drop																6.4	5.3	4.1
0.661	Velocity																		
	Total Press.																		
	Throw																		
	Drop																		
0.707	Velocity																		
	Total Press.																		
	Throw																		
	Drop																		
0.755	Velocity																		
	Total Press.																		
	Throw																		
	Drop																		
0.802	Velocity																		
	Total Press.																		
	Throw																		
	Drop																		
0.849	Velocity																		
	Total Press.																		
	Throw																		
	Drop																		
0.896	Velocity																		
	Total Press.																		
	Throw																		
	Drop																		
0.943	Velocity																		
	Total Press.																		
	Throw																		
	Drop																		
1.132	Velocity																		
	Total Press.																		
	Throw																		
	Drop																		
1.321	Velocity																		
	Total Press.																		
	Throw																		
	Drop																		
1.51	Velocity																		
	Total Press.																		
	Throw																		
	Drop																		

Velocity (m/s)
Total Press. (Pa)
Throw (m)
Drop (m)

NC Sound Data Color Code
NC LEVEL LESS THAN 20
NC LEVEL LESS THAN 30
NC LEVEL LESS THAN 35
NC LEVEL LESS THAN 40
NC LEVEL LESS THAN 50
NC LEVEL MORE THAN 50
DATA BASED ON 8 db ROOM ATENUATION

Model SG Performance Table

m^3/S	Size	400x400 450x350 550x300 650x250 800x200			500x350 600x300 700x250 900x200 1200x150			450x450 500x400 800x250 1000x200			500x500 550x450 700x350 850x300 1000x250			700x450 800x400 900x350 1050x300 1250x250			900x400 600x350 1200x300 1450x250 1800x200		
	Deflection	0	22	45	0	22	45	0	22	45	0	22	45	0	22	45	0	22	45
0.283	Velocity	2.7	2.8	3.0	2.5	2.6	2.8	2.2	2.2	2.4	1.7	1.8	1.9						
	Total Press.	5	6	8	5	5	7	3	4	7	2	3	3						
	Throw	9.1	8.2	6.7	8.5	7.6	6.1	7.3	6.1	4.9	6.1	4.6	3.4						
	Drop	4.3	3.5	2.7	4.3	3.7	2.9	4.4	3.7	2.9	4.4	3.7	2.9						
0.306	Velocity	2.9	3.0	3.3	2.7	2.8	3.0	2.3	2.4	2.6	1.8	1.9	2.1						
	Total Press.	6	7	9	5	6	8	4	4	6	3	3	4						
	Throw	9.8	8.5	7.0	9.1	8.2	6.4	7.9	6.7	5.2	6.7	5.8	4.0						
	Drop	4.4	3.5	2.7	4.4	3.7	2.9	4.6	3.8	2.9	4.6	3.8	2.9						
0.330	Velocity	3.2	3.3	3.6	2.9	3.0	3.3	2.5	2.6	2.8	2.0	2.1	2.3	1.6	1.7	1.8			
	Total Press.	7	8	11	6	7	9	5	5	6	3	3	4	2	2	3			
	Throw	10.4	9.1	7.6	10.1	8.8	6.7	8.8	7.3	5.5	7.6	6.4	4.3	5.8	4.9	3.4			
	Drop	4.4	3.8	2.9	4.4	4.0	3.0	4.6	4.0	3.0	4.6	4.1	3.0	4.6	4.3	3.0			
0.353	Velocity	3.4	3.5	3.8	3.1	3.2	3.5	2.7	2.8	3.0	2.1	2.2	2.4	1.7	1.8	2.0			
	Total Press.	9	10	13	7	8	11	6	6	7	3	4	5	3	3	4			
	Throw	11.0	9.8	7.9	10.4	9.4	7.0	9.8	8.2	6.1	8.8	7.0	5.2	6.4	5.5	4.0			
	Drop	4.9	4.0	2.9	5.0	4.1	3.2	5.2	4.4	3.4	5.0	4.4	3.4	5.0	4.4	3.4			
0.371	Velocity	3.6	3.7	4.1	3.4	3.4	3.7	2.9	2.9	3.2	2.3	2.4	2.6	1.9	1.9	2.1	1.5	1.7	1.8
	Total Press.	9	11	14	8	9	12	6	7	9	4	4	6	3	3	3	2	2	3
	Throw	11.6	10.4	8.5	10.7	9.8	7.3	10.1	8.8	6.4	9.5	7.9	5.8	7.0	6.1	4.9	5.8	4.9	4.0
	Drop	5.2	4.1	3.0	5.3	4.3	3.2	5.5	4.4	3.4	5.6	4.6	3.5	5.6	4.6	3.5	5.6	4.6	3.5
0.424	Velocity	4.1	4.2	4.5	3.8	3.8	4.2	3.2	3.3	3.6	2.6	2.7	2.9	2.1	2.1	2.3	1.7	1.9	2.0
	Total Press.	12	14	18	10	12	15	7	8	11	5	5	7	3	4	5	2	3	3
	Throw	12.8	11.6	9.1	11.9	11.0	8.2	11.3	9.5	7.0	10.1	8.5	6.4	7.6	6.7	5.8	6.4	5.2	4.6
	Drop	5.3	4.3	3.2	5.5	4.4	3.4	5.6	4.4	3.5	5.8	4.6	3.5	6.1	4.7	3.7	6.1	4.7	3.7
0.471	Velocity	4.5	4.6	5.1	4.2	4.3	4.6	3.6	3.7	4.0	2.9	3.0	3.3	2.3	2.4	2.6	1.8	2.1	2.3
	Total Press.	15	17	22	13	14	19	9	10	13	6	7	9	4	4	5	3	3	4
	Throw	13.7	12.5	9.8	12.5	11.9	8.8	11.9	10.4	7.6	11.0	9.1	7.0	8.5	7.6	6.4	7.3	6.1	5.2
	Drop	5.5	4.3	3.5	5.8	4.4	3.5	5.9	4.6	3.7	6.1	4.9	3.7	6.3	4.9	3.8	6.2	5.0	4.0
0.519	Velocity	5.0	5.1	5.6	4.6	4.7	5.1	3.9	4.0	4.4	3.2	3.3	3.6	2.5	2.6	2.8	2.0	2.3	2.5
	Total Press.	18	20	27	15	17	23	11	12	16	7	8	10	5	5	6	3	4	5
	Throw	14.3	13.4	10.1	13.7	12.8	9.5	13.1	11.0	7.9	12.2	9.8	7.6	9.5	8.5	7.0	8.2	7.3	6.4
	Drop	5.9	4.9	3.7	6.1	4.9	3.7	6.1	5.0	3.8	6.3	5.0	3.8	6.4	5.3	4.0	6.7	5.3	4.0
0.566	Velocity	5.4	5.6	6.1	5.0	5.1	5.6	4.3	4.4	4.8	3.5	3.6	3.9	2.8	2.8	3.1	2.4	2.5	2.7
	Total Press.	22	24	32	18	20	27	13	15	19	8	9	12	5	6	8	4	5	6
	Throw	15.5	14.0	10.7	14.6	13.4	10.1	14.0	11.9	8.5	13.1	10.7	8.2	10.4	9.1	7.6	8.8	7.9	6.7
	Drop	6.3	5.0	3.8	6.3	5.2	3.8	6.3	5.2	3.8	6.4	5.2	3.8	6.6	5.3	4.0	6.7	5.3	4.0
0.613	Velocity	5.9	6.0	6.6	5.4	5.5	6.0	4.6	4.8	5.2	3.8	3.9	4.2	3.0	3.1	3.4	2.6	2.7	2.9
	Total Press.	26	28	38	21	24	32	16	17	22	10	11	14	6	7	9	5	6	7
	Throw	16.2	14.9	11.6	15.9	14.3	10.7	15.2	12.8	9.1	14.0	11.6	8.5	11.6	9.8	7.9	9.8	8.8	7.3
	Drop	6.4	5.3	4.1	6.4	5.3	4.1	6.4	5.3	4.1	6.7	5.3	4.1	6.7	5.5	4.1	6.9	5.5	4.1
0.661	Velocity	6.4	6.5	7.1	5.8	6.0	6.5	5.0	5.2	5.6	4.1	4.2	4.5	3.2	3.3	3.6	2.8	2.9	3.2
	Total Press.	30	33	44	25	28	38	18	20	26	11	13	17	7	8	10	5	6	8
	Throw	17.1	16.2	11.9	16.8	14.9	11.0	16.2	13.7	9.5	14.9	12.5	9.1	12.8	10.7	8.5	10.7	9.5	7.9
	Drop	6.7	5.5	4.3	6.9	5.5	4.3	6.9	5.5	4.4	6.9	5.5	4.4	7.0	5.6	4.4	7.0	5.6	4.4
0.707	Velocity				6.2	6.4	7.0	5.4	5.5	6.0	4.3	4.4	4.9	3.5	3.5	3.9	3.0	3.1	3.4
	Total Press.				28	31	43	21	23	30	13	15	19	8	9	12	6	7	9
	Throw				17.7	15.9	11.6	17.1	14.6	10.1	16.2	13.4	9.5	14.0	11.6	8.8	11.6	10.1	8.2
	Drop				6.9	5.9	4.4	6.9	5.6	4.4	6.9	5.8	4.4	7.0	5.8	4.4	7.0	5.9	4.4
0.755	Velocity				6.7	6.8	7.4	5.7	5.9	6.5	4.6	4.7	5.2	3.7	3.8	4.1	3.2	3.3	3.6
	Total Press.				33	36	49	24	25	34	15	17	22	10	11	13	7	8	10
	Throw				18.6	16.8	12.5	18.0	15.5	10.7	17.1	14.3	10.1	14.6	12.5	9.5	12.2	10.7	8.5
	Drop				7.0	5.8	4.6	7.0	5.8	4.6	7.0	5.8	4.6	7.2	5.9	4.6	7.3	6.1	4.6
0.802	Velocity				7.1	7.3	7.9	6.1	6.2	6.9	4.9	5.1	5.5	3.9	4.0	4.4	3.4	3.5	3.9
	Total Press.				37	40	56	27	29	38	17	19	24	11	12	15	8	9	12
	Throw				19.5	18.0	13.1	18.9	16.5	11.3	18.0	15.2	10.7	16.5	13.7	9.8	12.8	11.6	8.8
	Drop				7.2	5.9	4.7	7.2	6.1	4.7	7.2	6.1	4.7	7.3	6.3	4.7	7.5	6.3	4.7
0.849	Velocity							6.4	6.6	7.3	5.2	5.4	5.9	4.2	4.2	4.7	3.6	3.7	4.1
	Total Press.							31	33	43	19	21	28	12	13	17	9	11	13
	Throw							19.5	17.4	12.2	18.6	16.2	11.3	15.2	14.0	10.4	13.7	12.2	9.5
	Drop							7.2	5.9	4.7	7.2	6.1	4.7	7.3	6.3	4.7	7.5	6.3	4.7
0.896	Velocity										5.5	5.7	6.2	4.4	4.5	4.9	3.8	3.9	4.3
	Total Press.										21	23	30	13	15	19	10	12	14
	Throw										19.5	17.4	11.6	18.0	14.9	11.0	14.3	12.8	9.8
	Drop										7.3	6.3	4.9	7.6	6.6	4.9	7.6	6.6	4.9
0.943	Velocity													4.6	4.7	5.2	4.0	4.1	4.5
	Total Press.													17	18	21	11	13	16
	Throw													18.6	15.5	11.6	14.9	13.4	10.4
	Drop													7.8	6.6	5.0	7.8	6.6	5.0
1.132	Velocity													5.5	5.7	6.2	4.8	5.0	5.4
	Total Press.													23	24	30	16	18	23
	Throw													19.2	17.7	12.8	17.4	15.5	11.9
	Drop													7.9	6.7	5.2	8.1	6.7	5.2
1.321	Velocity																5.6	5.8	6.4
	Total Press.																22	25	31
	Throw																19.8	17.4	13.4
	Drop																8.4	6.9	5.3
1.511	Velocity																6.5	6.6	7.2
	Total Press.																28	32	41
	Throw																22.0	19.8	16.8
	Drop																8.7	7.0	2.4

Velocity (m/s)
Total Press. (Pa)
Throw (m)
Drop (m)

NC Sound Data Color Code
NC LEVEL LESS THAN 20
NC LEVEL LESS THAN 30
NC LEVEL LESS THAN 35
NC LEVEL LESS THAN 40
NC LEVEL LESS THAN 50
NC LEVEL MORE THAN 50
DATA BASED ON 8 db ROOM ATENUATION

Notes On Performance Data:

The performance tables were developed to aid you in predicating performance in order to properly select registers and grilles. The performance data is applicable to either single or double deflection blade core designs with or without opposite blade damper. Tests show an increase in effective area of approximately 5% for a single deflection unit as compared to a double deflection unit. Using the outlet without an OBD can also cause an increase of up to 5% in effective area. These increases in effective area are of relatively small magnitude and do not materially affect the throw and drop characteristics of the outlets.

Vane Deflection

The cane deflection, upon which the data is based, is shown in Figure One. Effective area is changed by changing the blade setting. The throw, drop, total pressure and noise are altered by changing vane deflection.

Listed Sizes

Sizes are shown horizontally across the top of the Performance Data Tables. (Listed sizes = neck sizes)

Throw & Drop

Throw and drop are based on a 0.25 m/s terminal velocity and a 20°C temperature difference between supply air and average room temperature on the cooling cycle.

Velocity

The velocity shown in the chart is Jet velocity (m/s). This velocity is measured with an Alnor Velometer with tip No. 2220A. The Velometer tip should be held flush on face of grille. At least four reading should be taken at random over the grille face and averaged.

Total Pressure

Total pressure is measured in Pa. If static pressure drop is required, calculate the CORE AREA = (Listed length) X (Listed width) and divide the m^3/s by this area to determine the CORE VELOCITY. Using this velocity, enter Table 1 to find the velocity pressure. Subtracting velocity pressure from total pressure gives static pressure drop across the grille.

Sound

The NC Sound data is based on a room attenuation of 8 decibels (db) and a sound power level (re: 10-12 watts). Shown in Fig. 2 is the NC sound Data Color code for use with performance data chart.

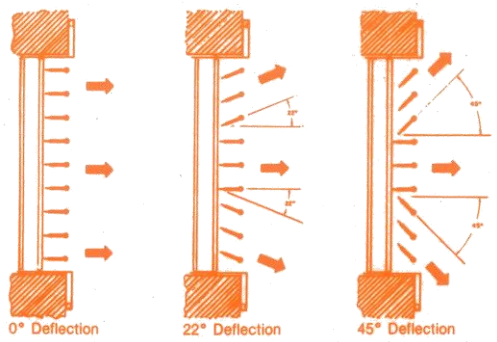
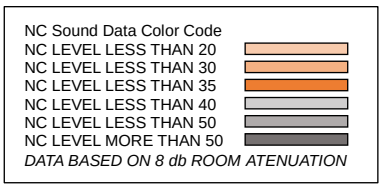


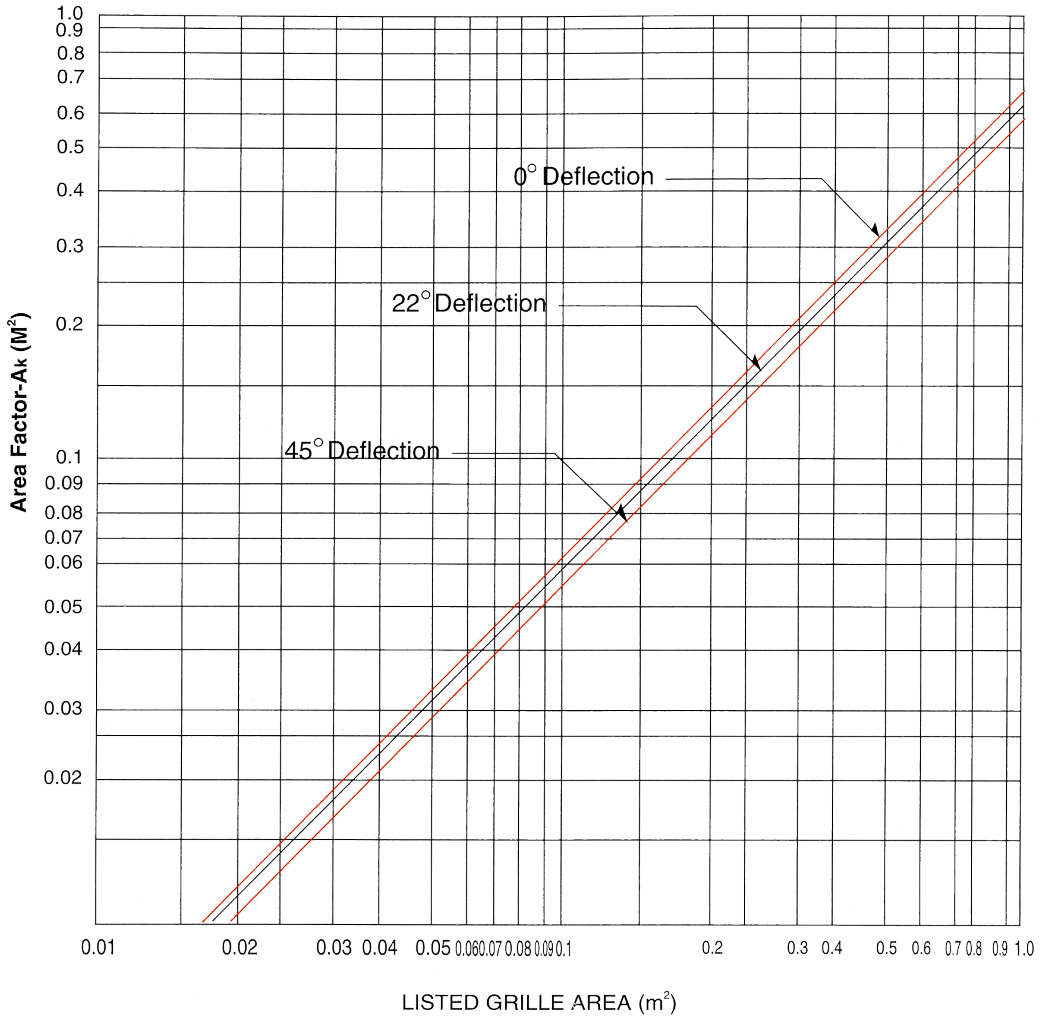
Fig.1
Blade Deflection Setting

Core Velocity (m/s)	Velocity Pressure (Pa.)
1.25	1
1.5	1.5
1.75	2
2	2.5
2.25	3.3
2.5	4
2.75	4.7
3	5.5
3.25	6.5
3.5	7.7
3.75	8.7
4	10

Table1- Velocity Pressure Conversion Chart

Fig.2





Recommended Balancing Procedures

1. Calculate the normal grille area in m^2. Using the normal grille dimensions:
   $$\frac{\text{Listed Length (mm) x Listed Width (mm)}}{1{,}000{,}000}$$
   =Listed Grille Area (m^2)
2. Determine the area factor (A_k) from the above graph which is based on double deflection grille with OBD. Add 5% on A_k for single deflection grille and further 5% for the grille without OBD.
3. Locate the Alnor Velometer tip with tip No. 2220A as shown in Fig. 1
4. Take a minimum of four velocity readings at random across the grille face and average them.
5. To calculate the air flow rate use the following formula
   $m^3/s = A_k$ x Average Velocity (m/s)

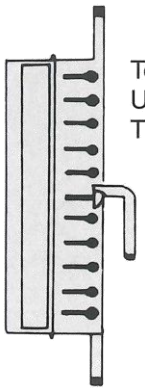


Fig. 1

To Determine m^3/s Using Alnor with TIP NO. 2220A