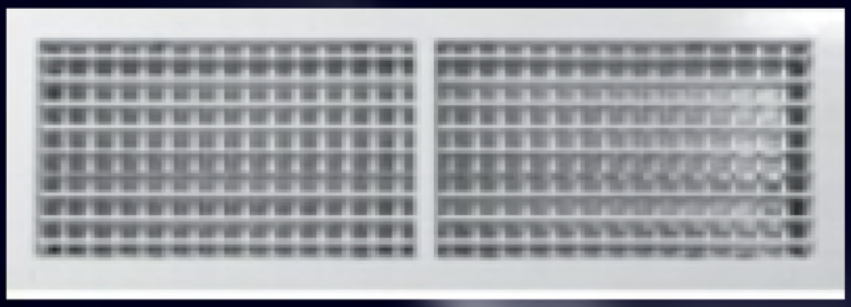
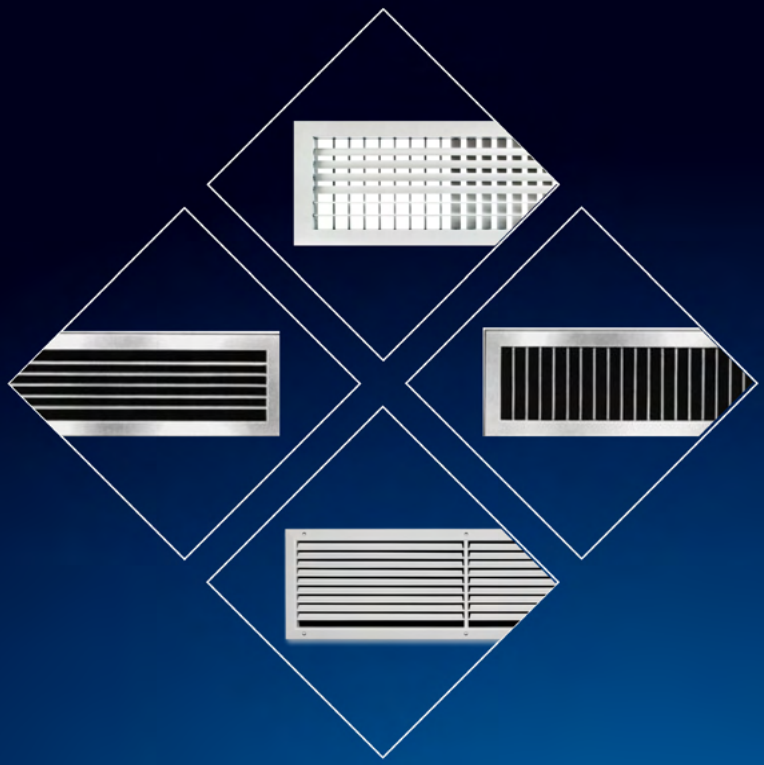
Global Air





Grilles & Registers

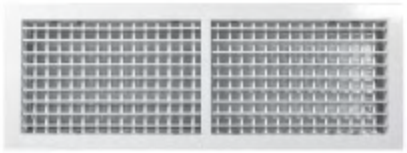
GRILLES AND REGISTERS

CONTENTS

These types of air outlets are the most desirable for the side wall locations. Since they are available with both horizontal and vertical adjustable blades, minor air motion problems can be simply corrected by adjusting the vanes. They are distinguished by their high construction quality, low pressure drops and continued sound levels. Blades can be singularly oriented.

Features & Characteristics:

- Construction: Frame & Blades are made of high quality Extruded Aluminum Profiles of 6063 Alloy.
- Frame Flange width: 30 mm
- Blades: Aerofoil design by punching its four corners by means of G.I. Angles which together create a very robust construction.
- Available in wide variety of standard neck sizes ranging from 300 X 150 up to 1200 X 300 mm in 50 mm increments (other Non-Standard sizes are available on request).
- Both the Grilles and Registers are available in single or double blades deflection which provides air deflection in horizontal and / or vertical planes.
- Blades are individually adjustable to any degree of deflection by hand without the use of any special tools.
- Maximum effective areas can be obtained when the blades are set at 0 degree deflection.
- Blades are separated from their frame by nylon bushes. This method of assembly provides maximum rattle-free performance and eliminates corrosion.
- Large free effective area grilles can be obtained by using an Eggcrate core with 90% Free Area, see page No. GR-09.
- Grilles combined with Opposed Blade Dampers are called Registers.
- Accessories: see page No. GR-10&11
- Available Fixing Mounting: see page No. GR-12.
- Surface Finishes: see page No. GR-34.



Grilles / Registers Model	Single Deflection Blades	Double Deflection Blades	Horizontal or Vertical Blades	Horizontal or Vertical Front Blades	Opposed Blade Damper	Fixed Blades at 45° Angle
SAR		●		●	●	
SAG		●		●		
RAR , EAR	●		●		●	
RAG , EAG	●		●			●

OPERATING RANGE & QUICK SELECTION TABLE FOR DOUBLE DEFLECTION GRILLES/REGISTERS							
Nominal Size		CFM Range		Nominal Size		CFM Range	
Inch	mm			Inch	mm		
12" x 6"	300 X 150	190	460	12"x10"	300 X 250	315	725
16" x 6"	400 X 150	270	625	16"x10"	400 X 250	425	970
18" x 6"	450 X 150	300	650	18"x10"	450 X 250	480	1060
20" x 6"	500 X 150	315	725	20"x10"	500 X 250	540	1200
24" x 6"	600 X 150	400	900	24"x10"	600 X 250	610	1400
30" x 6"	750 X 150	450	1025	30"x10"	750 X 250	850	2050
36" x 6"	900 X 150	550	1250	36"x10"	900 X 250	1000	2200
40" x 6"	1000X150	610	1400	40"x10"	1000X 250	1090	2350
48" x 6"	1200X150	700	1600	48"x10"	1200X250	1200	2500
12" x 8"	300 X 200	325	725	12"x12"	300 X 300	390	850
16" x 8"	400 X 200	350	760	16"x12"	400 X 300	525	1160
18" x 8"	450 X 200	390	850	18"x12"	450 X 300	560	1250
20" x 8"	500 X 200	425	950	20"x12"	500 X 300	640	1440
24" x 8"	600 X 200	500	1100	24"x12"	600 X 300	675	1550
30" x 8"	750 X 200	610	1400	30"x12"	750 X 300	870	2000
36" x 8"	900 X 200	675	1550	36"x12"	900 X 300	1070	2350
40" x 8"	1000 X200	800	1900	40"x12"	1000 X300	1200	2500
48" x 8"	1200X 200	900	2150	48"x12"	1200 X300	1350	3100

- CFM Values are based on Noise Level ranging from 15-35 (db)
- Tabulated data are for Double Deflection Grilles / Registers of Horizontal or Vertical Front Blades

RECOMMENDED OUTLET VELOCITIES		
APPLICATION	TERMINAL VELOCITY	
	FPM	m/s
Broadcast studios	300-500	1.5-2.5
Residences	500-750	2.5-3.7
Apartments	500-750	2.5-3.7
Mosques and Churches	500-750	2.5-3.7
Hotel bedrooms	500-750	2.5-3.7
Theaters	500-750	2.5-3.7
Private offices, acoustically treated	500-750	2.5-3.7
Private offices, not treated	500-800	2.5-4.0
Motion picture theaters	1000	5.0
General offices	1000-1250	5.0-6.2
Dept. stores, upper floors	1500	7.5
Dept. stores, main floors	2000	10

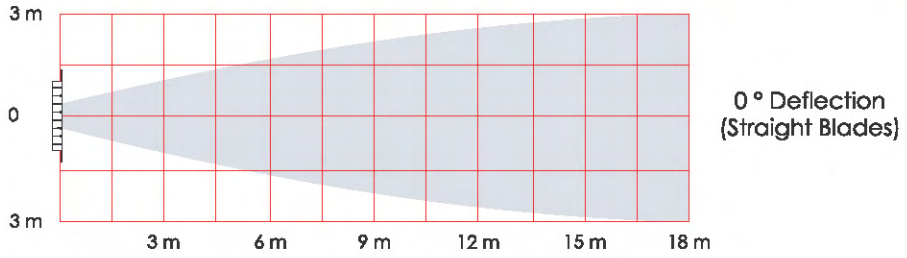
Important Principles to Know

- **Throw:** is the horizontal distance that an air stream travels on leaving an outlet. This distance is measured from the outlet to a point at which the velocity of the air stream has reached a definite minimum value.
- **Drop:** is the vertical distance the air moves between the time it leaves the outlet and the time it reaches the end of its throw.
- **Spread:** is the angle of divergent of the air stream after it leaves the outlet. Horizontal spread is divergence in the horizontal plane and vertical spread is divergent in the vertical plane. Spread is the included angle measured in degrees.

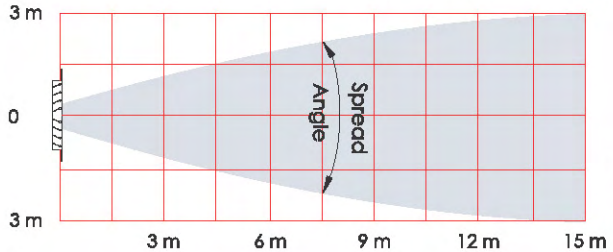
Engineering Notes:

- From the selection diagrams/tables the size of the Grille I Register can be selected taking into consideration the throw, velocity, pressure loss and noise level for it.
- Generally, to prevent over blow, throw should be selected 75% of the distance to the wall opposite, or if the outlets are opposed to one another this should be one third of the distance between them.
- When the throw is more than 75 % of the distance to the wall opposite, divide the air flow over several outlets to reduce the throw.
- The minimum Grille I Register height from the floor level is determined by the drop of the selected outlet +1.8 mtr.
- Air passing through a properly selected Grille I Register will not add any appreciable noise to the sound level of the existing system.
- To obtain long throw and narrow air pattern, use a blades deflection between 0 degree & 15 degree angle. And for shorter throw and wide air pattern use up to 45 angle of deflection.
- Outlets with blades set at a straight angle result in a spread of approximately 19^0 in both the horizontal and vertical plane.
- Outlets with converging blades set to direct the discharge air result in approximately the same spread as when the blades are set straight. However the resulting throw is approximately 15% longer than the same for straight blades setting.
- Diverging blades into 22 and half degree angle as shown below result in a throw with approximately 20% less than the throw of straight blades setting. Also diverging blades into 45 degree angle as shown result in spread included angle of approximately 60 degrees and a throw with approximately 50% less than the throw of straight blades setting.
- To obtain better air mixing, decrease the throw and increase the spread and induction by deflecting the blades toward maximum recommended angle of deflection (45°).
- The spread in Double Deflection Grilles I Registers can be adjusted in horizontal and vertical planes.
- If the Opposed Blade Damper is used with the grille outlet, the effective area will be reduced approximately by 5% and its effect on throw & pressure drop is negligible.

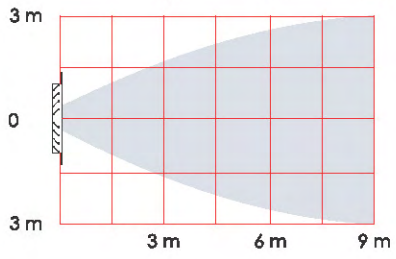
Influence of Blades Deflection on Outlet Performance:



0 ° Deflection
(Straight Blades)



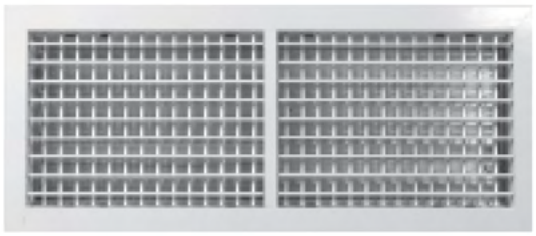
22 1/2 ° Deflection
(Diverging Blades)

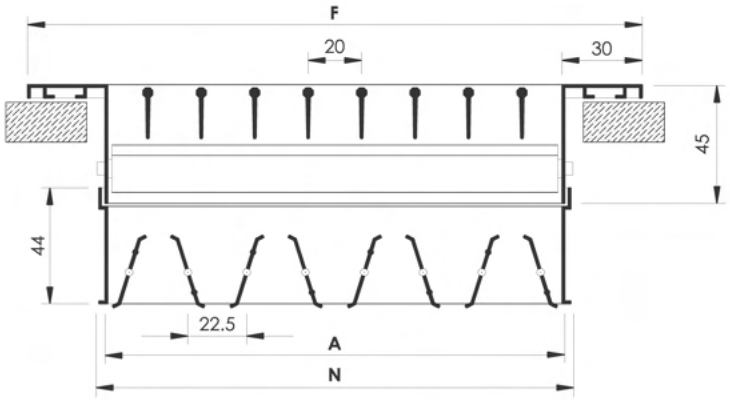


45 ° Deflection
(Diverging Blades)

Double Deflection Grilles
Construction and Dimensional Details

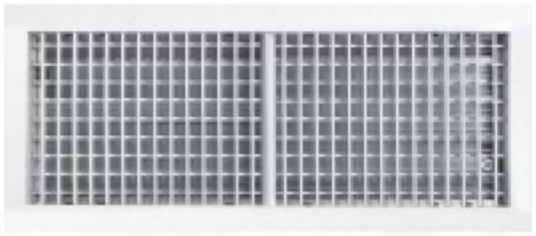
Model SAR HFB DD

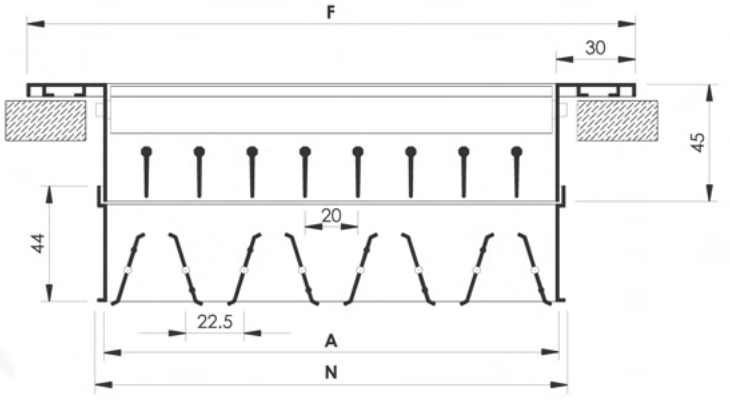




Front Blades Mounting : Horizontal

Model SAG VFB DD





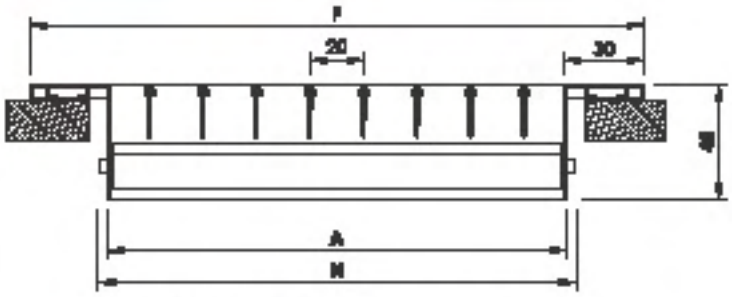
Front Blades Mounting : Vertical

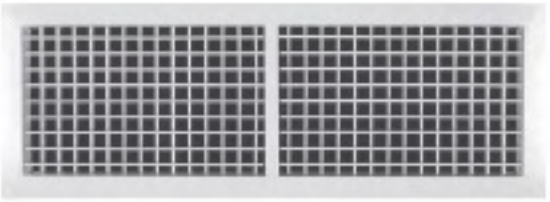
- SAR: is Supply Air Register, Double Deflection Blades c/w Opposed Blade Damper.
- Registers called Supply Air Register and coded as SAR are always equipped with Opposed Blade Damper (provided as standard).

N:	Nominal/Listed Size	= Length (L) X Height (H)
A:	Actual Size	= (L-10) X (H-10)
F:	Face Size	= (L+50) X (H+50)

- Registers furnished approximately 10 mm less than the Nominal/Listed Size.
- All dimensions are in mm and subject to ±1 mm tolerance.

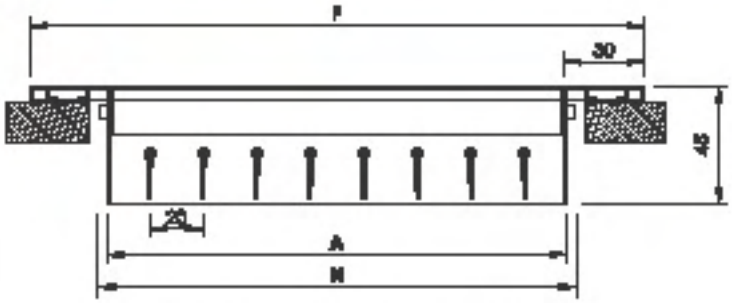
Model SAG HFB DD

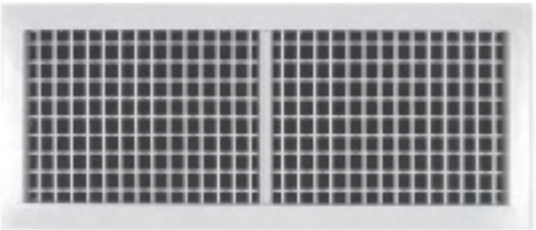




Front Blades Mounting : Horizontal

Model SAG VFB DD





Front Blades Mounting : Vertical

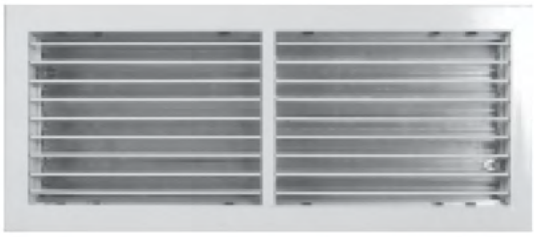
N:	Nominal/Listed Size	= Length (L) x Height (H)
A:	Actual Size	= (L-10) x (H-10)
F:	Face Size	= (L+50) X (H+50)

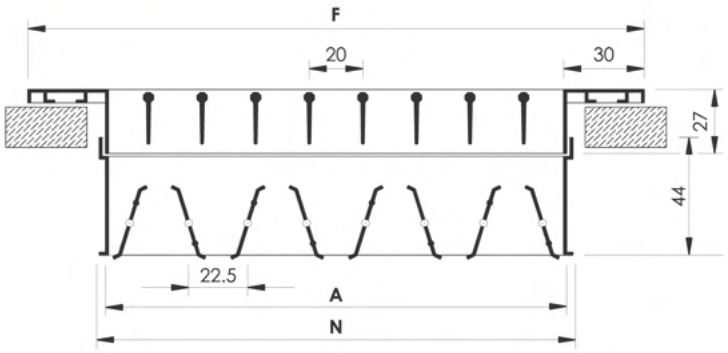
- Grilles furnished approximately 10 mm less than the Nominal/Listed Size.
- All dimensions are in mm and subject to ±1 mm tolerance.

- SAG: is Supply Air Grille, Double Deflection Blades w/o Opposed Blade Damper.
- Grilles called Supply Air Grille and coded as SAG are usually supplied w/o Opposed Blade Damper.

Single Deflection Registers
Construction and Dimensional Details

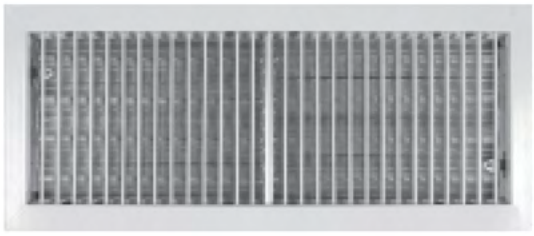
Model RAR HB SD or EAR HB SD

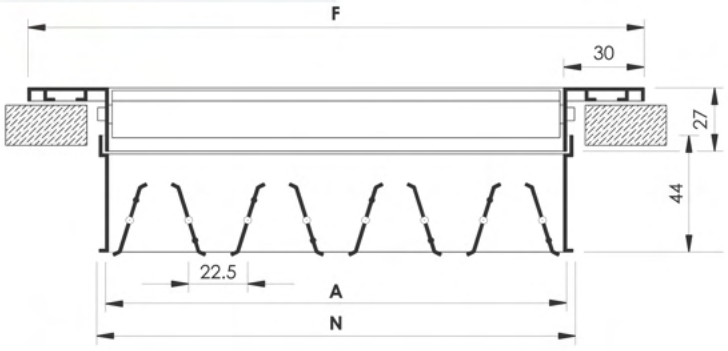




Blades Mounting : Horizontal

Model RAR VB SD or EAR VB SD





Blades Mounting : Vertical

- RAR I EAR: is Return, Extract or Exhaust Air Register, Single Deflection Blades c/w Opposed Blade Damper.
- Registers called Return, Extract or Exhaust Air Register and coded as RAR I EAR are always equipped with Opposed Blade Damper (provided as standard).
- Blade Damper (provided as standard).

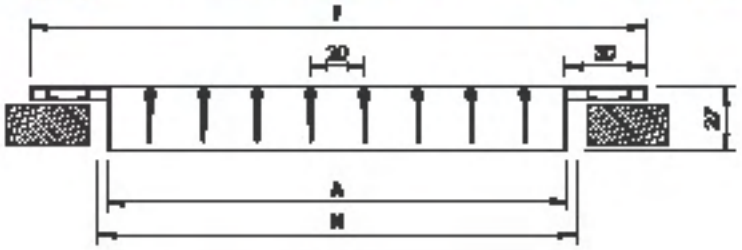
N:	Nominal/Listed Size	= Length (L) x Height (H)
A:	Actual Size	= (L-10) x (H-10)
F:	Face Size	= (L+50) x (H+SO)

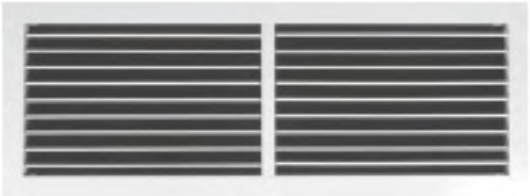
• Registers furnished approximately 1 0 mm less than the Nominal/Listed Size.

• All dimensions are in mm and subject to ±1 mm tolerance.

Single Deflection Grilles
Construction and Dimensional Details

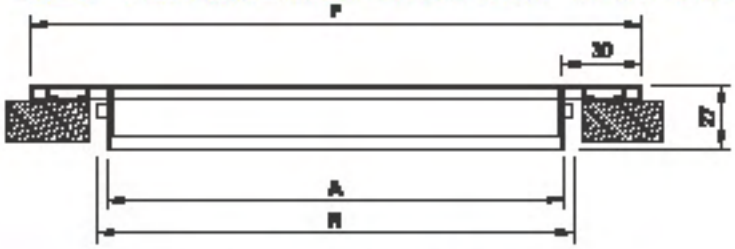
Model RAG HB SD or EAR HB SD

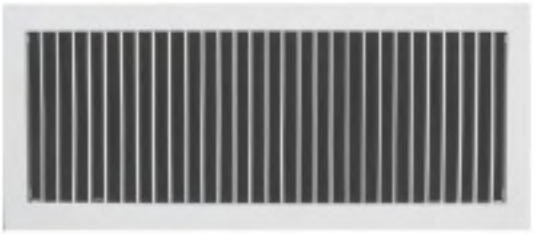




Blades Mounting : Horizontal

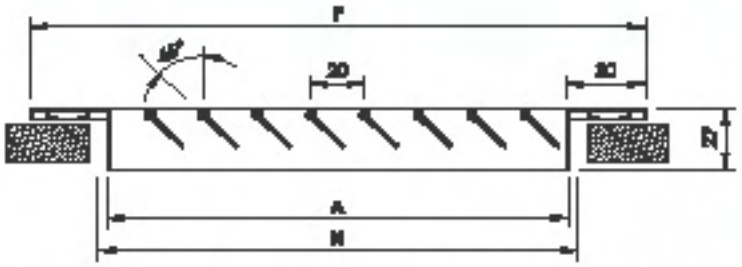
Model RAG VB SD or EAR VB SD





Blades Mounting : Vertical

Model RAG HB SD or EAR HB SD, Fixed Blades 45°



Blades Mounting : Horizontal, set in a fixed position at an angle of 45°

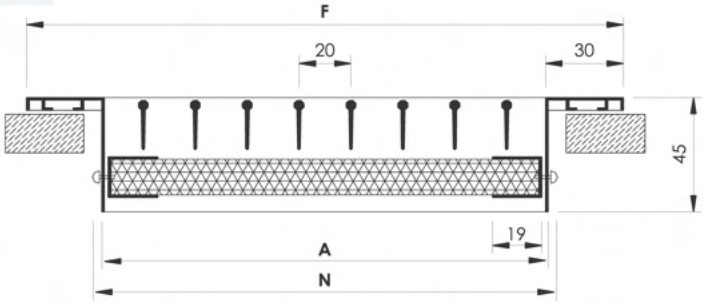
N:	Nominal/Listed Size	= Length (L) x Height (H)
A:	Actual Size	= (L-10) x (H-10)
F:	Face Size	= (L+50) x (H+SD)

- Grilles furnished approximately 10 mm less than the Nominal/Listed Size.
- All dimensions are in mm and subject to ±1 mm tolerance.

- RAG / EAG: is Return, Extract or Exhaust Air Grille, Single Deflection Blades w/o Opposed Blade Damper.
- Grilles called Return, Extract or Exhaust Air Grille and coded as RAG / EAG are usually supplied w/o
- Opposed Blade Damper.

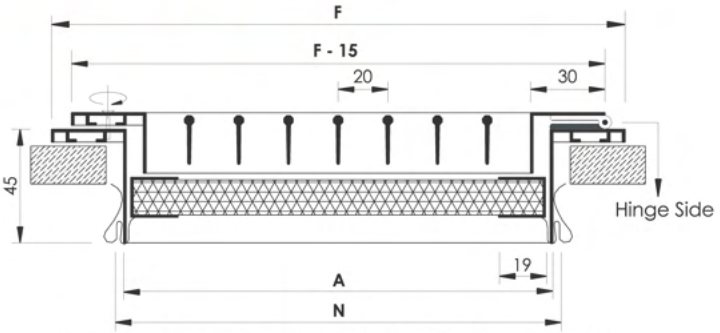
Fresh Air Grilles and Registers
Construction and Dimensional Details

Model FAG C/W FILTER



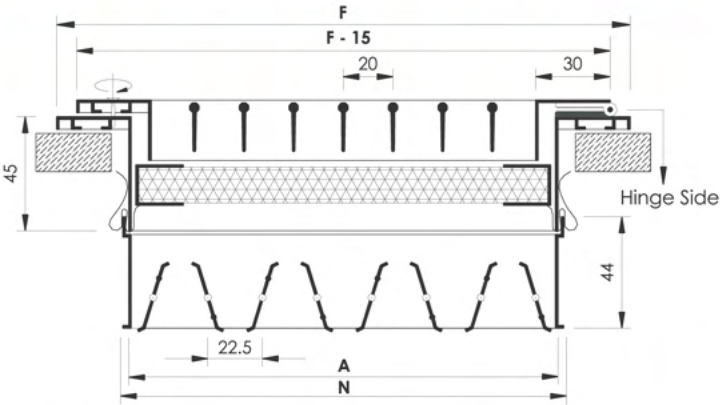
Blades Mounting : Horizontal (Adjustable or Fixed at 45 ° Angle).

Model FAG C/W FILTER (DOUBLE FRAME)



Blades Mounting : Horizontal (Adjustable or Fixed at 45 ° Angle).
Filter : easily removable after the grille fixed.

Model FAG + D C/W FILTER or FAR C/W FILTER (DOUBLE FRAME)



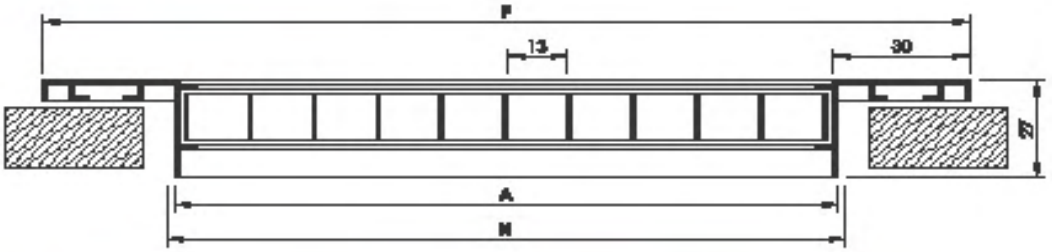
Blades Mounting : Horizontal (Adjustable or Fixed at 45 ° Angle).
Filter : easily removable after the grille fixed.
OBD : adjustable after removal of the filter.

- FAG I FAR: is Fresh Air Grille I Register, Single Deflection Blades c/w Aluminium Washable Filter Media 1/2 thickness.
- Double Frame Grilles I Registers are provided with door hinge from one side and screw from other side allowing the second frame (inner one) to act as an access door to the Filter and/or Opposed Blade Damper.

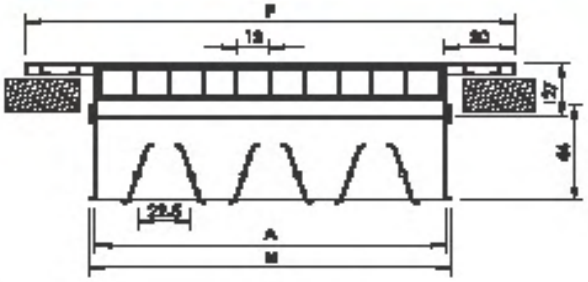
N:	Nominal/Listed Size	= Length (L} x Height (H)
A:	Actual Size	= (L-10} x (H-10)
F:	Face Size	= (L+50) x (H+50)

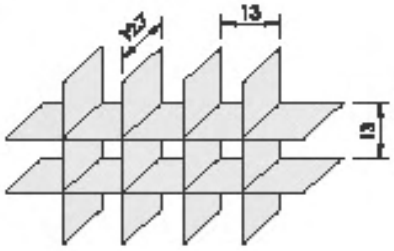
- Grilles I Registers furnished approximately 10 mm less than the Nominal/Listed Size.
- All dimensions are in mm and subject to ±1 mm tolerance.

Model ECG

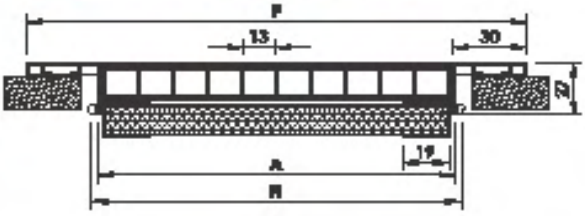


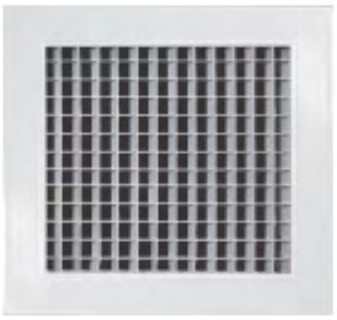
Model ECG+D or ECR





Model ECG+F





- The Eggcrate grilles with Aluminium Eggcrate mesh are normally used for the return and recirculation of air inside offices, living areas, commercial centres, etc.
- The Particular design of the Eggcrate central core of 1 3 x 1 3 mm opening permits the use of a large free surface area (90% Free Area) without turbulence.
- The Eggcrate grille frame with the channel border is used to fix the central core.
- In respect to traditional grilles with inclined or fixed blades, it's possible to reduce the grilles dimensions while maintaining equal performances, or reduce noise level and pressure drop while maintaining equal dimensions and air flow.
- Eggcrate grilles can be mounted either horizontally or vertically (ceiling or side wall) without affecting their aesthetic form or performance.
- The Eggcrate grilles are available with standard accessories such as Opposed Blade Damper or Aluminium Washable Filter Media of 1/2 thickness.
- Eggcrate Grilles / Registers furnished approximately 10 mm less than the Nominal/Listed Size.
- All dimensions are in mm and subject to ±1 mm tolerance.

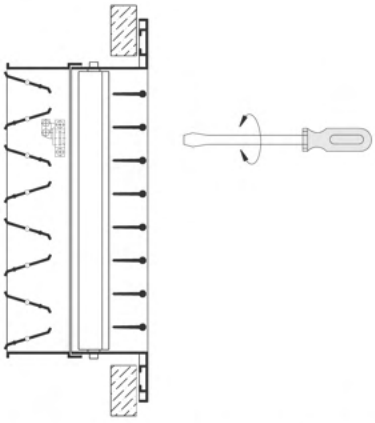
N:	Nominal/Listed Size	= Length (L) x Height (H)
A:	Actual Size	= (L-10) x (H-10)
F:	Face Size	= (L+50) x (H+50)

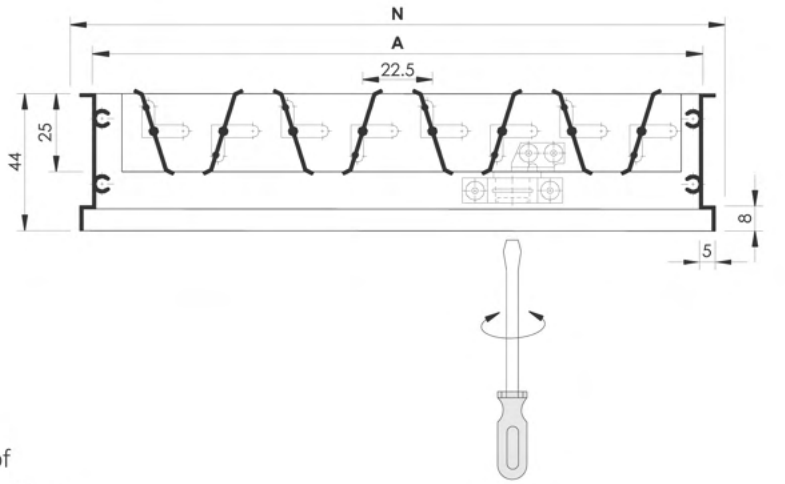
- Grilles / Registers furnished approximately 10 mm less than the Nominal/Listed Size.
- All dimensions are in mm and subject to ±1 mm tolerance.

GRILLES AND REGISTERS ACCESSORIES

A. Opposed Blade Damper

- Frame and Blades are of high quality Extruded Aluminium Profiles construction.
- Blades are designed to rotate opposite to each other.
- The specially designed blades have an overlapping lip which assures a tight closure.
- Generally, the opposed blade damper is attached to the grille and fixed to it by means of `S` clips.
- Blades are separated from its frame by nylon bushes. This method of assembly provides maximum rattle -free performance and eliminates corrosion.
- Usually Damper standard surface finish is Aluminium in Mill Finish. Matt black: powder coating color is also available on request (as an option).
- Screw type operation.

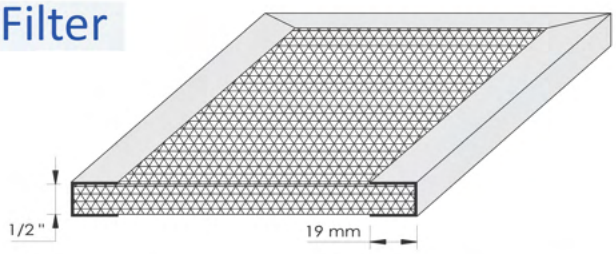




- The range from full open to full closed position of Damper blades can be easily adjusted by a screw driver accessible from the face of the register as shown in the figure.
- All dimensions are in mm and subject to ±1 mm tolerance.

B. Aluminium Washable Filter

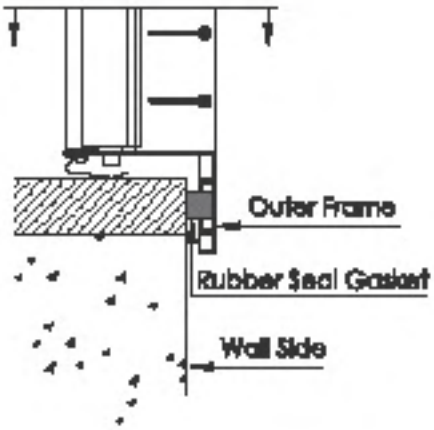
- Construction: Consists of expanded metal Aluminium mesh with unique pottern.
- Application: For collection of big particles of dust. It`s used for corrosive atmospheres.
- Features: High dust holding capacity, low resistance filters. It can be cleaned with regular water and lives longer.
- Filter Thickness: Standard `1/2` thickness provided with



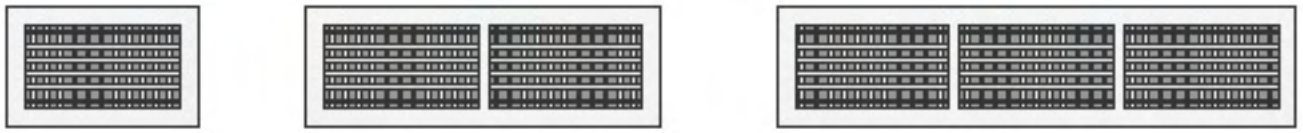
Aluminium Profiled U - Channel Frame of 19 mm width.

C. Foam Type Rubber Gasket (Optional)

- Gasket type : Single Sided Self-Adhesive Foam.
- Gasket Function: Sealing.
- Gasket Benefits:
  - Stops Grille / Register rattling.
  - Minimize air infiltration.
  - Stops leaks and pressure losses.
  - Takes up unevenness of ceiling.
  - Easy to apply on site or in factory.
- To be applied around the perimeter of the back side of the Grille / Register to act as an air seal to prevent pressurized air from escaping from the sides of the outer frame when fixed to the wall.

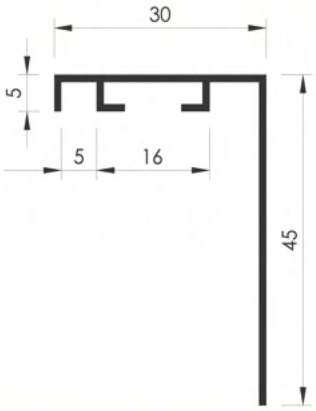


Mullion Arrangement

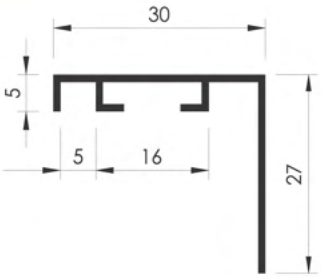


- When the length of the Grille / Register is exceeding 500 mm but not more than 1000 mm, the horizontal blades are supported by a mullion, fixed at the centre of the Grille / Register for more stability.
- When the length of the Grille / Register is exceeding 1000 mm, two or more mullions (depending on length) are required to support the horizontal blades at equal intervals.
- Mullion Construction: Aluminium Profiled U -Channel of 15 mm width.

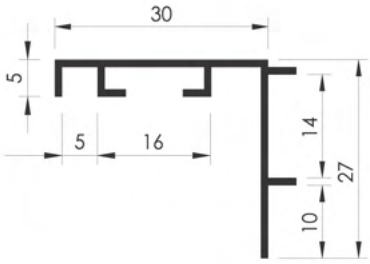
Cross Sectional Drawings for Profiles used in Grilles I Registers



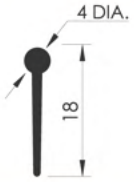
Frame Profile Section
Double Deflection Grilles and Registers



Frame Profile Section
Single Deflection Grilles and Registers



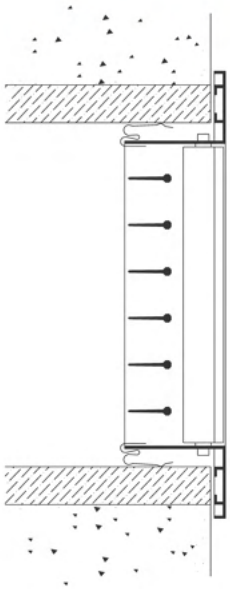
Frame Profile Section
Eggcrate Grilles and Registers

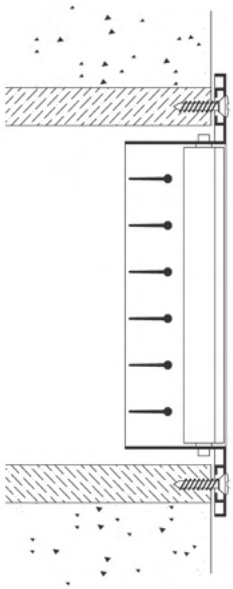


Aerofoil Blade Profile Section
Grilles and Registers

- All dimensions are in mm and subject to ± 0.2 mm tolerance.

Available Fixing Mounting





A. Concealed Fixing (Spring Clip Mounting)
The Grille I Register is fixed by means of spring clips to the wall or partition where no screws are visible.

B. Face Screw Fixing
The Grille I Register is fixed to the wooden Frame by means of visible screws.

REGISTERS & GRILLES
PERFORMANCE DATA - SUPPLY

SAR, SAG, RAR, RAG

L/S	SIZE	300 X 150		300 X 200		400 X 150		500 X 150		600 X 150		300 X 250		450 X 200		500 X 200		750 X 150		450 X 250		600 X 200		300 X 300	
	DEFLECTION	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°
	A_c	0.041		0.055		0.062		0.069		0.083		0.093		0.105		0.112									
	A_k	0.023	0.019	0.030	0.025	0.033	0.028	0.036	0.030	0.049	0.041	0.057	0.048	0.067	0.056	0.023	0.061								
94	V_c	2.32		1.71		1.53		1.36		1.13		1.01		0.90		0.84									
	P_v	3.32		0.421	0.774	0.312	0.570	0.150	0.271	0.082	0.147	0.057	0.102	0.039	0.070	0.031	0.056								
	P_t	4.32		0.614	0.969	0.445	0.699	0.229	0.346	0.132	0.193	0.096	0.138	0.068	0.096	0.055	0.077								
	Th.	3.4-4.0-6.1	1.8-2.7-4.3	3.1-3.7-5.8	1.5-2.4-4.0	2.8-3.4-5.5	1.2-2.1-3.7	2.5-3.1-5.2	0.9-1.8-3.4	2.3-2.9-5.0	0.8-1.7-3.2	2.2-2.8-4.9	0.7-1.5-3.1	2.1-2.6-4.7	0.6-1.4-2.9	2.0-2.6-4.6	0.6-1.3-2.9								
	NC	16	22	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15								
118	V_c	2.9		2.1		1.9		1.7		1.4		1.3		1.1		1.1									
	P_v	1.300	2.360	0.660	1.220	0.493	0.897	0.240	0.438	0.132	0.242	0.093	0.171	0.064	0.118	0.052	0.095								
	P_t	1.800	2.870	0.910	1.470	0.702	1.102	0.350	0.542	0.196	0.301	0.140	0.213	0.097	0.148	0.079	0.119								
	Th.	3.7-4.9-6.7	2.1-3.6-4.9	3.7-4.6-6.7	2.1-3.0-4.9	3.7-4.3-6.4	2.1-3.4-4.9	3.6-4.2-6.4	2.0-3.1-4.6	3.4-4.0-6.3	1.9-3.0-4.4	3.2-3.9-6.3	1.8-2.9-4.3	3.0-3.7-6.2	1.6-2.8-4.2	2.9-3.7-6.2	1.5-2.8-4.1								
	NC	23	29	<15	19	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15								
142	V_c	3.5		2.6		2.3		2.1		1.7		1.5		1.4		1.3									
	P_v	1.880	3.400	0.970	1.750	0.710	1.300	0.345	0.637	0.189	0.353	0.133	0.249	0.092	0.173	0.074	0.139								
	P_t	2.640	4.170	1.470	2.260	0.970	1.550	0.461	0.744	0.249	0.405	0.174	0.283	0.119	0.194	0.094	0.155								
	Th.	4.3-5.2-7.3	2.7-4.0-5.2	4.3-4.9-7.3	2.4-3.7-5.5	4.0-4.9-7.0	2.4-3.7-5.2	3.8-4.7-6.8	2.2-3.5-5.0	3.6-4.5-6.6	2.0-3.3-4.8	3.5-4.4-6.5	2.0-3.2-4.7	3.4-4.3-6.4	1.9-3.1-4.6	3.4-4.3-6.3	1.8-3.1-4.6								
	NC	29	35	19	25	<15	20	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15								
165	V_c	4.1		3.0		2.7		2.4		2.0		1.8		1.6		1.5									
	P_v	2.570	4.620	1.320	2.390	0.970	1.750	0.760	1.400	0.258	0.469	0.182	0.331	0.125	0.228	0.101	0.183								
	P_t	3.580	5.640	1.830	2.900	1.470	2.260	1.020	1.650	0.439	0.654	0.319	0.470	0.227	0.332	0.185	0.270								
	Th.	4.6-5.8-7.9	3.0-4.3-5.8	4.6-5.8-7.9	2.7-4.0-5.8	4.3-5.5-7.6	2.7-4.0-5.5	4.3-5.5-7.6	2.7-4.0-5.2	4.2-5.4-7.5	2.5-3.8-5.2	4.1-5.3-7.4	2.5-3.8-5.1	4.1-5.3-7.4	2.4-3.7-4.9	4.0-5.2-7.3	2.4-3.7-4.9								
	NC	34	40	24	30	19	25	16	22	<15	19	<15	16	<15	<15	<15	<15								
189	V_c	4.7		3.4		3.1		2.7		2.3		2.0		1.8		1.7									
	P_v	3.330	6.050	1.730	3.120	1.270	2.290	0.990	1.800	0.343	0.613	0.242	0.432	0.168	0.298	0.135	0.239								
	P_t	4.600	7.320	2.490	3.890	1.78	2.790	1.500	2.310	0.491	0.754	0.349	0.533	0.243	0.369	0.196	0.296								
	Th.	4.9-6.1-8.5	3.7-4.6-6.1	4.9-6.1-8.5	3.4-4.3-6.1	4.6-5.8-8.2	3.4-4.3-5.8	4.6-5.8-7.9	3.1-4.3-5.8	4.5-5.7-7.9	3.0-4.1-5.7	4.4-5.6-7.8	2.9-4.1-5.6	4.4-5.6-7.6	2.8-4.0-5.6	4.3-5.5-7.6	2.8-4.0-5.5								
	NC	38	45	28	34	23	29	20	26	<15	16	<15	<15	<15	<15	<15	<15								
212	V_c	5.2		3.8		3.4		3.1		2.5		2.3		2.0		1.9									
	P_v	4.220	7.670	2.180	3.960	1.600	2.900	1.270	2.290	0.580	1.070	0.114	0.216	0.068	0.130	0.050	0.096								
	P_t	5.740	9.190	2.950	4.720	2.360	3.660	1.780	2.790	0.840	1.320	0.185	0.280	0.113	0.170	0.084	0.126								
	Th.	5.2-6.4-8.8	4.0-5.2-6.7	5.2-6.4-8.8	3.7-4.9-6.4	4.9-6.1-8.5	3.7-4.9-6.4	4.9-6.1-8.5	3.4-4.6-6.1	4.6-5.8-8.5	3.1-4.6-6.1	4.6-5.8-8.4	3.1-4.5-6.0	4.5-5.7-8.3	2.9-4.4-5.9	4.5-5.7-8.3	2.9-4.3-5.8								
	NC	42	48	31	38	27	33	24	30	<15	18	<15	<15	<15	<15	<15	<15								
236	V_c			4.3		3.8		3.4		2.8		2.5		2.3		2.1									
	P_v			2.690	4.880	1.980	3.580	1.550	2.820	0.740	1.320	0.199	0.368	0.112	0.208	0.079	0.148								
	P_t			3.710	5.890	2.740	4.340	2.310	3.580	1.240	1.830	0.401	0.566	0.244	0.337	0.182	0.247								
	Th.			5.5-6.7-9.4	4.0-5.2-6.7	5.5-6.7-9.4	4.0-5.2-6.4	5.2-6.4-9.1	4.0-4.3-6.1	4.9-6.4-9.1	3.7-4.9-6.4	4.8-6.3-9.0	3.7-4.5-6.2	4.6-6.2-8.9	3.6-4.4-6.1	4.5-6.1-8.8	3.6-4.4-6.0								
	NC			35	41	30	37	27	33	16	22	<15	<15	<15	<15	<15	<15								
260	V_c			4.7		4.2		3.8		3.1		2.8		2.5		2.3									
	P_v			3.250	5.890	2.390	4.340	1.880	3.430	0.890	1.600	0.610	1.120	0.034	0.056	0.020	0.034								
	P_t			4.520	7.160	3.400	5.360	2.640	4.190	1.400	2.110	1.120	1.630	0.083	0.116	0.054	0.071								
	Th.			5.8-7.0-10.1	4.3-5.5-7.3	5.8-7.0-9.8	4.3-5.5-7.0	5.5-6.7-9.8	4.3-5.2-6.7	5.2-6.7-9.5	4.0-5.2-6.7	5.2-6.4-9.5	4.0-5.2-6.7	5.0-6.3-9.3	3.9-5.1-6.5	4.9-6.3-9.2	3.9-5.0-6.4								
	NC			38	44	33	40	30	36	19	25	<15	19	<15	<15	<15	<15								

*SI UNITS

		900 x 150				1050 x 150													
				750 x 200				900 x 200				1050 x 200							
500 x 250				600 x 250						750 x 250				900 x 250		1050 x 200			
		450 x 300		500 x 300				600 x 300						750 x 300		900 x 300		1050 x 300	
0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°
0.118		0.126		0.141		0.146		0.170		0.178		0.198		0.214		0.228		0.302	
0.077	0.064	0.085	0.071	0.097	0.081	0.103	0.086	0.121	0.100	0.126	0.105	0.144	0.120	0.156	0.130	0.190	0.158	0.228	0.189
1.0																			
0.044	0.081																		
0.068	0.102																		
2.9-3.6-6.1	1.5-2.7-4.0																		
<15	<15																		
1.2																			
0.063	0.119																		
0.081	0.133																		
3.3-4.2-6.3	1.8-3.0-4.5																		
<15	<15																		
1.4																			
0.086	0.157																		
0.161	0.234																		
4.0-5.2-7.3	2.4-3.7-4.8																		
<15	<15																		
1.6																			
0.116	0.205																		
0.169	0.255																		
4.3-5.5-7.5	2.7-4.0-5.5																		
<15	<15																		
1.8		1.7																	
0.041	0.077	0.030	0.057																
0.069	0.103	0.051	0.076																
4.4-5.6-8.3	2.8-4.3-5.8	4.4-5.6-8.3	2.8-4.2-5.7																
<15	<15	<15	<15																
2.0		1.9		1.7															
0.063	0.117	0.044	0.083	0.025	0.047														
0.149	0.200	0.110	0.146	0.068	0.088														
4.4-6.1-8.8	3.5-4.3-6.0	4.3-6.0-8.7	3.5-4.2-6.0	4.2-5.9-8.6	3.4-4.1-5.9														
<15	<15	<15	<15	<15	<15														
2.2		2.1		1.8		1.8		1.5											
0.014	0.024	0.008	0.014	0.004	0.006	0.003	0.005	0.001	0.002										
0.040	0.054	0.026	0.034	0.013	0.016	0.011	0.013	0.004	0.005										
4.9-6.2-9.2	3.8-5.0-6.4	4.8-6.2-9.1	3.8-5.0-6.3	4.6-6.0-9.0	3.7-4.9-6.2	4.6-6.0-9.0	3.7-4.9-6.2	4.4-5.9-8.8	3.6-4.8-6.0										
<15	<15	<15	<15	<15	<15	<15	<15	<15	<15										

Global Air

REGISTERS & GRILLES
PERFORMANCE DATA - SUPPLY

SAR, SAG, RAR, RAG

L/S	SIZE	300 X 150		300 X 200		400 X 150		500 X 150		600 X 150	450 X 200	300 X 250	300 x 300	500 X 200		750x150	450 x 250	600 x 200	
	DEFLECTION	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°			0°	45°	0°	45°	0°	45°
	A_c	0.041		0.055		0.062		0.069		0.083				0.093		0.105		0.112	
	A_k	0.023	0.019	0.030	0.025	0.033	0.028	0.036	0.030	0.049	0.041			0.057	0.048	0.067	0.056	0.023	0.061
	V_c			5.1		4.6		4.1		3.4				3.0		2.7		2.5	
283	P_v			3.860	7.040	3.100	5.160	2.240	4.060	1.040	1.910			0.740	1.320	0.510	0.910	0.026	0.038
	P_t			5.380	8.560	4.370	6.430	3.250	5.080	1.800	2.670			1.240	1.830	1.020	1.420	0.041	0.056
	Th.			6.1-7.3-10.4	4.6-5.8-7.6	6.1-7.3-10.4	4.6-5.5-7.3	5.8-7.0-10.1	4.6-5.5-7.0	5.8-7.0-9.8	4.3-5.5-7.0			5.5-6.7-9.8	4.3-5.5-7.0	5.5-6.7-9.4	4.3-5.3-7.0	5.4-6.6-9.4	4.2-5.3-6.8
	NC			41	47	36	42	36	39	22	28			16	22	<15	16	<15	<15
	V_c					9.9 5.4 11.9		9.1 4.8 10.9		6.7 4.0 8.1				5.8 3.5 6.9		4.9 3.2 5.9		4.5 2.9 5.4	
330	P_v					3.860	7.040	3.050	5.540	1.420	2.590			0.990	1.800	0.690	1.240	0.590	1.020
	P_t					5.380	8.560	4.320	6.810	2.440	3.610			1.750	2.570	1.190	1.750	1.070	1.520
	Th.					6.4-7.6-10.4	4.6-6.1-7.6	6.4-7.3-10.1	4.9-5.8-7.3	6.1-7.3-10.1	4.6-5.8-7.3			5.8-7.0-10.1	4.6-5.8-7.3	5.8-7.0-9.7	4.6-5.5-7.3	5.5-6.7-9.7	4.6-5.5-7.0
	NC					41	47	38	44	26	33			20	27	<15	21	<15	17
	V_c							5.5		4.5				4.1		3.6		3.4	
378	P_v							3.990	7.240	1.880	3.380			1.290	2.360	0.910	1.630	0.740	1.320
	P_t							5.510	8.760	3.450	4.650			2.310	3.380	1.680	2.390	1.240	1.830
	Th.							6.4-7.6-10.7	5.2-6.1-7.9	6.4-7.6-10.7	5.2-6.1-7.6			6.1-7.3-10.4	4.9-6.1-7.6	6.1-7.3-10.0	4.9-5.8-7.6	5.8-7.3-10.0	4.6-5.5-7.0
	NC							42	48	31	37			25	31	19	25	15	22
	V_c									5.1				4.6		4.1		3.8	
425	P_v									2.360	4.290			1.650	3.000	1.140	2.080	0.940	1.680
	P_t									3.890	5.820			2.920	4.270	2.160	3.100	1.700	2.440
	Th.									7.0-8.2-11.6	5.2-6.7-8.2			7.0-8.2-11.3	5.2-6.4-7.9	6.7-7.9-11.3	5.2-6.1-7.9	5.4-7.6-11.0	5.2-6.1-7.6
	NC									34	41			28	35	22	29	19	25
	V_c									5.7				5.1		4.5		4.2	
472	P_v									2.920	5.280			2.030	3.680	1.400	2.570	1.140	2.080
	P_t									4.700	7.060			3.560	5.210	2.670	3.840	2.160	3.100
	Th.									7.6-2-9.2-12.5	5.8-7.0-8.5			7.6-9.2-12.2	5.8-6.7-8.2	7.3-8.8-11.9	5.5-6.4-8.2	7.0-8.5-11.6	5.5-6.4-7.9
	NC									38	44			32	38	26	32	23	29
	V_c									6.8				6.1		5.4		5.0	
566	P_v									4.190	7.620			2.920	5.310	2.030	3.680	1.650	3.000
	P_t									6.730	10.160			4.950	7.340	3.560	5.210	3.180	4.520
	Th.									8.2-11.3-14.0	6.4-7.6-9.2			8.2-10.1-13.7	6.4-7.3-8.9	8.2-9.8-13.4	5.8-7.0-8.5	7.9-9.4-12.8	5.8-7.0-8.2
	NC									43	50			36	44	32	38	28	35
	V_c													7.1		6.3		5.9	
561	P_v													3.610	7.240	2.770	5.000	2.260	4.100
	P_t													6.400	10.030	4.800	7.040	4.290	6.120
	Th.													9.8-11.9-15.8	7.0-7.9-9.4	9.4-11.3-14.6	6.4-7.6-9.1	9.1-11.0-14.9	6.4-7.6-9.1
	NC													41	49	36	43	33	40
	V_c															7.2		6.7	
755	P_v															3.610	6.550	2.950	5.330
	P_t															6.400	9.350	5.470	7.870
	Th.															9.8-11.9-15.8	6.7-8.2-9.8	9.8-11.9-15.5	6.7-8.2-9.4
	NC															41	47	37	44

*SI UNITS

		900 x 150				1050 x 150													
				750 x 200				900 x 200				1050 x 200							
500 x 250				600 x 250						750 x 250				900 x 250		1050 x 200			
		450 x 300		500 x 300				600 x 300						750 x 300		900 x 300		1050 x 300	
0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°
0.118		0.126		0.141		0.146		0.170		0.178		0.198		0.214		0.228		0.302	
0.077	0.064	0.085	0.071	0.097	0.081	0.103	0.086	0.121	0.100	0.126	0.105	0.144	0.120	0.156	0.130	0.190	0.158	0.228	0.189
2.4		2.2		2.0		1.9		1.7											
0.018	0.027	0.011	0.016	0.005	0.007	0.004	0.005	0.001	0.002										
0.030	0.040	0.019	0.025	0.009	0.011	0.007	0.009	0.003	0.003										
5.4-6.6-9.4	4.2-5.3-6.8	5.3-6.5-9.3	4.2-5.3-6.7	5.2-6.4-9.1	4.1-5.2-6.7	5.2-6.4-9.1	4.1-5.2-6.6	5.0-6.2-8.9	4.0-5.1-6.5										
<15	<15	<15	<15	<15	<15	<15	<15	<15	<15										
2.8		2.6		2.3		2.3		1.9		1.9		1.7							
0.510	0.910	0.104	0.189	0.060	0.109	0.053	0.095	0.025	0.045	0.021	0.037	0.012	0.022						
1.020	1.420	0.262	0.335	0.166	0.205	0.147	0.181	0.079	0.093	0.067	0.078	0.044	0.049						
5.5-6.4-9.4	4.6-5.5-7.0	5.4-6.5-9.4	4.5-5.4-7.0	5.2-6.3-9.3	4.4-5.3-6.9	5.2-6.3-9.3	4.4-5.3-6.9	5.0-6.1-9.1	4.3-5.1-6.8	4.9-6.0-9.0	4.3-5.1-6.7	4.8-5.9-8.9	4.2-5.0-6.7						
<15	15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15						
3.2		3.0		2.7		2.6		2.2		2.1		1.9		1.8		1.7			
0.660	1.170	0.530	0.970	0.106	0.185	0.091	0.160	0.042	0.074	0.034	0.060	0.020	0.035	0.013	0.024	0.010	0.017		
1.170	1.680	1.040	1.470	0.256	0.332	0.227	0.291	0.118	0.145	0.098	0.120	0.063	0.071	0.045	0.052	0.034	0.039		
5.8-7.0-9.7	4.9-5.8-7.3	5.5-6.7-9.4	4.6-5.8-7.0	5.5-6.7-9.3	4.6-5.6-7.0	5.4-6.7-9.3	4.6-5.6-6.9	5.2-6.5-8.9	4.4-5.5-6.8	5.2-6.5-8.9	4.4-5.5-6.7	5.0-6.3-8.7	4.3-5.4-6.6	4.9-6.2-8.5	4.3-5.4-6.5	4.9-6.2-8.4	4.2-5.4-6.4		
<15	20	<15	16	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15		
3.6		3.4		3.0		2.9		2.5		2.4		2.2		2.0		1.9			
0.810	1.500	0.660	1.190	0.480	0.860	0.410	0.760	0.061	0.115	0.049	0.092	0.029	0.054	0.019	0.036	0.014	0.026		
1.570	2.260	1.170	1.700	0.990	1.370	0.910	1.270	0.169	0.213	0.140	0.175	0.088	0.107	0.062	0.074	0.047	0.056		
6.4-7.3-11.0	5.2-6.1-7.6	6.17.3-10.7	4.9-6.1-7.6	6.1-7.0-10.7	4.9-6.1-7.3	5.8-7.0-10.7	4.6-5.8-7.3	5.6-6.6-10.4	4.6-5.7-7.1	5.5-6.5-10.3	4.5-5.7-7.0	5.3-6.3-10.1	4.4-5.5-6.9	5.2-6.1-10.0	4.3-5.5-6.7	5.1-6.0-9.9	4.3-5.4-6.7		
17	20	<15	20	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15		
4.0		3.7		3.3		3.2		2.8		2.7		2.4		2.2		2.1		1.6	
1.020	1.850	0.810	1.500	0.610	1.070	0.510	0.940	0.360	0.660	0.047	0.073	0.026	0.040	0.017	0.025	0.012	0.018	0.002	0.004
2.030	2.870	1.570	2.010	1.120	1.570	1.020	1.450	0.860	1.170	0.127	0.163	0.077	0.095	0.052	0.064	0.039	0.047	0.010	0.011
7.0-8.2-11.6	5.2-6.4-7.9	6.7-8.2-11.3	5.2-6.4-7.9	6.7-7.9-11.3	5.2-6.4-7.9	6.4-7.9-11.0	5.2-6.1-7.6	6.1-7.6-10.7	4.9-5.8-7.3	6.1-7.4-10.6	4.9-5.9-7.4	5.9-7.2-10.4	4.7-5.7-7.2	5.7-7.0-10.2	4.7-5.6-7.1	5.6-6.9-10.0	4.6-5.6-7.0	5.1-6.3-9.5	4.3-5.2-6.7
21	27	17	23	<15	18	<15	16	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
4.8		4.5		4.0		3.9		3.3		3.2		2.9		2.6		2.1		1.6	
1.470	2.640	1.190	2.130	0.860	1.520	0.740	1.350	0.510	0.940	0.460	0.840	0.360	0.640	0.018	0.030	0.012	0.021	0.002	0.004
2.740	3.910	2.210	3.150	1.880	2.540	1.500	2.110	1.020	1.450	0.970	1.350	0.860	1.140	0.062	0.081	0.045	0.059	0.011	0.014
7.9-9.1-12.5	5.5-7.0-8.2	7.6-9.1-12.2	5.5-6.7-8.2	7.6-8.8-12.2	5.5-6.7-8.2	7.3-8.8-11.9	5.5-6.4-7.9	7.3-8.5-11.6	5.2-6.1-7.6	7.0-8.5-11.6	5.2-6.1-7.3	7.0-8.2-11.3	5.2-6.1-7.3	6.8-7.8-10.9	4.9-5.8-7.1	6.7-7.6-10.7	4.8-5.7-6.9	6.3-7.0-10.0	4.5-5.3-6.5
26	33	23	29	18	24	15	22	<15	15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
5.6		5.2		4.7		4.5		3.9		3.7		3.3		3.1		2.9		2.2	
1.980	3.610	1.600	2.920	1.170	2.080	1.020	1.830	0.710	1.300	0.640	1.140	0.480	0.860	0.410	0.710	0.028	0.044	0.006	0.009
3.760	5.380	3.120	4.450	2.440	3.350	2.290	3.100	1.470	2.060	1.400	1.910	0.990	1.370	0.910	1.220	0.093	0.109	0.023	0.025
9.1-10.7-14.0	6.1-7.6-8.8	8.8-10.4-13.4	6.1-7.3-8.5	8.8-10.1-13.4	5.8-7.0-8.5	8.5-10.1-13.1	5.8-7.0-8.2	8.2-9.8-13.1	5.8-6.7-7.9	8.2-9.8-12.8	5.5-6.7-7.9	7.9-9.4-12.5	5.2-6.4-7.6	7.9-9.4-12.5	5.2-6.1-7.6	7.6-9.0-11.9	5.0-6.1-7.3	7.1-8.3-11.1	4.6-5.6-6.8
31	38	28	34	23	29	20	26	<15	20	<15	19	<15	<15	<15	<15	<15	<15	<15	<15
6.4		6.0		5.3		5.2		4.4		4.3		3.8		3.5		3.3		2.5	
2.590	4.720	2.110	3.810	1.520	2.720	1.320	2.390	0.910	1.680	0.810	1.500	0.610	1.120	0.510	0.940	0.034	0.047	0.006	0.008
5.130	7.260	4.140	5.840	3.050	4.240	2.840	3.910	1.930	2.690	1.830	2.510	1.370	1.880	1.270	1.700	0.070	0.087	0.015	0.018
9.4-11.6-15.2	6.7-7.9-9.1	9.4-11.6-15.2	6.7-7.9-9.1	9.4-11.6-15.2	6.4-7.6-8.8	9.1-11.3-14.9	6.4-7.6-8.8	8.8-11.0-14.6	6.1-7.3-8.5	8.8-11.0-14.3	6.1-7.3-8.5	8.5-10.7-14.3	5.8-7.0-8.2	8.5-10.7-14.0	5.8-7.0-8.2	8.3-10.5-13.9	5.7-6.8-8.0	7.9-10.1-13.3	5.4-6.4-7.5
35	42	32	38	27	33	24	31	18	25	17	23	<15	18	<15	15	<15	<15	<15	<15

Global Air

REGISTERS & GRILLES
PERFORMANCE DATA - SUPPLY

SAR, SAG, RAR, RAG

L/S	SIZE	300 x 150				450 x 150		500 X 150		600 X 150				750 X 150					
				300 x 200						450 X 200		500 X 200				600 X 200			
								300 X 250						450 X 250				500 x 250	
										300 X 300									
	DEFLECTION	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°
	A_c	0.041		0.055		0.062		0.069		0.083		0.093		0.105		0.112		0.118	
	A_k	0.023	0.019	0.030	0.025	0.033	0.028	0.036	0.030	0.049	0.041	0.057	0.048	0.067	0.056	0.073	0.061	0.077	0.064
850	V_c															7.6		7.2	
	P_v															3.710	6.760	3.300	5.970
	P_t															6.760	9.800	6.350	9.020
	Th.															10.4-12.8-16.5	7.3-8.5-10.1	10.1-12.8-16.2	7.3-8.2-9.4
	NC															41	48	39	46
944	V_c																	8.0	
	P_v																	4.060	7.370
	P_t																	7.870	11.180
	Th.																	10.7-13.4-17.1	7.9-8.8-10.1
	NC																	43	49
1133	V_c																		
	P_v																		
	P_t																		
	Th.																		
	NC																		
1322	V_c																		
	P_v																		
	P_t																		
	Th.																		
	NC																		
1511	V_c																		
	P_v																		
	P_t																		
	Th.																		
	NC																		
1699	V_c																		
	P_v																		
	P_t																		
	Th.																		
	NC																		

SYMBOLS

Deflection	:The angle of deflection of face blades
L/Sec.	: Air Volume in Liters Per Second
Ac	: Core Area in square meter
Ak	: Effective Face Area in meter square per 1000 mm length
Vc	: Core Velocity in meter per second
Pt	: Total Pressure in millimeters water gauge
Th	: Throw in meters

CONDITIONS

* Supply
* With Ceiling effect
* Noise Criteria values are based on (10 dB) room attenuation
* Damper is fully open

*SI UNITS

900 x 150				1050 x 150													
		750 x 200				900 x 200				1050 x 200							
		600 x 250						750 x 250				900 x 250		1050 x 200			
450 x 300		500 x 300				600 x 300						750 x 300		900 x 300		1050 x 300	
0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°
0.118		0.126 0.141		0.146		0.170		0.178		0.198		0.214		0.228		0.302	
0.085	0.071	0.097	0.081	0.103	0.086	0.121	0.100	0.126	0.105	0.144	0.120	0.156	0.130	0.190	0.158	0.228	0.189
6.7		6.0		5.8		5.0		4.8		4.3		4.0		3.7		2.8	
2.670	4.830	1.930	3.430	1.680	3.020	1.170	2.130	1.040	1.880	0.790	1.420	0.660	1.190	0.430	0.790	0.01 1	0.017
5.210	7.370	3.960	5.460	3.710	5.050	2.690	3.660	2.310	3.150	1.800	2.440	1.680	2.210	0.940	1.300	0.054	0.049
10.1-12.5-16.2	7.3-8.2-9.4	10.1-12.2-15.8	7.0-8.2-9.4	9.8-11.-15.8	6.7-8.2-9.1	9.8-11.9-15.5	6.7-7.9-9.1	9.5-11.9-15.5	6.4-7.6-9.1	9.4-11.6-15.2	6.4-7.3-8.8	9.1-11.6-15.2	6.4-7.3-8.5	9.1-11.3-14.9	5.8-7.3-8.2	8.7-10.8-14.4	5.6-6.8-7.9
36	42	31	37	28	35	22	29	20	27	15	22	<15	19	<15	<15	<15	<15
7.5		6.7		6.5		5.5		5.3		4.8		4.4		4.1		3.1	
3.280	5.940	2.390	4.240	2.060	3.730	1.450	2.620	1.300	2.340	0.970	1.750	0.810	1.470	0.530	0.970	0.360	0.660
6.320	8.990	3.780	6.780	4.340	6.020	3.230	4.390	2.800	3.860	2.240	3.020	2.080	2.740	1.300	1.730	0.860	1.170
10.7-13.4-17.1	7.9-8.8-10.1	10.7-12.8-16.8	7.6-8.5-9.8	10.4-12.8-16.8	7.3-8.5-9.4	10.4-12.5-16.5	7.3-8.2-9.4	10.1-12.5 16.5	7.0-8.2-9.4	10.1-12.5-16.5	7.0-7.9-9.1	9.8-12.2-16.2	6.7-7.9-8.8	9.8-12.2-15.8	6.4-7.6-8.5	9.8-11.9-15.5	6.1-7.4-8.2
39	45	34	40	32	38	26	32	24	30	19	25	16	22	<15	<15	<15	<15
9.0		8.0		7.8		6.7		6.4		5.7		5.3		5.0		3.8	
4.570	8.590	2.540	6.120	2.970	5.380	1.780	3.780	1.980	3.350	1.680	2.510	1.170	2.1 10	0.760	1.400	0.530	0.940
8.890	12.900	6.100	9.680	6.270	8.690	4.320	6.320	4.270	5.640	3.450	4.290	2.690	3.630	1.780	2.410	1.300	1.700
11.3-14.3 17.9	6.1-9.8-11.3	11.3-14.0-18.0	8.5-9.8-11.0	11.0-14.0-17.7	8.2-9.1-10.4	11.0-13.7-17.4	7.9-9.1-10.4	10.7-13.7 17.4	7.6-8.8-10.1	10.1-13.7-17.4	7.6-8.5-10.1	10.4-13.4-17.1	7.3-8.5-9.8	10.4-13.1-17.1	7.3-8.2-9.5	10.4-13.8-16.8	7.0-8.2-9.5
45	51	40	46	37	44	31	38	30	36	25	31	22	28	<15	20	<15	<15
				9.1		7.8		7.4		6.7		6.2		5.8		4.4	
				4.040	7.340	2.820	5.130	2.510	4.570	1.910	3.430	1.570	2.870	1.040	1.880	0.710	1.300
				8.610	9.370	5.870	8.180	3.020	7.620	4.450	5.970	3.610	4.900	2.570	3.400	1.730	2.310
				11.6-14.9-18.3	).1-10.4-11.6	11.614.6-18.0	8.8-10.4-11.3	11.6-14.6-18.0	8.5-9.8-11.0	11.6-14.3-18.0	8.2-9.5-11.0	11.3-14.0-17.7	8.2-9.2-11.0	11.3-14.0 17.7	7.9-9.1-10.7	11.3-13.7 17.4	7.6-8.8-10.7
				42	49	36	43	34	41	29	35	26	38	19	25	<15	18
						8.9		8.5		7.6		7.1		6.6		5.0	
						3.710	6.710	3.280	5.970	2.460	4.500	2.060	3.760	1.370	2.460	0.940	1.700
						8.030	11.020	7.340	10.030	5.510	7.540	4.850	6.550	3.400	4.500	2.460	3.230
						12.2-15.5-18.9	9.8-11.0-12.2	12.2-15.5 18.9	9.1-10.7-11.9	11.9-15.2-8.6	9.1-10.4-11.9	11.9-14.9-18.3	9.1-10.1-11.6	11.9-14.9-18.3	8.8-10.1-11.6	11.6-14.6-18.0	8.5-9.8-11.3
						40	47	39	45	34	40	31	37	23	30	16	23
								9.6		8.6		7.9		7.5		5.6	
								4.170	7.540	3.120	5.690	2.620	4.750	1.730	3.120	1.170	2.130
								6.450	12.370	7.440	10.010	6.170	8.310	4.270	5.660	2.950	3.910
								12.8-16.5 19.8	10.1-11.6-12.8	12.5-16.2-19.5	10.1-11.3-12.5	12.5-15.8 19.2	9.7-11.0-12.5	12.5-15.5-18.9	9.4-11.0-12.2	12.2-15.5-18.6	9.4-10.7-12.2
								42	49	37	44	34	41	27	33	20	26

NOTES

*The large throw values are based on the minimum terminal velocity of 0.25 m/Sec.

*The middle throw values are based on the middle terminal velocity of 0.50 m/Sec.

*The s mall throw values are based on the maximum terminal velocity of 0.75 m/Sec.

CORRECTIONS FOR FLOW WITHOUT CEILING EFFECT:

1. Noise Criteria - No correction required
2. Static pressure - No correction required
3. Area Factor - No correction required
4. Throw and Drop - Some work has been done to show that the throw will be reduced by approximately 15-20% and the drop increased by 5-15%.

REGISTERS & GRILLES
PERFORMANCE DATA - RETURN

SAR,SAG, RAR, RAG

*SI UNITS

L/S	SIZE	300 x 150		450 x 150	500 x 150	600 x 150		750 x 150			900 x 150	1050 x 150						
			300 x 200			450 x 200	500 x 200		600 x 200			750 x 200		900 x 200	1050 x 200			
					300 x 250			450 x 250		500 x 250		600 x 250			750 x 250		900 x 250	1050 x 250
						300 x 300					450 x 300	500 x 300		600 x 300			750 x 300	900 x 300	1050 x 300
	Ac	0.041	0.055	0.062	0.069	0.083	0.093	0.105	0.112	0.118	0.126	0.141	0.146	0.170	0.178	0.198	0.214	0.228	0.302
94	Vc	2.315	1.660	1.485	1.323	1.096													
	Pv	0.331	0.166	0.133	0.106	0.073													
	Ps	0.760	0.575	0.533	0.469	0.405													
	NC	<15	<15	<15	<15	<15													
118	Vc	2.906	2.142	1.856	1.654	1.370	1.228												
	Pv	0.521	0.283	0.208	0.165	0.113	0.091												
	PS	1.020	0.760	0.649	0.582	0.488	0.440												
	NC	<15	<15	<15	<15	<15	<15												
142	Vc	3.498	2.577	2.227	1.985	1.644	1.473	1.311	1.224										
	Pv	0.755	0.410	0.299	0.238	0.163	0.131	0.104	0.090										
	PS	1.520	1.020	0.805	0.691	0.538	0.465	0.398	0.363										
	NC	15	<15	<15	<15	<15	<15	<15	<15										
165	Vc	4.064	2.995	2.598	2.316	1.918	1.719	1.530	1.427	1.361	1.269								
	Pv	1.019	0.553	0.408	0.324	0.222	0.178	0.141	0.123	0.112	0.097								
	PS	2030	1.270	1.107	0.927	0.694	0.586	0.490	0.440	0.409	0.367								
	NC	24	16	<15	<15	<15	<15	<15	<15	<15	<15								
189	Vc	4.655	3.430	3.068	2.647	2.192	1.964	1.748	1.631	1.555	1.450	1.293	1.256						
	Pv	1.337	0.726	0.581	0.423	0.290	0.233	0.185	0.161	0.146	0.127	0.101	0.095						
	PS	2.540	1.780	1.020	1.197	0.824	0.663	0.527	0.459	0.418	0.364	0.290	0.274						
	NC	27	19	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15						
212	Vc	5.222	3.848	3.442	3.068	2.466	2.210	1.967	1.835	1.749	1.632	1.455	1.413	1.210					
	Pv	1.682	0.913	0.731	0.581	0.367	0.295	0.234	0.203	0.185	0.161	0.128	0.121	0.088					
	PS	3.300	2.290	1.270	1.020	0.564	0.440	0.339	0.290	0.260	0.222	0.172	0.161	0.113					
	NC	29	22	16	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15					
236	Vc	5.813	4.283	3.831	3.415	2.830	2.456	2.186	2.039	1.944	1.813	1.616	1.570	1.344	1.287	1.157			
	Pv	2.084	1.132	0.905	0.720	0.494	0.364	0.288	0.251	0.228	0.198	0.158	0.149	0.109	0.100	0.081			
	PS	4.060	2.790	1.520	1.270	1.020	0.722	0.567	0.491	0.445	0.385	0.304	0.286	0.207	0.190	0.152			
	NC	31	25	20	15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15			

REGISTERS & GRILLES
PERFORMANCE DATA - RETURN

SAR,SAG, RAR, RAG

*SI UNITS

L/S	SIZE	300 x 150	300 x 200	450 x 150	500 x 150	600 x 150	500 x 200	750 x 150	600 x 200	500 x 250	900 x 150	1050 x 150	750 x 200	900 x 200	1050 x 200	750 x 250	900 x 250	1050 x 250
					300 x 250	450 x 200		450 x 250				600 x 250						
						300 x 300					450 x 300	500 x 300		600 x 300			750 x 300	900 x 300	1050 x 300
	Ac	0.041	0.055	0.062	0.069	0.083	0.093	0.105	0.112	0.118	0.126	0.141	0.146	0.170	0.178	0.198	0.214	0.228	0.302
260	Vc	6.404	4.719	4.221	3.763	3.118	2.701	2.404	2.243	2.138	1.994	1.778	1.727	1.478	1.476	1.273			
	Pv	2.530	1.374	1.090	0.873	0.600	0.441	0.349	0.304	0.276	0.240	0.191	0.180	0.132	0.121	0.098			
	Ps	4.830	3.300	2.030	1.780	1.270	0.879	0.702	0.615	0.561	0.490	0.393	0.372	0.276	0.254	0.207			
	NC	34	29	24	20	17	15	<15	<15	<15	<15	<15	<15	<15	<15	<15			
283	Vc	6.970	5.136	4.594	4.096	3.393	3.040	2.623	2.447	2.333	2.175	1.940	1.884	1.613	1.545	1.388	1.281		
	Pv	2.997	1.627	1.302	1.035	0.710	0.570	0.415	0.362	0.329	0.286	0.227	0.214	0.157	0.144	0.116	0.099		
	PS	5.840	3.810	2.290	2.030	1.520	1.020	0.832	0.721	0.653	0.565	0.445	0.419	0.304	0.278	0.223	0.189		
	NC	38	33	28	25	22	16	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15		
330	Vc	8.128	5.989	5.357	4.776	3.957	3.545	3.155	2.855	2.721	2.538	2.263	2.198	1.881	1.802	1.620	1.495	1.261	
	Pv	4.075	2.213	1.770	1.407	0.996	0.775	0.614	0.492	0.447	0.389	0.309	0.292	0.214	0.196	0.158	0.135	0.096	
	PS	7.870	5.330	3.050	2.790	2.030	1.520	1.020	1.041	0.940	0.811	0.635	0.597	0.429	0.392	0.312	0.263	0.183	
	NC	41	37	33	31	29	21	15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	
378	Vc	9.310	6.860	6.136	5.470	4.532	4.060	3.614	3.372	3.214	2.901	2.586	2.512	2.150	2.059	1.851	1.708	1.441	1.213
	Pv	5.347	2.903	2.323	1.846	1.267	1.017	0.806	0.701	0.637	0.508	0.404	0.381	0.279	0.256	0.207	0.176	0.125	0.089
	PS	10.410	7.110	4.060	3.560	2.790	2.030	1.520	1.270	1.020	1.066	0.833	0.782	0.560	0.510	0.406	0.341	0.237	0.163
	NC	45	40	37	35	32	25	20	15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
425	Vc		7.713	6.899	6.151	5.096	4.565	4.063	3.791	3.614	3.263	2.909	2.826	2.419	2.317	2.082	1.922	1.621	1.364
	Pv		3.670	2.936	2.334	1.602	1.286	1.018	0.887	0.806	0.643	0.511	0.482	0.353	0.324	0.262	0.223	0.159	0.112
	PS		8.890	5.330	4.830	3.560	2.540	1.780	1.520	1.520	1.159	0.893	0.836	0.588	0.533	0.418	0.349	0.237	0.160
	NC		45	40	38	36	31	24	20	16	<15	<15	<15	<15	<15	<15	<15	<15	<15
472	Vc			7.662	6.831	5.659	5.070	4.512	4.211	4.014	3.743	3.338	3.140	2.688	2.574	2.314	2.135	1.801	1.516
	Pv			3.622	2.878	1.976	1.586	1.256	1.094	0.994	0.864	0.687	0.596	0.436	0.400	0.323	0.275	0.196	0.139
	PS			6.600	5.840	4.320	3.050	2.290	1.780	1.780	1.270	1.020	0.937	0.650	0.587	0.456	0.378	0.253	0.169
	NC			44	43	40	36	30	26	22	16	<15	<15	<15	<15	<15	<15	<15	<15
566	Vc				8.191	6.787	6.079	5.411	5.049	4.813	4.489	4.003	3.887	3.225	3.089	2.776	2.563	2.161	1.819
	Pv				4.139	2.841	2.280	1.806	1.573	1.429	1.243	0.988	0.932	0.628	0.576	0.466	0.397	0.282	0.200
	PS				8.380	6.350	4.320	3.300	2.790	2.540	2.030	1.520	1.270	0.955	0.856	0.653	0.533	0.346	0.224
	NC				48	45	39	35	30	27	21	18	15	<15	<15	<15	<15	<15	<15

Global Air

REGISTERS & GRILLES
PERFORMANCE DATA - RETURN

SAR,SAG, RAR, RAG

*SI UNITS

L/S	SIZE	300x150	300x200	450x150	300x250	600x150	450x200	300x300	500x200	750x150	450x250	600x200	500x250	900x150	450x300	1050x150	750x200	600x250	500x300	900x200	600x300	1050x200	750x250	900x250	750x300	1050x250	900x300	1050x300
	Ac	0.041	0.055	0.062	0.069	0.083	0.093	0.105	0.112	0.118	0.126	0.141	0.146	0.170	0.178	0.198	0.214	0.228	0.302									
661	Vc						7.100	6.319	5.897	5.621	5.242	4.675	4.540	3.886	3.722	3.239	2.990	2.521	2.122									
	Pv						3.110	2.463	2.145	1.949	1.695	1.348	1.271	0.932	0.854	0.634	0.540	0.384	0.272									
	PS						6.100	4.320	3.810	3.560	2.790	2.290	2.030	1.520	1.270	0.863	0.716	0.481	0.322									
	NC						44	39	34	31	27	23	18	15	<15	<15	<15	<15	<15									
755	Vc							7.218	6.735	6.420	5.987	5.339	5.185	4.439	4.251	3.821	3.526	2.882	2.425									
	Pv							3.214	2.798	2.543	2.211	1.759	1.659	1.215	1.115	0.901	0.767	0.502	0.355									
	PS							5.840	4.830	4.570	3.560	2.790	2.540	1.780	1.780	1.270	1.020	0.652	0.432									
	NC							42	38	35	31	27	23	18	<15	<15	<15	<15	<15									
850	Vc							8.126	7.583	7.228	6.741	6.011	5.838	4.997	4.786	4.302	3.970	3.730	2.729									
	Pv							4.074	3.547	3.223	2.803	2.229	2.102	1.540	1.413	1.141	0.972	0.858	0.450									
	PS							7.370	6.100	5.590	4.570	3.560	3.050	2.290	2.030	1.780	1.520	1.020	0.783									
	NC							47	43	40	36	32	29	22	17	15	<15	<15	<15									
944	Vc								8.421	8.027	7.486	6.676	6.484	5.550	5.315	4.777	4.409	4.142	3.130									
	Pv								4.374	3.975	3.457	2.749	2.593	1.900	1.743	1.408	1.199	1.058	0.604									
	PS								7.620	7.110	5.590	4.570	3.810	2.790	2.540	2.030	1.780	1.270	0.760									
	NC								48	44	40	37	34	27	22	15	15	<15	<15									
1133	Vc										8.985	8.013	7.782	6.661	6.380	5.734	4.971	4.971	3.757									
	Pv										4.980	3.961	3.735	2.737	2.511	2.028	1.525	1.525	0.871									
	PS										8.130	6.600	5.590	4.060	3.810	3.050	2.540	1.780	1.270									
	NC										45	42	37	31	28	24	18	<15	<15									
1322	Vc											9.349	9.080	7.772	7.444	6.690	6.175	5.801	4.383									
	Pv											5.392	5.086	3.726	3.418	2.761	2.352	2.076	1.185									
	PS											8.890	7.620	5.590	5.080	4.060	2.560	2.290	1.520									
	NC											46	41	35	33	29	23	17	15									
1510	Vc													8.877	8.502	7.642	7.053	6.626	5.007									
	Pv													4.861	4.459	3.602	3.068	2.708	1.546									
	PS													7.370	6.600	5.330	4.570	3.050	2.030									
	NC													39	37	33	29	21	17									

REGIS TERS & GRI LLES
PERFO RMAN CE DATA - SUP PLY

SAR,SAG,RAR,RAG

CFM	SIZE	12 x 6		12 x 8		18 x 6		20 x 6	12 x 10	24 x 6	18 x 8	20 x 8		30 x 6	18 x 10	24 x 8		20 x 10	
										12 x 12									
	DEFLECTION	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°
	A_c	0.451		0.612		0.684		0.768		0.927		1.034		1.162		1.246		1.307	
	A_k	0.2430	0.2020	0.3200	0.2660	0.3600	0.2990	0.3920	0.3250	0.5290	0.4390	0.6180	0.5130	0.7240	0.6010	0.7880	0.6540	0.8300	0.6890
	V_c	443		327		292		260		216		193		172		161			
200	P_v	0.0330	0.0610	0.0166	0.0305	0.0123	0.0224	0.0059	0.0107	0.0032	0.0058	0.0023	0.0040	0.0015	0.0027	0.0012	0.0022		
	P_t	0.0430	0.0740	0.0242	0.0382	0.0175	0.0275	0.0090	0.0136	0.0090	0.0076	0.0038	0.0054	0.0027	0.0038	0.0022	0.0030		
	Th.	11-13-20	6-9-14	10-12-19	5-8-13	9-11-18	4-7-12	8-10-17	3-6-11	8-10-17	3-5-11	7-9-16	2-5-10	7-9-15	2-5-10	7-9-15	2-5-10		
	NC	16	22	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15		
	V_c	554		408		365		326		270		242		215		201		191	
250	P_v	0.0510	0.0930	0.0260	0.0480	0.0194	0.0353	0.0095	0.0173	0.0052	0.0095	0.0037	0.0067	0.0025	0.0046	0.0020	0.0037	0.0017	0.0032
	P_t	0.0710	0.1130	0.0360	0.0580	0.0277	0.0434	0.0138	0.0213	0.0077	0.0118	0.0055	0.0084	0.0038	0.0058	0.0031	0.0047	0.0027	0.0040
	Th.	12-16-22	7-11-16	12-15-22	7-10-16	12-14-21	7-11-16	12-14-21	7-10-15	11-13-21	6-10-14	11-13-21	6-10-14	10-12-20	5-9-14	10-12-20	5-9-13	10-12-20	5-9-13
	NC	23	29	<15	19	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
	V_c	665		490		438		391		324		290		258		241		230	
300	P_v	0.0740	0.1340	0.0380	0.0690	0.0280	0.0510	0.0136	0.0251	0.0075	0.0139	0.0052	0.0098	0.0036	0.0068	0.0029	0.0055	0.0025	0.0047
	P_t	0.1040	0.1640	0.0580	0.0890	0.0380	0.0610	0.0182	0.0293	0.0098	0.0159	0.0068	0.0111	0.0047	0.0076	0.0037	0.0061	0.0032	0.0052
	Th.	14-17-24	9-13-17	14-16-24	8-12-18	13-16-23	8-12-17	12-15-22	7-11-16	12-15-22	7-11-16	12-15-21	6-11-16	11-14-21	6-10-15	11-14-21	6-10-15	11-14-21	6-10-15
	NC	29	35	19	25	<15	20	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
	V_c	776		572		511		456		378		338		301		281		268	
350	P_v	0.1010	0.1820	0.0520	0.0940	0.0380	0.0690	0.0300	0.0550	0.0102	0.0185	0.0072	0.0130	0.0049	0.0090	0.0040	0.0072	0.0034	0.0062
	P_t	0.1410	0.2220	0.0720	0.1140	0.0580	0.0890	0.0400	0.0650	0.0173	0.0257	0.0125	0.0185	0.0089	0.0131	0.0073	0.0106	0.0063	0.0092
	Th.	15-19-26	10-14-19	15-19-26	9-13-19	14-18-25	9-13-18	14-18-25	9-13-17	14-18-25	8-13-17	14-18-25	8-12-17	13-17-24	8-12-16	13-17-24	8-12-16	13-17-24	8-12-16
	NC	34	40	24	30	19	25	16	22	<15	19	<15	16	<15	<15	<15	<15	<15	<15
	V_c	887		653		584		521		431		387		344		321		306	
400	P_v	0.1310	0.2880	0.0680	0.1230	0.0500	0.0900	0.0390	0.0710	0.0135	0.0241	0.0095	0.0170	0.0066	0.0117	0.0053	0.0094	0.0046	0.0081
	P_t	0.1810	0.2880	0.0980	0.1530	0.0700	0.1100	0.0590	0.0910	0.0193	0.0297	0.0137	0.0210	0.0096	0.0145	0.0077	0.0117	0.0066	0.0100
	Th.	16-20-28	12-15-20	16-20-28	11-14-20	15-19-27	11-14-19	15-19-26	10-14-19	15-19-26	10-14-19	15-19-26	10-13-19	14-18-25	9-13-18	14-18-25	9-13-18	14-18-25	9-13-18
	Nc?	38	45	28	34	23	29	20	26	<15	16	<15	<15	<15	<15	<15	<15	<15	<15
	V_c	998		735		658		586		485		338		387		361		344	
450	P_v	0.1660	0.3020	0.0860	0.1560	0.0630	0.1140	0.0500	0.0900	0.0230	0.0420	0.0045	0.0085	0.0027	0.0051	0.0020	0.0038	0.0016	0.0030
	P_t	0.2260	0.3620	0.1160	0.1860	0.0980	0.1440	0.0700	0.1100	0.0330	0.0520	0.0073	0.0110	0.0044	0.0067	0.0033	0.0050	0.0027	0.0040
	Th.	17-21-29	13-17-22	17-21-29	12-16-21	16-20-28	12-16-21	16-20-28	11-15-20	15-19-28	10-15-20	15-19-28	10-15-20	15-19-27	10-14-19	15-19-27	9-14-19	15-18-27	9-14-19
	NC	42	48	31	38	27	33	24	30	<15	19	<15	16	<15	<15	<15	<15	<15	<15
	V_c			817		731		651		539		483		430		401		383	
500	P_v			0.1060	0.1920	0.0780	0.1410	0.0610	0.1110	0.0290	0.0520	0.0078	0.0520	0.0044	0.0082	0.0031	0.0058	0.0025	0.0046
	P_t			0.1460	0.2320	0.1080	0.1710	0.0910	0.1410	0.0490	0.0720	0.0158	0.0223	0.0096	0.0133	0.0072	0.0097	0.0058	0.0079
	Th.			18-22-31	13-17-22	18-22-31	13-17-21	17-21-30	13-16-20	16-21-30	12-16-21	16-21-30	12-15-20	15-20-29	12-15-20	15-20-29	12-14-20	15-20-29	12-14-20
	NC			35	41	30	37	27	33	16	22	<15	<15	<15	<15	<15	<15	<15	<15
	V_c			898		804		716		593		532		473		442		421	
550	P_v			0.1280	0.2320	0.0940	0.1740	0.0740	0.1350	0.0350	0.0630	0.0240	0.0441	0.0013	0.0022	0.0008	0.0013	0.0006	0.0009
	P_t			0.1780	0.2820	0.1340	0.2110	0.1040	0.1650	0.0550	0.0830	0.0440	0.0642	0.0032	0.0046	0.0021	0.0029	0.0016	0.0021
	Th.			19-23-33	14-18-24	19-23-32	12-16-21	18-22-32	14-17-22	17-22-31	13-17-22	17-21-31	13-17-22	16-21-31	13-17-21	16-21-30	13-17-21	16-20-30	13-16-21
	NC			31	38	27	33	24	30	19	25	<15	16	<15	<15	<15	<15	<15	<15

Global Air

REGIS TERS & GRI LLES
PERFO RMAN CE DATA - SUP PLY

SAR,SAG,RAR,RAG

CFM	SIZE	12 x 6		12 x 8		18 x 6		20 x 6	12 x 10	24 x 6	18 x 8		20 x 8	30 x 6	18 x 10		24 x 8		20 x 10	
											12 x 12									
	DEFLECTION	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°
	A_c	0.451		0.612		0.684		0.768		0.927		1.034		1.162		1.246		1.307		
	A_k	0.2430	0.2020	0.3200	0.2660	0.3600	0.2990	0.3920	0.3250	0.5290	0.4390	0.6180	0.5130	0.7240	0.6010	0.7880	0.6540	0.8300	0.6890	
200	V_c	443		327		292		260		216		193		172		161				
	P_v	0.0330	0.0610	0.0166	0.0305	0.0123	0.0224	0.0059	0.0107	0.0032	0.0058	0.0023	0.0040	0.0015	0.0027	0.0012	0.0022			
	P_t	0.0430	0.0740	0.0242	0.0382	0.0175	0.0275	0.0090	0.0136	0.0090	0.0076	0.0038	0.0054	0.0027	0.0038	0.0022	0.0030			
	Th.	11-13-20	6-9-14	10-12-19	5-8-13	9-11-18	4-7-12	8-10-17	3-6-11	8-10-17	3-5-11	7-9-16	2-5-10	7-9-15	2-5-10	7-9-15	2-5-10			
	NC	16	22	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15			
250	V_c	554		408		365		326		270		242		215		201		191		
	P_v	0.0510	0.0930	0.0260	0.0480	0.0194	0.0353	0.0095	0.0173	0.0052	0.0095	0.0037	0.0067	0.0025	0.0046	0.0020	0.0037	0.0017	0.0032	
	P_t	0.0710	0.1130	0.0360	0.0580	0.0277	0.0434	0.0138	0.0213	0.0077	0.0118	0.0055	0.0084	0.0038	0.0058	0.0031	0.0047	0.0027	0.0040	
	Th.	12-16-22	7-11-16	12-15-22	7-10-16	12-14-21	7-11-16	12-14-21	7-10-15	11-13-21	6-10-14	11-13-21	6-10-14	10-12-20	5-9-14	10-12-20	5-9-13	10-12-20	5-9-13	
	NC	23	29	<15	19	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	
300	V_c	665		490		438		391		324		290		258		241		230		
	P_v	0.0740	0.1340	0.0380	0.0690	0.0280	0.0510	0.0136	0.0251	0.0075	0.0139	0.0052	0.0098	0.0036	0.0068	0.0029	0.0055	0.0025	0.0047	
	P_t	0.1040	0.1640	0.0580	0.0890	0.0380	0.0610	0.0182	0.0293	0.0098	0.0159	0.0068	0.0111	0.0047	0.0076	0.0037	0.0061	0.0032	0.0052	
	Th.	14-17-24	9-13-17	14-16-24	8-12-18	13-16-23	8-12-17	12-15-22	7-11-16	12-15-22	7-11-16	12-15-21	6-11-16	11-14-21	6-10-15	11-14-21	6-10-15	11-14-21	6-10-15	
	NC	29	35	19	25	<15	20	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	
350	V_c	776		572		511		456		378		338		301		281		268		
	P_v	0.1010	0.1820	0.0520	0.0940	0.0380	0.0690	0.0300	0.0550	0.0102	0.0185	0.0072	0.0130	0.0049	0.0090	0.0040	0.0072	0.0034	0.0062	
	P_t	0.1410	0.2220	0.0720	0.1140	0.0580	0.0890	0.0400	0.0650	0.0173	0.0257	0.0125	0.0185	0.0089	0.0131	0.0073	0.0106	0.0063	0.0092	
	Th.	15-19-26	10-14-19	15-19-26	9-13-19	14-18-25	9-13-18	14-18-25	9-13-17	14-18-25	8-13-17	14-18-25	8-12-17	13-17-24	8-12-16	13-17-24	8-12-16	13-17-24	8-12-16	
	NC	34	40	24	30	19	25	16	22	<15	19	<15	16	<15	<15	<15	<15	<15	<15	
400	V_c	887		653		584		521		431		387		344		321		306		
	P_v	0.1310	0.2880	0.0680	0.1230	0.0500	0.0900	0.0390	0.0710	0.0135	0.0241	0.0095	0.0170	0.0066	0.0117	0.0053	0.0094	0.0046	0.0081	
	P_t	0.1810	0.2880	0.0980	0.1530	0.0700	0.1100	0.0590	0.0910	0.0193	0.0297	0.0137	0.0210	0.0096	0.0145	0.0077	0.0117	0.0066	0.0100	
	Th.	16-20-28	12-15-20	16-20-28	11-14-20	15-19-27	11-14-19	15-19-26	10-14-19	15-19-26	10-14-19	15-19-26	10-13-19	14-18-25	9-13-18	14-18-25	9-13-18	14-18-25	9-13-18	
	Nc?	38	45	28	34	23	29	20	26	<15	16	<15	<15	<15	<15	<15	<15	<15	<15	
450	V_c	998		735		658		586		485		338		387		361		344		
	P_v	0.1660	0.3020	0.0860	0.1560	0.0630	0.1140	0.0500	0.0900	0.0230	0.0420	0.0045	0.0085	0.0027	0.0051	0.0020	0.0038	0.0016	0.0030	
	P_t	0.2260	0.3620	0.1160	0.1860	0.0980	0.1440	0.0700	0.1100	0.0330	0.0520	0.0073	0.0110	0.0044	0.0067	0.0033	0.0050	0.0027	0.0040	
	Th.	17-21-29	13-17-22	17-21-29	12-16-21	16-20-28	12-16-21	16-20-28	11-15-20	15-19-28	10-15-20	15-19-28	10-15-20	15-19-27	10-14-19	15-19-27	9-14-19	15-18-27	9-14-19	
	NC	42	48	31	38	27	33	24	30	<15	19	<15	16	<15	<15	<15	<15	<15	<15	
500	V_c			817		731		651		539		483		430		401		383		
	P_v			0.1060	0.1920	0.0780	0.1410	0.0610	0.1110	0.0290	0.0520	0.0078	0.0520	0.0044	0.0082	0.0031	0.0058	0.0025	0.0046	
	P_t			0.1460	0.2320	0.1080	0.1710	0.0910	0.1410	0.0490	0.0720	0.0158	0.0223	0.0096	0.0133	0.0072	0.0097	0.0058	0.0079	
	Th.			18-22-31	13-17-22	18-22-31	13-17-21	17-21-30	13-16-20	16-21-30	12-16-21	16-21-30	12-15-20	15-20-29	12-15-20	15-20-29	12-14-20	15-20-29	12-14-20	
	NC			35	41	30	37	27	33	16	22	<15	<15	<15	<15	<15	<15	<15	<15	
550	V_c			898		804		716		593		532		473		442		421		
	P_v			0.1280	0.2320	0.0940	0.1740	0.0740	0.1350	0.0350	0.0630	0.0240	0.0441	0.0013	0.0022	0.0008	0.0013	0.0006	0.0009	
	P_t			0.1780	0.2820	0.1340	0.2110	0.1040	0.1650	0.0550	0.0830	0.0440	0.0642	0.0032	0.0046	0.0021	0.0029	0.0016	0.0021	
	Th.			19-23-33	14-18-24	19-23-32	12-16-21	18-22-32	14-17-22	17-22-31	13-17-22	17-21-31	13-17-22	16-21-31	13-17-21	16-21-30	13-17-21	16-20-30	13-16-21	
	NC			31	38	27	33	24	30	19	25	<15	16	<15	<15	<15	<15	<15	<15	

*IMPERIAL UNITS

36 x 6				42 x 6													
		30 x 8				36 x 8				42 x 8							
		24 x 10						30 x 10				36 x 10		42 x 10			
18 x 12		20 x 12				24 x 12						30 x 12		36 x 12		42 x 12	
0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°
1.4011		1.5715		1.6178		1.8900		1.9733		2.1956		2.3789		2.8206		3.3511	
0.9150	0.7590	1.0400	0.8700	1.1100	0.9200	1.3000	1.0800	1.3600	1.1300	1.5500	1.2900	1.6800	1.4000	2.0500	1.7000	2.4500	2.0300

321	
0.0012	0.0022
0.0020	0.0030
14-18-27	9-14-19
<15	<15

357		318	
0.0017	0.0033	0.0010	0.0019
0.0043	0.0058	0.0027	0.0035
14-20-29	11-14-20	14-20-28	11-14-19
<15	<15	<15	<15

393		318		340		291	
0.0003	0.0006	0.0001	0.0002	0.0001	0.0002	0.0000	0.0001
0.0010	0.0013	0.0005	0.0006	0.0004	0.0005	0.0002	0.0002
16-20-30	12-16-21	15-20-30	12-16-20	15-20-30	12-16-20	15-19-29	12-16-20
<15	<15	<15	<15	<15	<15	<15	<15

Global Air

REG ISTE RS & G RILL ES
PER FOR MAN CE DATA - SU PPL Y

SAR,SAG,RAR,RAG

		12 x 6				18 x 6		20 x 6		24 x 6				30 x 6					
	SIZE			12 x 8						18 x 8		20 x 8				24 x 8			
								12 x 10						18 x 10				20 x 10	
CFM										12 x 12									
	DEFLECT ION	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°
	Ac	0.451 1		0.6122		0.6844		0.7678		0.927		1.0344		1.1622		1.2456		1.3067	
	Ak	0.243	0.202	0.320	0.266	0.360	0.299	0.392	0.325	0.529	0.439	0.618	0.5130	0.724	0.601	0.788	0.654	0.830	0.689
	V_c			980		877		781		647		580		516		482		459	
600	P_v			0.1520	0.2770	0.1220	0.2030	0.0880	0.1600	0.0410	0.0750	0.0290	0.0360	0.0200	0.0360	0.0010	0.0015	0.0007	0.0011
	P_t			0.2120	0.3370	0.1720	0.2530	0.1280	0.2000	0.0710	0.1050	0.0490	0.0720	0.0400	0.0560	0.0016	0.0022	0.0012	0.0016
	Th.			19-23-33	15-18-23	19-23-33	15-18-23	19-23-33	15-18-23	19-23-32	14-18-23	18-22-33	14-18-23	18-22-31	14-19-23	18-22-31	14-17-22	18-22-31	14-17-22
	NC			41	47	36	42	33	39	22	28	16	22	<15	16	<15	<15	<15	<15
	V_c					1023		912		755		677		602		562		536	
700	P_v					0.1520	0.2770	0.1200	0.2180	0.0560	0.1020	0.0390	0.0710	0.0270	0.049	0.0220	0.0400	0.0200	0.0360
	P_t					0.2120	0.3370	0.1700	0.2680	0.0960	0.1420	0.0690	0.1012	0.0470	0.069	0.0400	0.0600	0.0400	0.0560
	Th.					21-25-34	15-19-24	21-24-33	15-19-24	20-24-33	15-19-24	18-23-32	15-18-24	18-23-32	15-18-24	18-22-32	15-18-23	18-21-31	15-18-23
	NC					41	47	38	44	26	33	20	27	<15	21	<15	17	<15	15
	V_c							1042		863		773		688		642		612	
800	P_v							0.1570	0.2850	0.0740	0.1330	0.0510	0.0980	0.0360	0.0640	0.0290	0.0520	0.0260	0.0460
	P_t							0.2170	0.3450	0.1240	0.1830	0.0910	0.1331	0.0660	0.0940	0.0490	0.0720	0.0460	0.0466
	Th.							22-25-35	17-20-26	21-25-35	17-20-25	20-24-34	16-29-25	20-24-33	16-19-25	19-24-33	16-19-24	19-23-32	16-19-24
	NC							42	48	31	37	25	31	19	25	15	22	<15	20
	V_c									971		870		774		723		689	
900	P_v									0.0980	0.1690	0.0650	0.1180	0.0450	0.0820	0.0370	0.0660	0.0320	0.0590
	P_t									0.1530	0.2290	0.1150	0.1681	0.0850	0.1220	0.0670	0.0960	0.0620	0.0890
	Th.									23-27-38	18-22-27	23-27-37	17-21-26	22-26-37	17-20-26	21-25-36	17-20-25	21-24-36	17-20-25
	NC									34	41	28	35	22	29	19	25	17	23
	V_c									1079		773		688		642		612	
1000	P_v									0.1150	0.2080	0.0800	0.1450	0.0360	0.1010	0.0450	0.0820	0.0400	0.0780
	P_t									0.1850	0.2780	0.1400	0.2051	0.1050	0.1510	0.0850	0.1220	0.0800	0.1130
	Th.									25-30-41	19-23-28	25-30-40	19-22-27	24-29-29	18-21-27	23-28-38	18-21-26	23-27-38	17-21-26
	Nc?									38	44	32	38	26	32	23	29	21	27
	V_c									1294		1160		1033		963		918	
1200	P_v									0.1680	0.3000	0.1150	0.2090	0.0800	0.1450	0.0650	0.1180	0.0580	0.1040
	P_t									0.2650	0.4000	0.1950	0.2890	0.1400	0.2050	0.1250	0.1780	0.1080	0.1540
	Th.									27-37-46	21-25-30	27-33-45	21-24-29	27-32-48	19-23-28	26-31-42	19-23-27	26-30-41	18-23-27
	NC									43	50	36	44	36	38	28	35	26	33
	V_c											1353		1205		1124		1071	
1400	P_v											0.1420	0.2850	0.1090	0.1970	0.0890	0.1610	0.0780	0.1420
	P_t											0.2520	0.3949	0.1890	0.2770	0.1690	0.2410	0.1480	0.2120
	Th.											32-39-52	23-26-31	31-37-48	21-25-30	30-36-49	21-25-30	30-35-46	20-25-29
	NC											41	49	36	43	33	40	31	38
	V_c													1377		1285		1224	
1600	P_v													0.1420	0.2580	0.1160	0.2100	0.1020	0.1040
	P_t													0.2520	0.3680	0.2160	0.3100	0.2020	0.1540
	Th.													32-39-52	22-27-32	32-39-51	22-27-31	31-38-50	22-26-30
	NC													41	47	37	44	35	42

*IMPERIAL UNITS

36 x 6				42 x 6													
		30 x 8				36 x 8				42 x 8							
		24 x 10						30 x 10				36 x 10		42 x 10			
18 x 12		20 x 12				24 x 12						30 x 12		36 x 12		42 x 12	
0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°
1.401		1.572		1.618		1.890		1.973		2.196		2.379		2.821		3.351	
0.915	0.759	1.040	0.870	1.110	0.920	1.300	1.080	1.360	1.130	1.550	1.290	1.680	1.400	2.050	1.700	2.450	2.030
428		382		371		317											
0.0004	0.0006	0.0002	0.0003	0.0002	0.0002	0.00005	0.0001										
0.0007	0.0010	0.0004	0.0004	0.0003	0.0004	0.0001	0.0001										
17-21-31	14-17-22	17-21-30	13-17-22	17-21-30	13-17-22	17-20-29	13-17-21										
<15	<15	<15	<15	<15	<15	<15	<15										
500		445		433		370		355		319							
0.0041	0.0075	0.0024	0.0043	0.0021	0.0037	0.0010	0.0018	0.0008	0.0014	0.0005	0.0009						
0.0103	0.0132	0.0065	0.0081	0.0058	0.0071	0.0031	0.0037	0.0026	0.0031	0.0017	0.0019						
18-21-31	15-18-23	17-21-31	15-18-23	17-21-31	15-17-23	17-20-30	14-17-22	16-20-30	14-17-22	16-19-30	14-17-22						
<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15						
571		509		494		423		405		364		336		284			
0.0210	0.0380	0.0042	0.0073	0.0036	0.0063	0.0010	0.0029	0.0013	0.0023	0.0008	0.0014	0.0005	0.0009	0.0004	0.0007		
0.0410	0.0580	0.0101	0.0181	0.0089	0.0115	0.0046	0.0057	0.0039	0.0047	0.0025	0.0029	0.0018	0.0020	0.0014	0.0015		
18-22-31	15-19-23	18-22-31	15-18-23	18-22-31	15-19-23	17-22-30	15-18-22	17-21-29	15-18-22	17-21-29	14-18-22	16-21-28	14-18-22	16-20-28	14-18-21		
<15	16	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15		
642		573		556		476		456		410		378		319			
0.0260	0.0470	0.0190	0.0340	0.0160	0.0300	0.0024	0.0045	0.0019	0.0036	0.0011	0.0021	0.0008	0.0014	0.0006	0.0010		
0.0460	0.0670	0.0390	0.0540	0.0360	0.0500	0.0066	0.0084	0.0066	0.0069	0.0034	0.0042	0.0024	0.0029	0.0019	0.0022		
20-24-35	16-20-25	20-23-35	16-20-24	19-23-35	15-19-24	18-22-34	15-19-23	18-21-34	15-19-23	18-21-33	15-18-23	17-20-33	14-18-22	17-20-33	14-18-22		
<15	20	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15		
714		636		618		529		456		455		420		355		298	
0.0320	0.0590	0.0240	0.0420	0.0200	0.0300	0.0140	0.0260	0.0019	0.0029	0.0010	0.0016	0.0007	0.0010	0.0005	0.0007	0.0001	0.0001
0.0620	0.0790	0.0440	0.0620	0.0400	0.0500	0.0340	0.0460	0.0066	0.0064	0.0030	0.0038	0.0021	0.0025	0.0015	0.0018	0.0004	0.0004
22-27-37	17-21-26	22-26-37	17-21-26	21-26-36	17-20-25	20-25-35	16-19-24	20-24-35	16-19-24	19-24-34	16-18-24	19-23-33	15-19-23	18-23-33	15-18-23	17-21-31	14-17-22
17	23	<15	18	<15	16	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
856		764		742		635		608		547		504		425		358	
0.0470	0.0840	0.0340	0.0600	0.0290	0.0530	0.0200	0.0370	0.0180	0.0330	0.0140	0.0250	0.0007	0.0012	0.0005	0.0008	0.0001	0.0002
0.0870	0.1240	0.0740	0.1000	0.0590	0.0830	0.0400	0.0570	0.0380	0.0530	0.0340	0.0450	0.0024	0.0032	0.0018	0.0028	0.0004	0.0005
25-30-40	18-22-27	25-29-40	18-22-27	24-29-39	18-21-26	24-28-38	17-20-25	23-28-38	17-20-24	23-27-37	17-20-24	23-26-36	16-19-23	22-25-35	15-18-23	21-23-33	15-18-21
23	29	18	24	15	22	<15	15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
999		891		865		741		709		638		589		496		418	
0.0630	0.1150	0.0460	0.0820	0.0400	0.0720	0.0280	0.0510	0.0250	0.0450	0.0190	0.0340	0.0160	0.0280	0.0011	0.0017	0.0002	0.0003
0.1230	0.1750	0.0960	0.1320	0.0900	0.1220	0.0580	0.0810	0.0550	0.0750	0.0330	0.0540	0.0360	0.0480	0.0037	0.0043	0.0009	0.0010
29-34-44	20-24-28	29-33-44	19-23-28	28-33-43	19-23-27	27-32-43	19-22-26	27-22-42	18-22-26	26-31-41	17-21-25	23-31-41	17-20-25	25-30-39	17-20-24	23-28-37	15-19-22
28	34	23	29	20	26	<15	20	<15	19	<15	<15	<15	<15	<15	<15	<15	<15
1142		1018		989		847		811		729		673		567		477	
0.0830	0.1500	0.0600	0.1070	0.0520	0.0940	0.0360	0.0660	0.0320	0.0590	0.0240	0.0440	0.0200	0.0370	0.0013	0.0019	0.0002	0.0003
0.1630	0.2300	0.1200	0.1670	0.1120	0.1540	0.0760	0.1060	0.0720	0.0990	0.0540	0.0740	0.0500	0.0670	0.0027	0.0034	0.0006	0.0007
31-38-50	22-26-30	31-38-50	21-25-29	30-37-49	21-25-29	29-36-48	20-24-28	29-36-47	20-24-28	28-35-47	19-23-27	28-35-46	19-23-27	27-35-46	19-22-26	26-33-44	18-21-25
32	38	27	33	24	31	18	25	17	23	<15	18	<15	15	<15	<15	<15	<15

REG ISTE RS & GR ILLE S — SAR,SAG,RAR,RAG
PER FOR MANCE DATA - SUP PLY

CFM	SIZE	12 x 6				18 x 6		20 x 6		24 x 6				30 x 6		30 x 6			
				12 x 8						18 x 8		20 x 8				24 x 8			
								12 x 10						18 x 10				20 x 10	
										12 x 12									
	DEFLECT ION	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°
	Ac	0.451		0.612		0.684		0.768		0.927		1.034		1.162		1.246		1.307	
	Ak	0.243	0.202	0.320	0.266	0.360	0.299	0.392	0.325	0.529	0.439	0.618	0.5130	0.724	0.601	0.788	0.654	0.830	0.689
1800	V_c															1445		1378	
	P_v															0.1460	0.2660	0.1300	0.2350
	P_t															0.2660	0.3860	0.2500	0.3550
	Th.															34-42-54	24-28-33	33-42-56	24-27-31
	NC															41	48	39	46
2000	V_c																	1531	
	P_v																	0.1600	0.2900
	P_t																	0.3100	0.4400
	Th.																	35-44-56	26-29-33
	NC																	43	49
2400	V_c																		
	P_v																		
	P_t																		
	Th.																		
	NC																		
2800	V_c																		
	P_v																		
	P_t																		
	Th.																		
	NC																		
3200	V_c																		
	P_v																		
	P_t																		
	Th.																		
	Nc?																		
3600	V_c																		
	P_v																		
	P_t																		
	Th.																		
	NC																		

SYMBOLS

Deflection : The angle of deflection of the face blades
CFM : Air volume in cubic foot per minute
Ac : Core Area in Square foot
Ak : Effective Face Area in Square foot
Vc :Core Velocity in foot per minute
Pv :Velocity Pressure in inch water gauge
Pt: : Total Pressure in inch water gauge
Th : Throw in feet
N.C. : Noise Criteria

CONDITIONS

* Supply
* with ceiling effect
* Noise Criteria values are based on (10 dB) room attenuation
*Damper is fully open

*IMPERIAL UNITS

36 x 6				42 x 6											
		30 x 8				36 x 8				42 x 8					
		24 x 10						30 x 10				36 x 10		42 x 10	
18 x 12		20 x 12				24 x 12						30 x 12		36 x 12		42 x 12	
0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°	0°	45°
1.401		1.572		1.618		1.890		1.973		2.196		2.379		2.821		3.351	
0.915	0.759	1.040	0.870	1.110	0.920	1.300	1.080	1.360	1.130	1.550	1.290	1.680	1.400	2.050	1.700	2.450	2.030
1285		1145		1113		952		912		820		757		638		537	
0.1050	0.1900	0.0760	0.1350	0.0660	0.1190	0.0460	0.0840	0.0410	0.0740	0.0310	0.0560	0.0260	0.0470	0.0170	0.0310	0.0004	0.0007
0.2050	0.2900	0.1560	0.2150	0.1460	0.1990	0.1060	0.1440	0.0910	0.1240	0.0710	0.0960	0.0660	0.0870	0.0370	0.0510	0.0021	0.0019
33-41-53	24-27-31	33-40-52	23-27-31	32-39-52	22-27-30	32-39-51	22-26-30	31-39-51	21-25-30	31-38-50	21-24-29	30-38-50	21-24-28	30-37-49	19-24-27	29-36-47	18-22-26
36	42	31	37	28	35	22	29	20	27	15	22	<15	19	<15	<15	<15	<15
1427		1273		1236		1058		1014		911		841		709		597	
0.1290	0.2340	0.0940	0.1670	0.0810	0.1470	0.0570	0.1030	0.0510	0.0920	0.0380	0.0690	0.0320	0.0580	0.0210	0.0380	0.0140	0.0260
0.2499	0.3540	0.1940	0.2670	0.1710	0.2370	0.1270	0.1730	0.1110	0.1520	0.0880	0.1190	0.0820	0.1080	0.0510	0.0680	0.0340	0.0460
35-44-56	26-29-33	35-42-55	25-28-32	34-42-55	24-28-31	34-41-54	24-28-31	33-41-54	23-27-31	33-41-54	23-26-30	32-40-53	22-26-29	32-40-52	21-25-28	32-39-51	20-24-27
39	45	34	40	32	38	26	32	24	30	19	25	16	22	<15	<15	<15	<15
1713		1527		1483		1270		1216		1093		1009		851		716	
0.2800	0.3380	0.1000	0.2410	0.1170	0.2120	0.0700	0.1490	0.0780	0.1320	0.0660	0.0560	0.0460	0.0830	0.0300	0.0550	0.0210	0.0370
0.3500	0.5080	0.2400	0.3810	0.2470	0.3420	0.1700	0.2490	0.1680	0.2220	0.1360	0.0960	0.1060	0.1430	0.0700	0.0950	0.0510	0.0670
37-47-59	20-32-37	37-46-59	28-38-36	36-46-58	27-30-34	36-45-57	26-30-34	35-45-57	25-29-33	33-45-57	25-28-33	34-44-56	24-28-32	34-43-56	24-27-31	34-42-55	23-27-31
45	51	40	46	37	44	31	38	30	36	25	31	22	28	<15	20	<15	<15
				1731		1481		1419		1275		1177		993		836	
				0.1590	0.2890	0.1110	0.2020	0.0990	0.1800	0.0750	0.1350	0.0620	0.1130	0.0410	0.0740	0.0280	0.0510
				0.3390	0.3690	0.2310	0.3220	0.1190	0.3000	0.1750	0.2350	0.1420	0.1930	0.1010	0.1340	0.0680	0.0910
				38-49-60	30-34-38	38-48-59	29-34-37	38-48-59	28-32-36	38-47-59	27-31-36	37-46-58	27-30-36	37-46-58	26-30-35	37-45-57	25-29-35
				42	49	36	43	34	41	29	35	26	33	19	25	<15	18
						1693		1622		1457		1345		1135		955	
						0.1460	0.2640	0.1290	0.2350	0.0970	0.1770	0.0810	0.1480	0.0540	0.0970	0.0370	0.0570
						0.3160	0.4340	0.2890	0.3950	0.2170	0.2970	0.1910	0.2580	0.1340	0.1770	0.0970	0.1270
						40-51-62	32-36-40	40-51-62	30-35-39	39-50-61	30-34-39	39-49-60	30-33-38	39-49-60	29-33-38	38-48-59	28-32-37
						40	47	39	45	34	40	31	37	23	30	16	23
								1824		1640		1513		1276		1074	
								0.1640	0.2970	0.1230	0.2240	0.1030	0.1870	0.0680	0.1230	0.0460	0.0840
								0.2540	0.4870	0.2930	0.3940	0.2430	0.3270	0.1680	0.2230	0.1160	0.1540
								42-54-65	33-38-42	41-53-64	33-37-41	41-53-63	32-36-41	41-52-62	31-36-40	40-51-61	31-35-40
								42	49	37	41	34	41	27	33	20	26

NOTES

* The large throw values are based on the minimum terminal velocity of 50 fpm
* The middle throw values are based on the middle terminal velocity of 100 fpm
* The small throw values are based on the maximum terminal velocity of 150 fpm

CORRECTIONS FOR FLOW WITHOUT CEILING EFFECT :

1. Noise Criteria-No correction required
2. S tatic pressure - No correction required
3. Area Factor - No correction required
4. Throw and Drop - Some work has been done to show that the throw will be reduced by approximately 15-20% and the drop increased by 5-15%.

How to use this Diagram

REGISTERS & GRILLES
PERFORMANCE DATA - RETURN

SAR,SAG,RAR,RAG

*IMPERIAL UNITS

CFM	SIZE	12 x 6		18 x 6	20x6	24x6		30x6			36x6		42x6						
			12x8			18x8	20x8		24x8			30x8		36x8		42x8			
					12x10			18x10		20x10		24x10			30x10		36x10	42x10	
						12x12					18x12	20x12		24x12			30x12	36x12	42x12
	Ac	0.451	0.612	0.684	0.768	0.927	1.034	1.162	1.246	1.307	1.401	1.572	1.618	1.980	1.973	2.196	2.379	2.821	3.351
200	Vc	443	327	292	260	216													
	Pv	0.012	0.007	0.005	0.004	0.003													
	Ps	0.030	0.023	0.021	0.019	0.016													
	NC	<15	<15	<15	<15	<15													
250	Vc	554	408	365	326	270	242												
	Pv	0.019	0.010	0.008	0.007	0.005	0.004												
	Ps	0.040	0.030	0.026	0.023	0.020	0.018												
	NC	<15	<15	<15	<15	<15	<15												
300	Vc	665	490	438	391	324	290	258	241										
	Pv	0.028	0.015	0.012	0.010	0.007	0.005	0.004	0.004										
	Ps	0.0600	0.0400	0.0322	0.0276	0.0215	0.0186	0.0159	0.0145										
	NC	15	<15	<15	<15	<15	<15	<15	<15										
350	Vc	776	572	511	456	378	338	301	281	268	250								
	Pv	0.038	0.020	0.016	0.013	0.009	0.007	0.006	0.005	0.004	0.004								
	Ps	0.0800	0.0500	0.0443	0.0371	0.0278	0.0234	0.0196	0.0176	0.0164	0.0147								
	NC	24	16	<15	<15	<15	<15	<15	<15	<15	<15								
400	Vc	887	653	584	521	431	387	344	321	306	285	255	247						
	Pv	0.049	0.027	0.021	0.017	0.012	0.009	0.007	0.006	0.006	0.005	0.004	0.004						
	Ps	0.100	0.070	0.040	0.048	0.033	0.027	0.021	0.018	0.017	0.015	0.012	0.011						
	NC	27	19	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15						
450	Vc	998	735	658	586	485	435	387	361	344	321	286	278	238					
	Pv	0.062	0.034	0.027	0.021	0.015	0.012	0.009	0.008	0.007	0.006	0.005	0.005	0004					
	Ps	0.130	0.090	0.050	0.040	0.023	0.018	0.014	0.012	0.010	0.009	0.007	0.006	0.005					
	NC	29	22	16	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15					
500	Vc	1108	817	731	651	539	483	430	401	383	357	318	309	265	253	228			
	Pv	0.077	0.042	0.033	0.026	0.018	0.015	0.012	0.010	0.009	0.008	0.006	0.006	0.004	0.004	0.003			
	Ps	0.160	0.110	0.060	0.050	0.040	0.029	0.023	0.020	0.018	0.015	0.012	0.011	0.008	0.008	0.006			
	NC	31	25	20	15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15			

REGISTERS & GRILLES
PERFORMANCE DATA - RETURN

SAR,SAG,RAR,RAG

*IMPERIAL UNITS

CFM	SIZE	12 x 6	12 x 8	18 x 6	20 x 6	24 x 6	18 x 8	20 x 8	30 x 6	18 x 10	24 x 8	20 x 10	36 x 6	18 x 12	30 x 8	24 x 10	20 x 12	42 x 6	36 x 8	24 x 12	30 x 10	42 x 8	36 x 10	30 x 12	42 x 10	36 x 12	42 x 12
	Ac	0.451	0.612	0.684	0.768	0.927	1.034	1.162	1.246	1.307	1.401	1.572	1.618	1.890	1.973	2.196	2.379	2.379	3.351							
550	Vc	1219	898	804	716	593	532	473	442	421	393	350	340	291	279	251										
	Pv	0.093	0.050	0.040	0.032	0.022	0.018	0.014	0.012	0.011	0.010	0.008	0.007	0.005	0.005	0.004										
	Ps	0.190	0.130	0.080	0.070	0.050	0.035	0.028	0.025	0.022	0.020	0.016	0.015	0.011	0.010	0.008										
	NC	34	29	24	20	17	15	<15	<15	<15	<15	<15	<15	<15	<15	<15										
600	Vc	1330	980	877	781	647	580	516	482	459	428	382	371	317	304	273	252									
	Pv	0.110	0.060	0.048	0.038	0.026	0.021	0.017	0.014	0.013	0.011	0.009	0.009	0.006	0.006	0.005	0.004									
	Ps	0.230	0.150	0.090	0.080	0.060	0.040	0.033	0.029	0.026	0.023	0.018	0.017	0.012	0.011	0.009	0.008									
	NC	38	33	28	25	22	16	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15									
700	Vc	1552	1143	1023	912	755	677	602	562	536	500	445	433	370	355	319	294	248								
	Pv	0.150	0.082	0.065	0.052	0.036	0.029	0.023	0.020	0.018	0.016	0.012	0.012	0.009	0.008	0.006	0.005	0.004								
	Ps	0.310	0.210	0.120	0.110	0.080	0.060	0.040	0.042	0.038	0.032	0.025	0.024	0.017	0.016	0.012	0.011	0.007								
	NC	41	37	33	31	29	21	15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15								
800	Vc	1773	1307	1169	1042	863	773	688	642	612	571	509	494	423	405	364	336	284	239							
	Pv	0.196	0.106	0.085	0.068	0.046	0.037	0.030	0.026	0.023	0.020	0.016	0.015	0.011	0.010	0.008	0.007	0.005	0.004							
	Ps	0.410	0.280	0.160	0.140	0.110	0.080	0.060	0.050	0.040	0.043	0.033	0.031	0.022	0.020	0.016	0.014	0.009	0.007							
	NC	45	40	37	35	32	25	20	15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15							
900	Vc		1470	1315	1172	971	870	774	723	689	642	573	556	476	456	410	378	319	269							
	Pv		0.135	0.108	0.086	0.059	0.047	0.037	0.033	0.030	0.026	0.020	0.019	0.014	0.013	0.010	0.009	0.006	0.004							
	Ps		0.350	0.210	0.190	0.140	0.100	0.070	0.060	0.060	0.046	0.036	0.033	0.024	0.021	0.017	0.014	0.009	0.006							
	NC		45	40	38	36	31	24	20	16	<15	<15	<15	<15	<15	<15	<15	<15	<15							
1000	Vc			1461	1302	1079	967	860	803	765	714	636	618	529	507	455	420	355	298							
	Pv			0.133	0.106	0.073	0.058	0.046	0.040	0.037	0.032	0.025	0.024	0.017	0.016	0.013	0.011	0.008	0.006							
	Ps			0.260	0.230	0.170	0.120	0.090	0.070	0.070	0.050	0.040	0.037	0.026	0.023	0.018	0.015	0.010	0.007							
	NC			44	43	40	36	30	26	22	16	<15	<15	<15	<15	<15	<15	<15	<15							
1200	Vc				1563	1294	1160	1033	963	918	856	764	742	635	608	547	504	425	358							
	Pv				0.152	0.104	0.084	0.066	0.058	0.053	0.046	0.036	0.034	0.025	0.023	0.019	0.016	0.011	0.008							
	Ps				0.330	0.250	0.170	0.130	0.110	0.100	0.080	0.060	0.050	0.038	0.034	0.026	0.021	0.014	0.009							
	NC				48	45	39	35	30	27	21	18	15	<15	<15	<15	<15	<15	<15							

REGISTERS & GRILLES
PERFORMANCE DATA - RETURN

SAR,SAG,RAR,RAG

*IMPERIAL UNITS

CFM	SIZE	12 x 6		18 x 6	20 x 6	24 x 6		30 x 6			36 x 6		42 x 6						
			12 x 8			18 x 8	20 x 8		24 x 8			30 x 8		36 x 8		42 x 8			
					12 x 10			18 x 10		20 x 10		24 x 10			30 x 10		36 x 10	42 x 10	
						12 x 12					18 x 12	20 x 12		24 x 12			30 x 12	36 x 12	42 x 12
	Ac	0.451	0.612	0.684	0.768	0.927	1.034	1.162	1.246	1.307	1.401	1.572	1.618	1.890	1.973	2.196	2.379	2.821	3.351
1400	Vc						1353	1205	1124	1071	999	891	865	741	709	638	589	496	418
	Pv						0.114	0.090	0.079	0.072	0.062	0.049	0.047	0.034	0.031	0.025	0.022	0.015	0.011
	Ps						0.240	0.170	0.150	0.140	0.110	0.090	0.080	0.060	0.050	0.035	0.029	0.019	0.013
	NC						44	39	34	31	27	23	18	15	<15	<15	<15	<15	<15
1600	Vc							1377	1285	1224	1142	1018	989	847	811	729	673	567	477
	Pv							0.118	0.103	0.093	0.081	0.065	0.061	0.045	0.041	0.033	0.028	0.020	0.014
	Ps							0.230	0.190	0.180	0.140	0.110	0.100	0.070	0.070	0.050	0.040	0.026	0.017
	NC							42	38	35	31	27	23	18	<15	<15	<15	<15	<15
1800	Vc							1549	1445	1378	1285	1145	1113	952	912	820	757	638	537
	Pv							0.150	0.130	0.118	0.103	0.082	0.077	0.057	0.052	0.042	0.036	0.025	0.018
	Ps							0.290	0.240	0.220	0.180	0.140	0.120	0.090	0.080	0.070	0.060	0.040	0.031
	NC							47	43	40	36	32	29	22	17	15	<15	<15	<15
2000	Vc								1606	1531	1427	1273	1236	1058	1014	911	841	709	597
	Pv								0.161	0.146	0.127	0.101	0.095	0.070	0.064	0.052	0.044	0.031	0.022
	Ps								0.300	0.280	0.220	0.180	0.150	0.110	0.100	0.080	0.070	0.050	0.030
	NC								48	44	40	37	34	27	22	18	15	<15	<15
2400	Vc										1713	1527	1483	1270	1216	1093	1009	851	716
	Pv										0.183	0.145	0.137	0.101	0.092	0.074	0.063	0.045	0.032
	Ps										0.320	0.260	0.220	0.160	0.150	0.120	0.100	0.070	0.050
	NC										45	42	37	31	28	24	18	<15	<15
2800	Vc											1782	1731	1481	1419	1275	1177	993	836
	Pv											0.198	0.187	0.137	0.125	0.101	0.086	0.061	0.044
	Ps											0.350	0.300	0.220	0.200	0.160	0.140	0.090	0.060
	NC											46	41	35	33	29	23	17	15
3200	Vc													1693	1622	1457	1345	1135	955
	Pv													0.179	0.164	0.132	0.113	0.080	0.057
	Ps													0.290	0.260	0.210	0.180	0.120	0.080
	NC													39	37	33	29	21	17

How to use this Diagram

REGISTERS & GRILLES
PERFORMANCE DATA - RETURN

SAR,SAG,RAR,RAG

*IMPERIAL UNITS

CFM	SIZE	12 x 6	12 x 8	18 x 6	20 x 6	24 x 6	18 x 8	20 x 8	30 x 6	24 x 8	20 x 10	36 x 6	30 x 8	42 x 6	36 x 8	30 x 10	42 x 8	36 x 10	42 x 10	
					12 x 10				18 x 10				24 x 10					30 x 12	36 x 12	42 x 12
						12 x 12						18 x 12	20 x 12		24 x 12					
	Ac	0.451	0.612	0.684	0.768	0.927	1.034	1.162	1.246	1.307	1.401	1.572	1.618	1.890	1.973	2.196	2.379	2.821	3.351
3600	Vc															1640	1513	1276	1074
	Pv															0.168	0.143	0.102	0.072
	Ps															0.270	0.220	0.150	0.110
	NC															38	34	26	20
4000	Vc																1681	1418	1194
	Pv																0.176	0.125	0.089
	Ps																0.280	0.190	0.130
	NC																39	32	24
4400	Vc																	1560	1313
	Pv																	0.152	0.107
	Ps																	0.230	0.160
	NC																	36	28
4800	Vc																		1432
	Pv																		0.128
	Ps																		0.19
	NC																		33

SYMBOLS

* CFM : Air Volume in Cubic Foot Per Minute
*Ac : Core Area in square foot
*Vc : Core Velocity in foot per minute
*Pv : Velocity Pressure in inches water gauge
*Ps : Negative static Pressure in inche water gauge

CONDITIONS

* Return
* Damper is fully open
* Noise Criteria is based on (10dB) room attenuation.

PERFO RA TED R EGIST ERS & GRILL ES
PERF ORMA NCE DATA - RETUR N

PAG,PAR

*S I UNITS

L/S	SIZE																
		150 x 150	200 x 150	250 x 150	200 x 200	300 x 250	300 x 300	450 x 250	400 x 300	600 x 200	500 x 300	750 x 250	600 x 300	900 x 200	450 x 450	750 x 300	525 x 525	600 x 600
	A_c	0.020	0.020	0.035	0.037	0.071	0.086	0.108	0.116	0.146	0.176	0.183	0.200	0.222	0.274	0.359		
94	V_c	4.67	3.47	2.72	2.53	1.32	1.10	0.87	0.81									
	P_v	1.419	0.768	0.464	0.400	0.104	0.070	0.044	0.038									
	P_s	10.480	5.804	3.572	3.095	0.847	0.581	0.370	0.319									
	NC	37	28	22	21	11	9	7	7									
118	V_c		4.34	3.40	3.17	1.65	1.37	1.09	1.02	0.81								
	P_v		1.220	0.737	0.635	0.165	0.112	0.070	0.060	0.037								
	P_s		9.062	5.578	4.833	1.322	0.907	0.578	0.499	0.316								
	NC		34	27	25	14	11	9	9	7								
142	V_c		5.21	4.08	3.80	1.98	1.64	1.31	1.22	0.97	0.81							
	P_v		1.781	1.076	0.927	0.241	0.163	0.102	0.088	0.055	0.037							
	P_s		13.042	8.027	6.955	1.902	1.306	0.831	0.718	0.455	0.315							
	NC		41	32	30	16	14	11	10	8	7							
165	V_c		6.07	4.76	4.43	2.32	1.92	1.53	1.42	1.13	0.94							
	P_v		2.451	1.487	1.276	0.332	0.225	0.140	0.121	0.075	0.051							
	P_s		17.743	10.921	9.462	2.588	1.776	1.131	0.976	0.619	0.428							
	NC		47	38	35	19	16	13	12	10	8							
189	V_c			5.44	5.07	2.85	2.19	1.75	1.62	1.29	1.08	1.03						
	P_v			1.953	1.683	0.438	0.296	0.185	0.159	0.099	0.068	0.062						
	P_s			14.257	12.354	3.379	2.319	1.476	1.274	0.808	0.559	0.513						
	NC			43	40	21	18	14	13	11	9	9						
212	V_c			6.12	5.70	2.98	2.47	1.97	1.83	1.45	1.21	1.16						
	P_v			2.949	2.149	0.559	0.378	0.237	0.203	0.127	0.086	0.079						
	P_s			18.038	15.629	4.275	2.934	1.868	1.612	1.023	0.707	0.649						
	NC			48	45	24	20	16	15	12	10	10						
236	V_c				6.33	3.31	2.74	2.19	2.03	1.62	1.34	1.29						
	P_v				2.673	0.696	0.470	0.294	0.253	0.157	0.107	0.098						
	P_s				19.289	5.276	3.621	2.305	1.990	1.262	0.873	0.801						
	NC				49	27	22	18	17	13	11	11						
260	V_c				6.97	3.64	3.01	2.40	2.23	1.78	1.48	1.42	1.30					
	P_v				3.258	0.848	0.573	0.359	0.308	0.192	0.131	0.120	0.100					
	P_s				23.332	6.382	4.380	2.789	2.407	1.527	1.056	0.969	0.816					
	NC				54	29	24	20	18	15	12	12	11					
283	V_c				7.60	3.97	3.29	2.62	2.44	1.94	1.61	1.54	1.42	1.28				
	P_v				3.902	1.015	0.687	0.430	0.369	0.230	0.157	0.143	0.120	0.097				
	P_s				27.760	7.593	5.211	3.318	2.864	1.816	1.257	1.153	0.970	0.790				
	NC				59	32	26	21	20	16	13	13	12	11				
330	V_c					4.63	3.84	3.06	2.84	2.26	1.88	1.80	1.65	1.49				
	P_v					1.398	0.945	0.591	0.508	0.316	0.216	0.197	0.165	0.133				
	P_s					10.329	7.089	4.54	3.896	2.471	1.709	1.568	1.320	1.075				
	NC					37	31	25	23	18	15	15	14	12				
378	V_c					5.29	4.38	3.50	3.25	2.59	2.15	2.06	1.89	1.70	1.38			
	P_v					1.843	1.247	0.780	0.670	0.417	0.285	0.260	0.218	0.176	0.113			
	P_s					13.485	9.255	5.893	5.086	3.226	2.232	2.048	1.724	1.403	0.919			
	NC					42	35	28	26	21	18	17	16	14	11			

PERFO RA TED R EGIST ERS & GRILL ES

PERF ORMA NCE DATA - RETUR N

PAG,PAR

*S I UNITS

L/S	SIZE															
		150 x 150	200 x 150	250 x 150	200 x 200	300 x 250	450 x 200	450 x 250	600 x 200	600 x 250	750 x 200	750 x 250	900 x 200	450 x 450	750 x 300	525 x 525	600 x 600
			300 x 100			500 x 150	600 x 150	750 x 150									
							300 x 300		400 x 300	500 x 300	600 x 300						
	A_c	0.020	0.020	0.035	0.037	0.071	0.086	0.108	0.116	0.146	0.176	0.183	0.200	0.222	0.274	0.359	
94	V_c	4.67	3.47	2.72	2.53	1.32	1.10	0.87	0.81								
	P_v	1.419	0.768	0.464	0.400	0.104	0.070	0.044	0.038								
	P_s	10.480	5.804	3.572	3.095	0.847	0.581	0.370	0.319								
	NC	37	28	22	21	11	9	7	7								
118	V_c		4.34	3.40	3.17	1.65	1.37	1.09	1.02	0.81							
	P_v		1.220	0.737	0.635	0.165	0.112	0.070	0.060	0.037							
	P_s		9.062	5.578	4.833	1.322	0.907	0.578	0.499	0.316							
	NC		34	27	25	14	11	9	9	7							
142	V_c		5.21	4.08	3.80	1.98	1.64	1.31	1.22	0.97	0.81						
	P_v		1.781	1.076	0.927	0.241	0.163	0.102	0.088	0.055	0.037						
	P_s		13.042	8.027	6.955	1.902	1.306	0.831	0.718	0.455	0.315						
	NC		41	32	30	16	14	11	10	8	7						
165	V_c		6.07	4.76	4.43	2.32	1.92	1.53	1.42	1.13	0.94						
	P_v		2.451	1.487	1.276	0.332	0.225	0.140	0.121	0.075	0.051						
	P_s		17.743	10.921	9.462	2.588	1.776	1.131	0.976	0.619	0.428						
	NC		47	38	35	19	16	13	12	10	8						
189	V_c			5.44	5.07	2.85	2.19	1.75	1.62	1.29	1.08	1.03					
	P_v			1.953	1.683	0.438	0.296	0.185	0.159	0.099	0.068	0.062					
	P_s			14.257	12.354	3.379	2.319	1.476	1.274	0.808	0.559	0.513					
	NC			43	40	21	18	14	13	11	9	9					
212	V_c			6.12	5.70	2.98	2.47	1.97	1.83	1.45	1.21	1.16					
	P_v			2.949	2.149	0.559	0.378	0.237	0.203	0.127	0.086	0.079					
	P_s			18.038	15.629	4.275	2.934	1.868	1.612	1.023	0.707	0.649					
	NC			48	45	24	20	16	15	12	10	10					
236	V_c				6.33	3.31	2.74	2.19	2.03	1.62	1.34	1.29					
	P_v				2.673	0.696	0.470	0.294	0.253	0.157	0.107	0.098					
	P_s				19.289	5.276	3.621	2.305	1.990	1.262	0.873	0.801					
	NC				49	27	22	18	17	13	11	11					
260	V_c				6.97	3.64	3.01	2.40	2.23	1.78	1.48	1.42	1.30				
	P_v				3.258	0.848	0.573	0.359	0.308	0.192	0.131	0.120	0.100				
	P_s				23.332	6.382	4.380	2.789	2.407	1.527	1.056	0.969	0.816				
	NC				54	29	24	20	18	15	12	12	11				
283	V_c				7.60	3.97	3.29	2.62	2.44	1.94	1.61	1.54	1.42	1.28			
	P_v				3.902	1.015	0.687	0.430	0.369	0.230	0.157	0.143	0.120	0.097			
	P_s				27.760	7.593	5.211	3.318	2.864	1.816	1.257	1.153	0.970	0.790			
	NC				59	32	26	21	20	16	13	13	12	11			
330	V_c					4.63	3.84	3.06	2.84	2.26	1.88	1.80	1.65	1.49			
	P_v					1.398	0.945	0.591	0.508	0.316	0.216	0.197	0.165	0.133			
	P_s					10.329	7.089	4.54	3.896	2.471	1.709	1.568	1.320	1.075			
	NC					37	31	25	23	18	15	15	14	12			
378	V_c					5.29	4.38	3.50	3.25	2.59	2.15	2.06	1.89	1.70	1.38		
	P_v					1.843	1.247	0.780	0.670	0.417	0.285	0.260	0.218	0.176	0.113		
	P_s					13.485	9.255	5.893	5.086	3.226	2.232	2.048	1.724	1.403	0.919		
	NC					42	35	28	26	21	18	17	16	14	11		

PERF ORA TED REG ISTE RS & GRIL LES PAR,PAG
PERF ORM ANCE DATA - RETU RN

*IMPERIAL UNITS

CFM	SIZE	6 x 6	12 x 4 8 x 6	10 x 6	8 x 8	20 x 6 12 x 10	24 x 6 18 x 8 12 x 12	30 x 6 18 x 10	24 x 8 16 x 12	30 x 8 24 x 10 20 x 12	36 x 8 24 x 12	30 x 10	18 x 18	30 x 12	21 x 21	24 x 24
	Ac	0.218	0.293	0.373	0.401	0.768	0.927	1.162	1.251	1.571	1.890	1.973	2.151	2.384	2.947	3.868
200	V_c	918	683	536	499	260	216	172	160							
	P_v	0.056	0.030	0.018	0.016	0.004	0.003	0.002	0.001							
	P_s	0.413	0.228	0.141	0.122	0.033	0.023	0.015	0.013							
	NC	37	28	22	21	11	9	7	7							
250	V_c		854	670	623	326	270	215	200	159						
	P_v		0.048	0.029	0.025	0.007	0.004	0.003	0.002	0.001						
	P_s		0.357	0.220	0.190	0.052	0.036	0.023	0.020	0.012						
	NC		34	27	25	14	11	9	9	7						
300	V_c		1025	804	748	391	324	258	240	191	159					
	P_v		0.070	0.042	0.036	0.009	0.006	0.004	0.003	0.002	0.001					
	P_s		0.513	0.316	0.274	0.075	0.051	0.33	0.028	0.018	0.012					
	NC		41	32	30	16	14	11	10	8	7					
350	V_c		1195	938	873	456	378	301	280	223	185					
	P_v		0.097	0.058	0.050	0.013	0.009	0.006	0.005	0.003	0.002					
	P_s		0.699	0.430	0.373	0.102	0.070	0.045	0.038	0.024	0.017					
	NC		47	38	35	19	16	13	12	10	8					
400	V_c			1071	997	521	431	344	320	255	212	203				
	P_v			0.077	0.066	0.017	0.012	0.007	0.006	0.004	0.003	0.002				
	P_s			0.561	0.486	0.133	0.091	0.058	0.050	0.032	0.022	0.020				
	NC			43	40	21	18	14	13	11	9	9				
450	V_c			1205	1122	586	485	387	360	286	238	238				
	P_v			0.098	0.085	0.022	0.015	0.009	0.008	0.005	0.003	0.003				
	P_s			0.710	0.615	0.168	0.116	0.074	0.063	0.040	0.028	0.026				
	NC			48	45	24	20	16	15	12	10	10				
500	V_c				1247	651	539	430	400	318	265	253				
	P_v				0.105	0.027	0.019	0.012	0.010	0.006	0.004	0.004				
	P_s				0.759	0.208	0.143	0.091	0.078	0.050	0.034	0.032				
	NC				49	27	22	18	17	13	11	11				
550	V_c				1371	716	593	473	440	350	291	279	256			
	P_v				0.128	0.033	0.023	0.014	0.012	0.008	0.005	0.005	0.004			
	P_s				0.919	0.251	0.172	0.110	0.095	0.060	0.042	0.038	0.032			
	NC				54	29	24	20	18	15	12	12	11			
600	V_c				1496	781	647	516	480	382	317	304	279	252		
	P_v				0.154	0.040	0.027	0.017	0.015	0.009	0.006	0.006	0.005	0.004		
	P_s				1.093	0.299	0.205	0.131	0.113	0.072	0.049	0.045	0.038	0.031		
	NC				59	32	26	21	20	16	13	13	12	11		
700	V_c					912	755	602	560	445	370	355	325	294		
	P_v					0.055	0.037	0.023	0.020	0.012	0.008	0.008	0.006	0.005		
	P_s					0.407	0.279	0.178	0.153	0.097	0.067	0.062	0.052	0.042		
	NC					37	31	25	23	18	15	15	14	12		
800	V_c					1042	863	688	639	509	423	405	372	336	271	
	P_v					0.073	0.049	0.031	0.026	0.016	0.011	0.010	0.009	0.007	0.004	
	P_s					0.531	0.364	0.232	0.200	0.127	0.088	0.081	0.068	0.055	0.038	
	NC					42	35	28	26	21	18	17	16	14	11	

PER FOR ATED RE GIS TER S & GR ILLE S
PER FOR MAN CE DATA - RET URN

PAR,PAG

*IMPERIAL UNITS

CFM	SIZE	6 x 6	12 x 4 8 x 6	10 x 6	8 x 8	20 x 6 12 x 10	24 x 6 18 x 8 12 x 12	30 x 6 18 x 10	24 x 8 16 x 12	30 x 8 24 x 10 20 x 12	36 x 8 24 x 12	30 x 10	18 x 18	30 x 12	21 x 21	24 x 24
	Ac	0.218	0.293	0.373	0.401	0.768	0.927	1.162	1.251	1.571	1.890	1.973	2.151	2.384	2.947	3.868
900	V_c					1172	971	774	719	573	476	456	418	377	305	
	P_v					0.093	0.063	0.039	0.034	0.021	0.014	0.013	0.011	0.009	0.006	
	P_s					0.672	0.461	0.294	0.253	0.161	0.111	0.102	0.086	0.070	0.046	
	NC					47	39	31	29	23	20	19	17	16	13	
1000	V_c						1079	860	799	636	529	507	465	419	339	259
	P_v						0.078	0.049	0.042	0.026	0.018	0.016	0.014	0.011	0.007	0.004
	P_s						0.569	0.362	0.313	0.198	0.137	0.126	0.106	0.086	0.057	0.033
	NC						43	35	32	26	22	21	19	17	14	11
1200	V_c						1294	1033	959	764	635	608	558	503	407	310
	P_v						0.114	0.071	0.061	0.038	0.026	0.024	0.020	0.016	0.010	0.006
	P_s						0.819	0.521	0.450	0.285	0.197	0.0181	0.152	0.124	0.081	0.047
	NC						51	41	38	31	26	25	23	21	17	13
1400	V_c							1205	1119	891	741	709	651	587	475	362
	P_v							0.098	0.084	0.052	0.036	0.033	0.027	0.022	0.014	0.008
	P_s							0.709	0.612	0.388	0.269	0.246	0.207	0.169	0.111	0.064
	NC							48	45	36	30	29	27	24	20	<15
1600	V_c							1377	1279	1018	847	811	744	671	543	414
	P_v							0.129	0.111	0.069	0.047	0.043	0.036	0.029	0.019	0.011
	P_s							0.926	0.799	0.507	0.351	0.322	0.271	0.220	0.144	0.084
	NC							54	51	41	34	33	30	27	22	17
1800	V_c								1439	1145	952	912	837	755	611	465
	P_v								0.142	0.088	0.060	0.055	0.046	0.037	0.024	0.014
	P_s								1.011	0.641	0.444	0.407	0.343	0.279	0.183	0.106
	NC								57	46	38	37	34	31	25	19
2000	V_c									1273	1058	1014	930	839	679	517
	P_v									0.110	0.075	0.069	0.057	0.046	0.030	0.017
	P_s									0.792	0.548	0.502	0.423	0.344	0.226	0.131
	NC									50	42	41	37	34	28	21
2400	V_c										1270	1216	1116	1007	814	621
	P_v										0.109	0.100	0.084	0.068	0.044	0.025
	P_s										0.788	0.723	0.609	0.495	0.325	0.189
	NC										50	48	44	40	33	25

SYMBOLS
CFM : Air V olume in Cubic Feet Per Minute
Ac : Core area in square foot
Vc : Core velocity in foot per minute
Pv : V elocity pressure in inches water gauge
Ps : Negative S tatic Pressure in inches water

CONDITIONS
* Return
* Damper is fully open
* Noise Criteria is based on (10dB) room attenuation.

Global Air

EGG CRATER EGISTERS & GRILLES
PERFORMANCE DATA - RETURN

ECR,ECG

*SI UNITS

L/S	SIZE	150 x 150	300 x 100 200 x 150	250 x 150	200 x 200	500 x 150 300 x 250	600 x 150 450 x 200 300 x 300	750 x 150 450 x 250	600 x 200 400 x 300	750 x 200 600 x 250 500 x 300	900 x 200 600 x 300	750 x 250	450 x 450	750 x 300	525 x 525	600 x 600
	A_c	0.020	0.027	0.035	0.037	0.071	0.086	0.108	0.116	0.146	0.176	0.183	0.200	0.222	0.274	0.359
94	V_c	4.7	3.5	2.7	2.5	1.3	1.1	0.9	0.8							
	P_v	1.423	0.793	0.491	0.426	0.118	0.082	0.052	0.045							
	P_s	2.871	1.568	0.955	0.824	0.219	0.149	0.094	0.081							
	NC	29	21	16	15	<15	<15	<15	<15							
118	V_c		4.3	3.4	3.2	1.7	1.4	1.1	1.0	0.8						
	P_v		1.232	0.763	0.662	0.184	0.127	0.081	0.070	0.045						
	P_s		2.474	1.506	1.300	0.345	0.235	0.148	0.127	0.080						
	NC		27	21	19	<15	<15	<15	<15	<15						
142	V_c		5.2	4.1	3.8	2.0	1.6	1.3	1.2	1.0	0.8					
	P_v		1.766	1.093	0.949	0.264	0.182	0.116	0.101	0.064	0.045					
	P_s		3.591	2.185	1.887	0.501	0.341	0.215	0.185	0.116	0.080					
	NC		33	25	23	<15	<15	<15	<15	<15	<15					
165	V_c		6.1	4.8	4.4	2.3	1.9	1.5	1.4	1.1	0.9					
	P_v		2.393	1.482	1.286	0.357	0.246	0.158	0.136	0.087	0.060					
	P_s		4.920	2.994	2.586	0.686	0.467	0.294	0.253	0.159	0.109					
	NC		39	30	28	<15	<15	<15	<15	<15	<15					
189	V_c			5.4	5.1	2.6	2.2	1.7	1.6	1.3	1.1	1.0				
	P_v			1.928	1.674	0.465	0.321	0.205	0.177	0.113	0.079	0.072				
	P_s			3.933	3.397	0.902	0.613	0.387	0.333	0.209	0.143	0.131				
	NC			35	32	16	<15	<15	<15	<15	<15	<15				
212	V_c			6.1	5.7	3.0	2.5	2.0	1.8	1.5	1.2	1.2				
	P_v			2.432	2.111	0.587	0.404	0.259	0.224	0.143	0.099	0.091				
	P_s			5.003	4.321	1.147	0.780	0.492	0.423	0.265	0.182	0.167				
	NC			39	36	18	15	<15	<15	<15	<15	<15				
236	V_c				6.3	3.3	2.7	2.2	2.0	1.6	1.3	1.3				
	P_v				2.599	0.722	0.498	0.319	0.276	0.176	0.122	0.112				
	P_s				5.359	1.422	0.968	0.610	0.525	0.329	0.226	0.207				
	NC				41	20	17	<15	<15	<15	<15	<15				
260	V_c				7.0	3.6	3.0	2.4	2.2	1.8	1.5	1.4	1.3			
	P_v				3.137	0.871	0.601	0.385	0.333	0.212	0.147	0.135	0.114			
	P_s				6.510	1.728	1.176	0.741	0.637	0.400	0.274	0.251	0.211			
	NC				45	22	18	<15	<15	<15	<15	<15	<15			
283	V_c				7.6	4.0	3.3	2.6	2.4	1.9	1.6	1.5	1.4	1.3		
	P_v				3.724	1.035	0.713	0.475	0.395	0.252	0.175	0.161	0.136	0.111		
	P_s				7.777	2.064	1.405	0.885	0.761	0.478	0.328	0.300	0.252	0.204		
	NC				49	25	20	16	15	<15	<15	<15	<15	7		
330	V_c					4.6	3.8	3.1	2.8	2.3	1.9	1.8	1.7	1.5		
	P_v					1.402	0.967	0.619	0.535	0.341	0.237	0.218	0.184	0.150		
	P_s					2.828	1.924	1.213	1.043	0.655	0.449	0.411	0.345	0.279		
	NC					29	24	19	17	<15	<15	<15	<15	<15		
378	V_c					5.3	4.4	3.5	3.2	2.6	2.2	2.1	1.9	1.7	1.4	
	P_v					1.825	1.258	0.805	0.696	0.444	0.309	0.283	0.239	0.195	0.129	
	P_s					3.716	2.528	1.593	1.370	0.860	0.590	0.540	0.453	0.367	0.238	
	NC					34	27	21	20	16	<15	<15	<15	<15	<15	

EGG CRATE REGISTERS & GRILLES
PERFORMANCE DATA - RETURN

ECR,ECG

*IMPERIAL UNITS

CFM	SIZE	6 x 6	12 x 4 8 x 6	10 x 6	8 x 8	20 x 6 12 x 10	24 x 6 18 x 8 12 x 12	30 x 6 18 x 10	24 x 8 16 x 12	30 x 8 24 x 10 20 x 12	36 x 8 24 x 12	30 x 10	18 x 18	30 x 12	21 x 21	24 x 24
	A_c	0.218	0.293	0.373	0.401	0.768	0.927	1.162	1.251	1.571	1.890	1.973	2.151	2.384	2.947	3.868
200	V_c	918	683	536	499	260	216	172	160							
	P_v	0.056	0.031	0.019	0.017	0.005	0.003	0.002	0.002							
	P_s	0.113	0.062	0.038	0.032	0.009	0.006	0.004	0.003							
	NC	29	21	16	15	<15	<15	<15	<15							
250	V_c		854	670	623	326	270	215	200	159						
	P_v		0.049	0.030	0.026	0.007	0.005	0.003	0.003	0.002						
	P_s		0.097	0.059	0.051	0.014	0.009	0.006	0.005	0.003						
	NC		27	21	19	<15	<15	<15	<15	<15						
300	V_c		1025	804	748	391	324	258	240	191	159					
	P_v		0.070	0.043	0.037	0.010	0.007	0.005	0.004	0.003	0.002					
	P_s		0.141	0.086	0.074	0.020	0.013	0.008	0.007	0.005	0.003					
	NC		33	25	23	<15	<15	<15	<15	<15	<15					
350	V_c		1195	938	873	456	378	301	280	223	185					
	P_v		0.094	0.058	0.051	0.014	0.010	0.006	0.005	0.003	0.002					
	P_s		0.194	0.118	0.102	0.027	0.018	0.012	0.010	0.006	0.004					
	NC		39	30	28	<15	<15	<15	<15	<15	<15					
400	V_c			1071	997	521	431	344	320	255	212	203				
	P_v			0.076	0.066	0.018	0.013	0.008	0.007	0.004	0.003	0.003				
	P_s			0.155	0.134	0.035	0.024	0.015	0.013	0.008	0.006	0.005				
	NC			35	32	16	<15	<15	<15	<15	<15	<15				
450	V_c			1205	1122	586	485	387	360	286	238	228				
	P_v			0.096	0.083	0.023	0.016	0.010	0.009	0.006	0.004	0.004				
	P_s			0.197	0.170	0.045	0.031	0.019	0.017	0.010	0.007	0.007				
	NC			39	36	18	15	<15	<15	<15	<15	<15				
500	V_c				1247	651	539	430	400	318	265	253				
	P_v				0.102	0.028	0.020	0.013	0.011	0.007	0.005	0.004				
	P_s				0.211	0.056	0.038	0.024	0.021	0.013	0.009	0.008				
	NC				41	20	17	<15	<15	<15	<15	<15				
550	V_c				1371	716	593	473	440	350	291	279	256			
	P_v				0.123	0.034	0.024	0.015	0.013	0.008	0.006	0.005	0.004			
	P_s				0.256	0.068	0.046	0.029	0.025	0.016	0.011	0.010	0.008			
	NC				45	22	18	<15	<15	<15	<15	<15	<15			
600	V_c				1496	781	647	516	480	382	317	304	279	252		
	P_v				0.147	0.041	0.028	0.018	0.016	0.010	0.007	0.006	0.005	0.004		
	P_s				0.306	0.081	0.055	0.035	0.030	0.019	0.013	0.012	0.010	0.008		
	NC				49	25	20	16	15	<15	<15	<15	<15	7		
700	V_c					912	755	602	560	445	370	355	325	294		
	P_v					0.055	0.038	0.024	0.021	0.013	0.009	0.009	0.007	0.006		
	P_s					0.111	0.076	0.048	0.041	0.026	0.018	0.016	0.014	0.011		
	NC					29	24	19	17	<15	<15	<15	<15	<15		
800	V_c					1042	863	688	639	509	423	405	372	336	271	
	P_v					0.072	0.050	0.032	0.027	0.017	0.012	0.011	0.009	0.008	0.005	
	P_s					0.146	0.100	0.063	0.054	0.034	0.023	0.021	0.018	0.014	0.009	
	NC					34	27	21	20	16	<15	<15	<15	<15	<15	

EGG CRATE REGISTERS & GRILLES
PERFORMANCE DATA - RETURN

ECR,ECG

*SI UNITS

L/S	SIZE	150 x 150	300 x 100 200 x 150	250 x 150	200 x 200	300 x 250	600 x 150 450 x 200 300 x 300	750 x 150 450 x 250	600 x 200 400 x 300	750 x 200 600 x 250 500 x 300	900 x 200 600 x 300	750 x 250	450 x 450	750 x 300	525 x 525	600 x 600
	A_c	0.020	0.027	0.035	0.037	0.071	0.086	0.108	0.116	0.146	0.176	0.183	0.200	0.222	0.274	0.359
425	V_c					6.0	4.9	3.9	3.7	2.9	2.4	2.3	2.1	1.9	1.6	
	P_v					2.302	1.587	1.016	0.879	0.560	0.389	0.358	0.302	0.246	0.162	
	P_s					4.726	3.216	2.026	1.743	1.094	0.750	0.687	0.576	0.467	0.303	
	NC					38	31	24	23	18	<15	<15	<15	<15	<15	
472	V_c						5.5	4.4	4.1	3.2	2.7	2.6	2.4	2.1	1.7	1.3
	P_v						1.954	1.251	1.082	0.690	0.479	0.440	0.371	0.303	0.200	0.117
	P_s						3.988	2.513	2.162	1.357	0.931	0.852	0.714	0.579	0.376	0.215
	NC						35	27	25	20	16	15	<15	<15	<15	<15
566	V_c						6.6	5.2	4.9	3.9	3.2	3.1	2.8	2.6	2.1	1.6
	P_v						2.800	1.792	1.550	0.988	0.687	0.631	0.532	0.434	0.286	0.167
	P_s						5.788	3.647	3.137	1.969	1.351	1.237	1.037	0.840	0.545	0.313
	NC						42	33	31	24	20	19	17	<15	<15	<15
661	V_c							6.1	5.7	4.5	3.8	3.6	3.3	3.0	2.4	1.8
	P_v							2.429	2.101	1.340	0.931	0.855	0.721	0.589	0.388	0.227
	P_s							4.997	4.298	2.698	1.850	1.694	1.421	1.151	0.747	0.428
	NC							39	36	28	23	22	20	18	<15	<15
755	V_c							7.0	6.5	5.2	4.3	4.1	3.8	3.4	2.8	2.1
	P_v							3.162	2.734	1.744	1.211	1.113	0.939	0.766	0.504	0.295
	P_s							6.564	5.646	3.544	2.431	2.226	1.866	1.512	0.981	0.563
	NC							45	42	33	27	26	23	21	17	<15
849	V_c								7.3	5.8	4.8	4.6	4.3	3.8	3.1	2.4
	P_v								3.449	2.200	1.528	1.404	1.184	0.966	0.636	0.372
	P_s								7.182	4.508	3.092	2.831	2.374	1.923	1.248	0.716
	NC								47	37	30	29	26	24	19	<15
944	V_c									6.5	5.4	5.1	4.7	4.3	3.4	2.6
	P_v									2.708	1.881	1.728	1.458	1.190	0.783	0.458
	P_s									5.591	3.835	3.511	2.944	2.385	1.547	0.888
	NC									42	34	33	30	27	21	16
1133	V_c										6.5	6.2	5.7	5.1	4.1	3.2
	P_v										2.696	2.476	2.088	1.704	1.122	0.656
	P_s										5.565	5.096	4.272	3.462	2.246	1.289
	NC										41	40	36	32	26	19

SYMBOLS:
CFM :Air V olume in Litre per second
A_c :Core area in square metre
V_c :Core V elocity in metre per second
P_v :V elocity Pressure in mm water gauge
Ps :Negative st atic Pressure in mm water gauge
NC :Noise Criteria

CONDITIONS
* Return
* Damper is fully open
* Noise Criteria is based on (10dB) room attenuation.

EGG CRATE REGISTERS & GRILLES
PERFORMANCE DATA - RETURN

ECR,ECG

*IMPERIAL UNITS

CFM	SIZE															
			12 x 4			20 x 6	24 x 6	30 x 6								
		6 x 6	8 x 6	10 x 6			18 x 8		24 x 8	30 x 8	36 x 8					
					8 x 8	12 x 10		18 x 10		24 x 10		30 x 10				
							12 x 12		16 x 12	20 x 12	24 x 12		18 x 18	30 x 12	21 x 21	24 x 24
	A_c	0.218	0.293	0.373	0.401	0.763	0.927	1.162	1.251	1.571	1.890	1.973	2.151	2.384	2.947	3.868
900	V_c					1172	971	774	719	573	476	456	418	377	305	
	P_v					0.091	0.062	0.040	0.035	0.022	0.015	0.014	0.012	0.010	0.006	
	P_s					0.186	0.127	0.080	0.069	0.043	0.030	0.027	0.023	0.018	0.012	
	NC					38	31	24	23	18	<15	<15	<15	<15	<15	
1000	V_c						1079	860	799	636	529	507	465	419	339	259
	P_v						0.077	0.049	0.043	0.027	0.019	0.017	0.015	0.012	0.008	0.005
	P_s						0.157	0.099	0.085	0.053	0.037	0.034	0.028	0.023	0.015	0.008
	NC						35	27	25	20	16	15	<15	<15	<15	<15
1200	V_c						1294	1033	959	764	635	608	558	503	407	310
	P_v						0.110	0.071	0.061	0.039	0.027	0.025	0.021	0.017	0.011	0.007
	P_s						0.228	0.144	0.124	0.078	0.053	0.049	0.041	0.033	0.021	0.021
	NC						42	33	31	24	20	19	17	15	<15	<15
1400	V_c							1205	1119	891	741	709	651	587	475	362
	P_v							0.096	0.083	0.053	0.037	0.034	0.028	0.023	0.015	0.009
	P_s							0.197	0.169	0.106	0.073	0.067	0.056	0.045	0.029	0.017
	NC							39	36	28	23	22	20	18	<15	<15
1600	V_c							1377	1279	1018	847	811	744	671	543	414
	P_v							0.124	0.108	0.069	0.048	0.044	0.037	0.030	0.020	0.012
	P_s							0.258	0.222	0.140	0.096	0.088	0.073	0.060	0.039	0.022
	NC							45	42	33	27	26	23	21	17	<15
1800	V_c								1439	1145	952	912	837	755	611	465
	P_v								0.136	0.087	0.060	0.055	0.047	0.038	0.025	0.015
	P_s								0.283	0.177	0.122	0.111	0.093	0.076	0.049	0.028
	NC								47	37	30	29	26	24	19	<15
2000	V_c									1273	1058	1014	930	839	679	517
	P_v									0.107	0.074	0.068	0.057	0.047	0.031	0.018
	P_s									0.220	0.151	0.138	0.116	0.094	0.061	0.035
	NC									42	34	33	30	27	21	16
2400	V_c										1270	1216	1116	1007	814	621
	P_v										0.106	0.097	0.082	0.067	0.044	0.026
	P_s										0.219	0.201	0.168	0.136	0.088	0.051
	NC										41	40	36	32	26	19

SYMBOLS:
CFM :Air V olume in Cubic Feet Per Minute
A_C :Core area in square foot
V_C :Core V elocity in foot per minute
P_v :V elocity Pressure in inches water gauge
Ps :Negative st atic Pressure in inche water gauge
NC :Noise Criteria

CONDITIONS
* Return
* Damper is fully open
* Noise Criteria is based on (10dB) room attenuation.

Global Air

DOOR GRILLES PERFORMANCE DATA

DG

*SI UNITS

A_c M^2	NOMINAL SIZE MM	V_c M/S	0.508	0.762	1.016	1.27	1.524	1.778	2.032
		P_v MMW G	0.015	0.035	0.0625	0.0975	0.14	0.19	0.250
		P_s MMW G	0.275	0.65	1.15	1.825	2.6	3.525	4.65
0.02	250 x100	L/S	10	15	20	25	30	35	40
		NC	-	-	-	-	-	16	19
0.05	400x150	L/S	26	40	53	66	79	92	106
		NC	-	-	17	24	28	31	35
0.07	500x150, 400x200	L/S	35	52	70	87	105	122	140
		NC	-	-	19	25	30	33	36
0.09	700x150,500x200,400x250	L/S	47	70	93	117	140	164	187
		NC	-	15	23	29	32	36	40
0.14	750x200,600x250,500x300,400 x350	L/S	69	104	139	173	208	243	277
		NC	-	19	26	31	37	41	44
0.19	800x250,650x300,550x350,500x400	L/S	94	142	189	236	283	330	378
		NC	-	24	31	37	42	46	49
0.23	800x300,700x350,600x400,550x450	L/S	118	177	236	295	354	413	472
		NC	16	27	34	40	44	48	52
0.29	850x350,750x400,650x450, 600x500	L/S	145	218	291	363	436	509	581
		NC	19	30	37	43	47	51	55
0.35	850x400,750x450,700x500,600x550	L/S	178	267	356	445	534	623	712
		NC	22	32	40	46	50	54	58
0.40	850x450,800x500,700x550,650x600	L/S	204	306	409	511	613	715	817
		NC	24	34	42	47	52	56	60
0.44	850x500,800x550, 700x600,650x650	L/S	224	336	447	559	671	783	895
		NC	24	35	42	48	52	57	62
0.50	850x550,800x600,750x650,700x700	L/S	252	379	505	631	757	884	1010
		NC	26	36	44	50	55	58	63

SYMBOLS:

L/S :Air volume in litre per second
A_C :Core Area in meter square
V_C :Core V elocity in meter per second
NC :Noise Criteria
P_V :V elocity Pressure in mm water guage
P_S :S tatic Pressure in mm water guage

DOOR GRILLES PERFORMANCE DATA

DG

*IMPERIAL UNITS

A_C FT^2	NOMINAL SIZE INCH	V_C FPM	100	150	200	250	300	350	400
		P_V IWG	0.0006	0.0014	0.0025	0.0039	0.0056	0.0076	0.010
		P_S IWG	0.011	0.026	0.046	0.073	0.104	0.141	0.186
0.21	10 X 4	CFM	21	32	42	53	63	74	84
		NC	-	-	-	-	-	16	19
0.56	16 x 6	CFM	56	84	112	140	168	196	224
		NC	-	-	17	24	28	31	35
0.74	20x6, 6x8	CFM	74	111	148	185	222	259	296
		NC	-	-	19	25	30	33	36
0.99	28x6, 20x8, 16x10	CFM	99	149	198	248	297	347	396
		NC	-	15	23	29	32	36	40
1.47	30x8, 20x12, 24x10, 16x14	CFM	147	221	294	368	441	515	588
		NC	-	19	26	31	37	41	44
2.00	32x10, 26x12, 22x14, 20x16	CFM	200	300	400	500	600	700	800
		NC	-	24	31	37	42	46	49
2.50	32x12, 28x14, 24x16, 22x18	CFM	250	375	500	625	750	875	1000
		NC	16	27	34	40	44	48	52
3.08	34x14, 30x16, 26x18, 24x20,	CFM	308	462	616	770	924	1078	1232
		NC	19	30	37	43	47	51	55
3.77	34x16, 30x18, 28x20, 24x22	CFM	377	556	754	943	1131	1320	1508
		NC	22	32	40	46	50	54	58
4.33	34x18, 32x20,28x22, 26x24	CFM	433	650	866	1083	1299	1516	1732
		NC	24	34	42	47	52	56	60
4.74	34x20,32x22, 28x24,26x26	CFM	474	711	948	1185	1422	1659	1896
		NC	24	35	42	48	52	57	62
5.35	34x22,32x24,30x26,28x28	CFM	535	803	1070	1338	1605	1873	2140
		NC	26	36	44	50	55	58	63

SYMBOLS:

CFM :Air volume in cubic foot per minute

A_C :Core Area in feet square

V_C :Core V elocity in feet per minute

NC :Noise Criteria

P_V :V elocity Pressure in inches water guage

P_S :S tatic Pressure in inches water guage

Ordering Data

Available Surface Finishes For Grilles and Registers:

- Naturall Matt Silver Anodized.
- Powder Coating (Standard Colors are white RAL 9010 I 9016, other optional colors if required to be provided in RAL- No. only and charged extra).
- Aluminium in Mill Finish.
- Other Special Finishes (on request if available).

Available Surface Finishes For Opposed Blade Dampers:

-Aluminium in Mill Finish (standard).
-Matt Black Powder Coating (optional).

Ordering Specifications: Specify:

1. Grille I Register Description (Supply, Return, Extract, Exhaust, Fresh Air ...etc).
2. Blades Mounting (Not required for Fresh Air and Eggcrate Grilles I Registers).
3. Single I Double Deflection (Not required for Fresh Air and Eggcrate Grilles I Registers).
4. Opposed Blade Damper to be mentioned only: -
   - If required in black color.
   - Or, in case it`s attached with Fresh Air or Eggcrate Grilles.
5. Nominal I Neck size.
6. Quantity.
7. Grille I Register Surface Finish.
8. RAL- No. (only mention if powder coating surface finish is required).
9. Type of Fixing (Concealed or Face Screw Fixing).
10. Optional Accessories or Remarks (Aluminium Washable Filter, Gasket ... or others).

Example 1:

1	2	3	4	5	6	7	8	9	10
SAR	HFB	DD	BD	20" x 8" 500 x 200 (mm)	150	Powder Coating	9016	Concealed	With Rubber Gasket

Example 2:

1	2	3	4	5	6	7	8	9	10
FAG + D c/w FILTER	–	–	D	12" x 6" 300 x 150 (mm)	23	Silver Anodized	–	Concealed	(Double Frame) Fixed Blades < 45°

Example 3:

1	2	3	4	5	6	7	8	9	10
ECG + F	–	–	–	12" x 8" 300 x 200 (mm)	10	Powder Coating	1015 (Optional)	Screw	With Filter

DOOR TRANSFER GRILLES

CONTENTS

Engineering Notes:

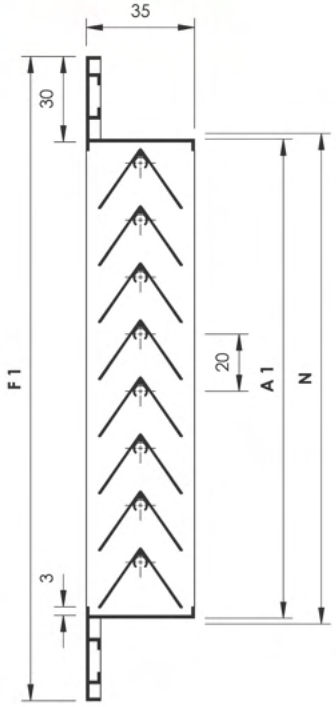
Our Company Door Transfer Grilles of the DG Model are particularly designed to allow the passage of air from a conditioned space to another while preventing vision. They are widely used, not only in doors, panels or partitions, but also in places of conventional exhaust and return air grilles where it's required that the interior of the duct be hidden.

Features & Characteristics:

- Construction: Frame & blades are made of high quality Extruded Aluminium Profiles of 6063 Alloy.
- Frame Flange width: 30 mm.
- Blades: Inverted "V" horizontal cross section louvers arranged to overlap each other to be Sight-Tight when viewed from any angle.
- Blades pitch: blades are spaced at a distance of 20 mm.
- The inverted "V" louver cross section not only blocks vision, but also provides additional strength and rigid construction.
- Available in wide variety of standard neck sizes ranging from 200 x 100 up to 1200 x 500 mm (other none-Standard Sizes are available on request).
- Telescopic frame suitable for doors or partitions from 25 - 55 mm thick (Fixed on both sides of the door).
- The frame of the Door Transfer Grille is composed of two parts, one part is the fixed one, holding the core and can be fixed to one side of the door or partition. While the other part, the sliding one, is fixed to the other side of the door or partition. Thus the sliding frame gives the facility of installing this grille to different thicknesses of doors or partitions.
- The large free area (up to 70%) is capable of transferring high air volumes at minimum pressure loss and noise level.
- The frame mounting holes are dimpled, allowing for a counter-sunk fastener head appearance.
- Available with Foam type Rubber Gasket for air sealing (provided as an option).
- Mounting instructions: see page No. DG- 03.
- Surface Finishes: see page No. DG- 05

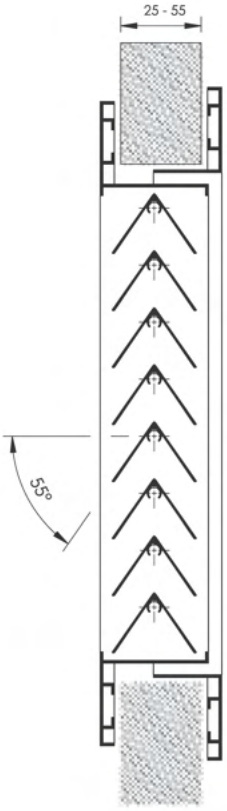
Construction and Dimensional Detail

Model DG



Fixed Frame

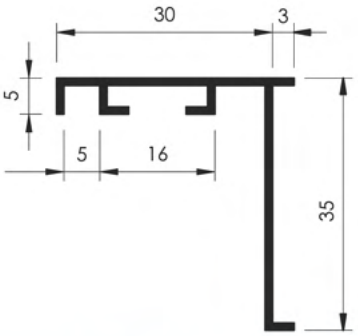
Sliding Frame



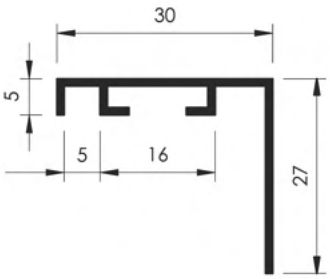
Door Grille

N : Nominal / Listed Size = Length (L) x Height (H) in mm
Case I: Specified height (H) in cm is even figure :
A 1 = Actual Size = (L-10) x (H-15)
F 1 = Face Size = (L+50) x (H+45)
A 2 = Actual Size = (L-5) x (H-10)
F 2 = Face Size = (L+55) x (H+50)

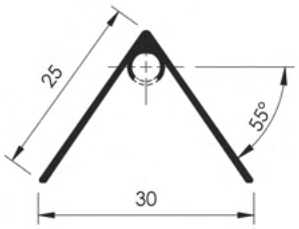
Case II: Specified height (H) in cm is even figure :
A 1 = Actual Size = (L-10) x (H-5)
F 1 = Face Size = (L+50) x (H+55)
A 2 = Actual Size = (L-5) x (H)
F 2 = Face Size = (L+55) x (H+60)



Frame Profile Section
Fixed Frame



Frame Profile Section
Sliding Frame

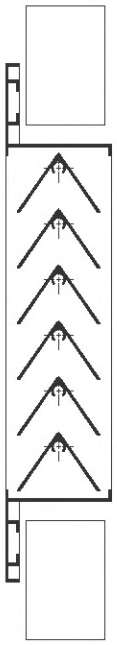


Inverted " **V** " Blade Profile Section
Door Grilles

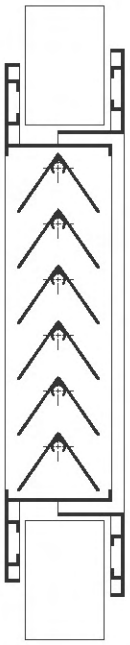
- All Dimensions are in mm and subject to ± 0.2 mm tolerance.

Mounting Instructions:

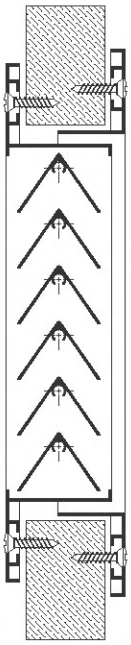
- Insert the counter frame in the door portion opening and fix with screws using the holes on the border edge.
- On the opposite part, install the grille with frame in a way that allows the telescopic port to open into the counter frame. Fix with screws.



Step 1



Step 2



- Insert the counterframe in the door portion opening and fix with screws using the holes on the border edge.
- On the opposite part, install the grille with frame in a way that allows the telescopic port to open into the counterframe Fix with screws.
- The Door Grille is fixed to the door or partition by means of visible
- counter- sunk screws.

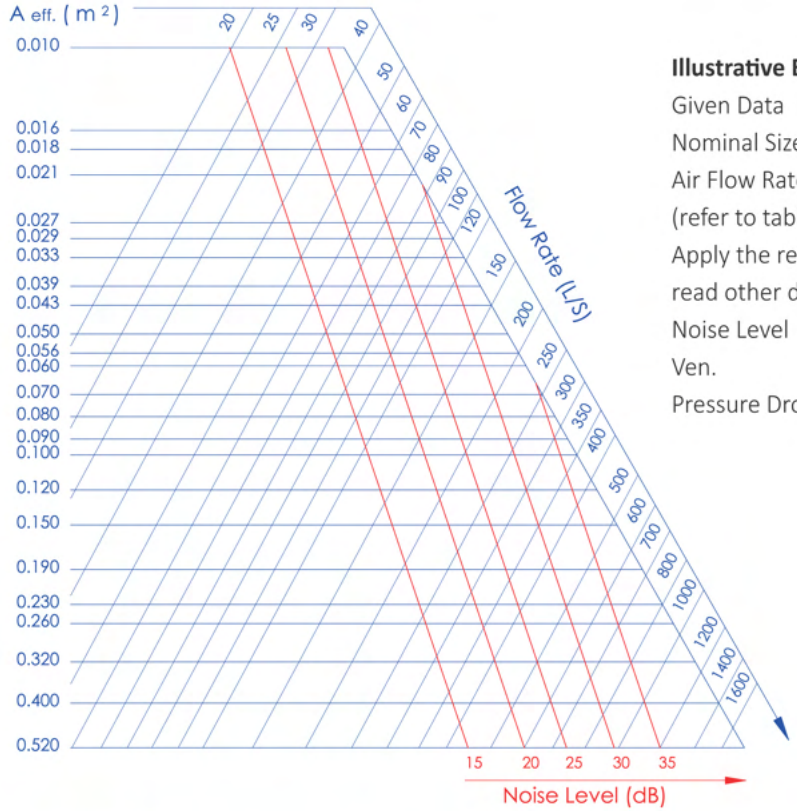
Effective Area Values for Door Transfer Grilles in (m^2)

L H	100	150	200	250	300	400	500
150	0.005	0.008					
200	0.010	0.018	0.027				
250	0.014	0.025	0.040	0.045			
300	0.016	0.029	0.043	0.057	0.070		
400	0.021	0.039	0.056	0.073	0.090	0.120	
500	0.027	0.050	0.070	0.095	0.120	0.150	0.190
600	0.033	0.060	0.090	0.120	0.150	0.190	0.260
800	0.043	0.080	0.120	0.155	0.190	0.260	0.320
1000	0.056	0.100	0.150	0.190	0.230	0.320	0.400
1200	0.070	0.120	0.190	0.225	0.260	0.400	0.520

- L & H Dimensions are in mm.

Engineering and Performance Data

Selection Diagram



Illustrative Example:

Given Data :

Nominal Size: 400 x 200 mm

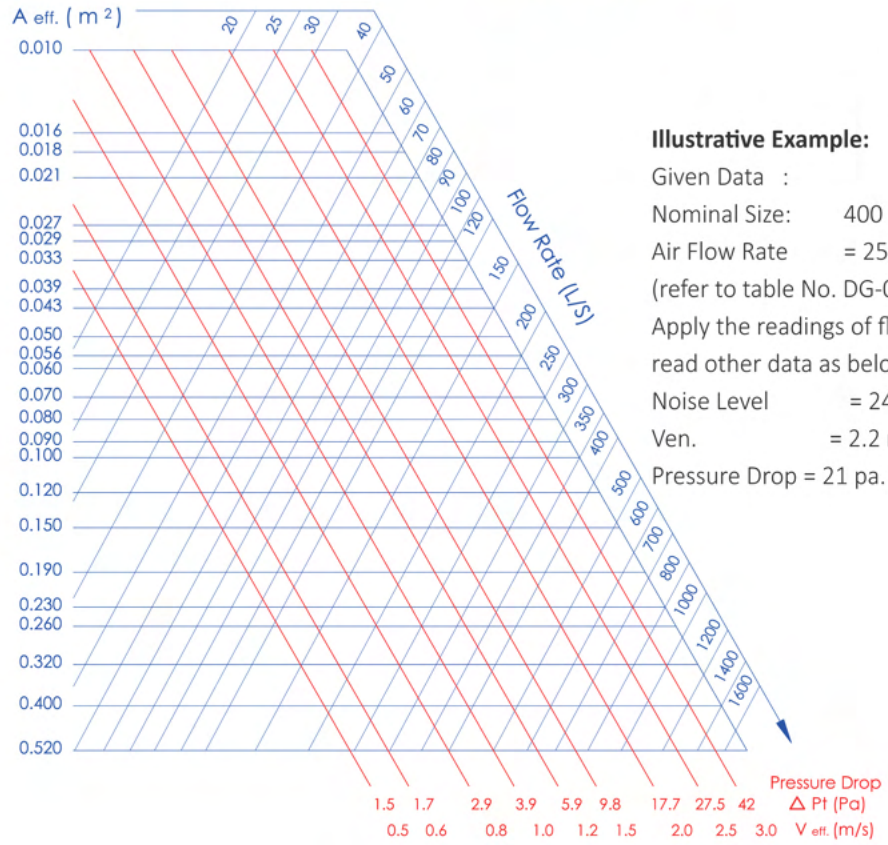
Air Flow Rate = 255 CFM = 120 (L/S) AeH. = 0.056 m 2 (refer to table No. DG-01)

Apply the readings of flow rate and Aeff. on the chart and read other data as below:

Noise Level = 24 dB.

Ven. = 2.2 m/s.

Pressure Drop = 21 pa.



Illustrative Example:

Given Data :

Nominal Size: 400 x 200 mm

Air Flow Rate = 255 CFM = 120 (L/S) AeH. = 0.056 m 2 (refer to table No. DG-01)

Apply the readings of flow rate and Aeff. on the chart and read other data as below:

Noise Level = 24 dB.

Ven. = 2.2 m/s.

Pressure Drop = 21 pa.

Global Air

Ordering Data

• Available Surface Finishes for Door Transfer Grilles:

- Natural I Matt Silver Anodized.
- Powder Coating (Standard Colors are white RAL 901019016, other optional colors if required to be provided in RAL - No. only and charged extra).
- Aluminum in Mill Finish.
- Other Special finishes (on request if available).

• Ordering Specifications:

NatuSpecify:

1. Door Grille Description I Model (DG).
2. Nominal I Neck size.
3. Quantity.
4. Door Grille Surface Finish.
5. RAL- No. (only mention if powder coating surface finish is required).
6. Rubber Gasket (only mention if required).

1	2	3	4	5	6
DG	12" x 8" 300 x 200 (mm)	25	Powder Coating	9016	–

1	2	3	4	5	6
DG	20" x 10" 500 x 250 (mm)	40	Silver Anodized	–	With Rubber Gasket

1	2	3	4	5	6
DG	16" x 12" 400 x 300 (mm)	6	Mill Finish	–	–

Global Air

Ajman / United Arab Emirates
P. 0. Box: 3187 / Tel : +971 6 7432 020
Fax : +971 6 7432 030
Email: info.fabgpai@elitegroupuae.com

www.elitegroupuae.com