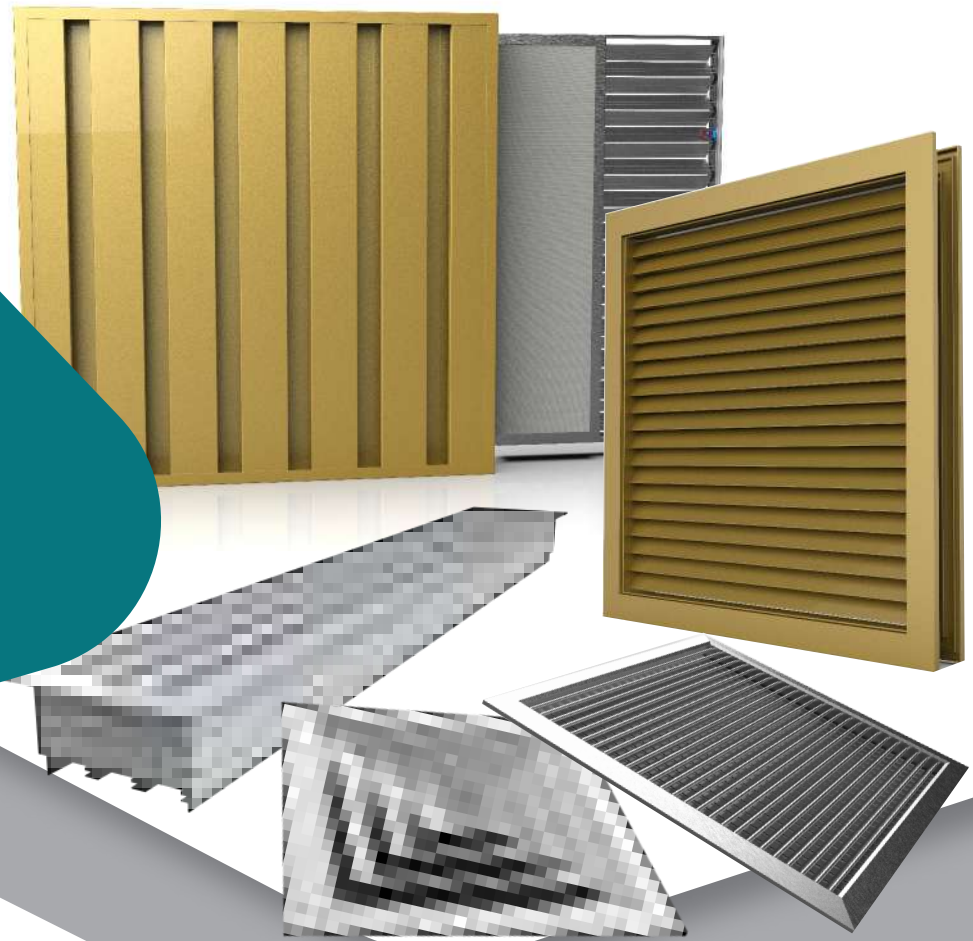




CASTLE
ENGINEERING
INDUSTRIES



AIR OUTLETS

AIR OUTLETS

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Grilles & Registers

Chapter 2

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Description

The SAG Series supply air grilles and registers are designed to cater to a variety of building applications, including residential, commercial, and industrial settings. These outlets can be seamlessly integrated into high sidewalls and ceilings, providing versatility in installation. Whether for horizontal or vertical airflow, they offer compatibility with exposed air ducts by directly connecting to duct collars. Ideal for cooling, heating, and ventilation purposes, they excel in handling diverse airflow ranges and temperature differentials while ensuring optimal air diffusion within occupied spaces.

In terms of construction, both the frame and blades boast extruded aluminium alloy profiles, ensuring durability and longevity. The aluminium blades are securely mounted within the frame using PVC bushings, allowing for effortless adjustment of air deflection angles without causing any noise or vibrations.

For those requiring volume control, an optional damper can be easily attached to the grille's top side using locking clips. Adjustment of the damper blades to regulate air volume can be conveniently done from the grille's face using a screwdriver.

As for finishes, the standard polyester powder coating presents a sleek white finish (RAL 9010), ensuring aesthetic appeal while offering protection against corrosion. Alternatively, natural anodized aluminium finish or custom powder coating in any specified colour are available upon request.



Models Available

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	•		•			•

Quick Selection

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

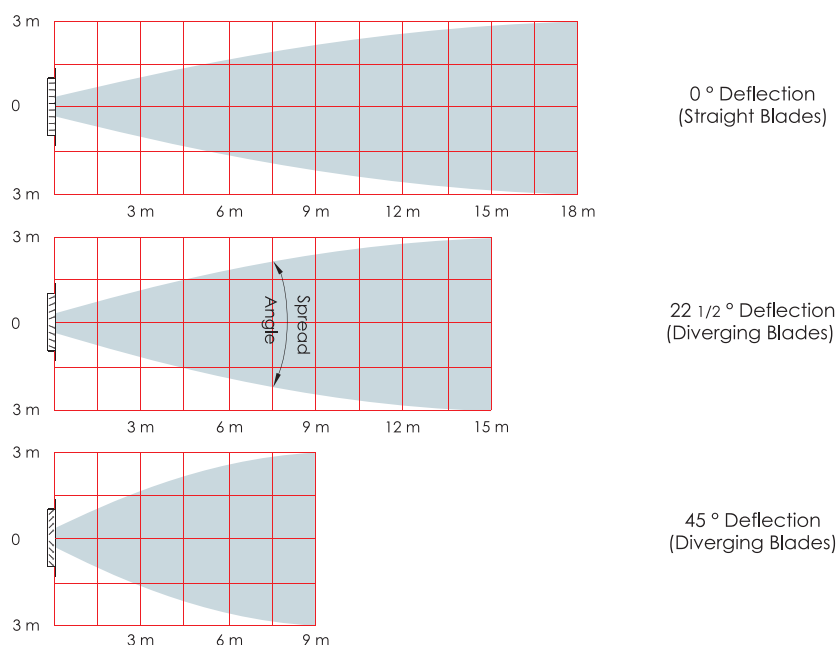
- CFM Values are based on Noise Level ranging from 15-35 (dB).
- Tabulated data are for Double Deflection Grilles/Registers of Horizontal or Vertical Front Blades.

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

Key Concepts to Understand:

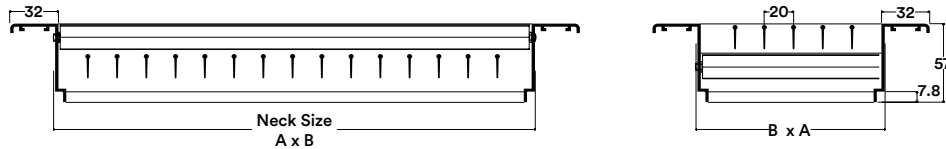
- **“Jet Throw”**: The distance traveled by an airstream from the air outlet to a point where the maximum velocity within the airstream cross-section diminishes to a predetermined terminal velocity.
- **“Terminal Velocity (Vt)”**: The maximum sustained airstream velocity at the end of the throw, typically denoted in feet per minute (fpm).
- **“Characteristics Room Length (L)”**: The distance from the air outlet device to the nearest boundary wall in the horizontal direction of airflow. This measurement is based on a standard ceiling height of 9 feet. If the ceiling height exceeds 9 feet, the characteristics room length (L_t) equals the room length (L) plus the difference (L_v) between the ceiling height and the standard 9 feet ceiling height. However, if the airflow is directed towards the opposite diffuser, the characteristics room length (L_t) equals one-half the horizontal distance between two diffusers (L_h) plus the vertical distance (L_v) the mixed air jet travels downward to reach the occupied zone ($L_t = L_h + L_v$).
- **“Discharge or Intake Air Velocity (V_k)”**: The velocity of the airstream measured at specific locations of the outlet’s or inlet’s air slots, typically measured in feet per minute (fpm).
- **“Area Factor (A_k)”**: A factor derived from the discharge or intake air velocity (V_k) and the airflow rate (Q), calculated as $A_k = Q / V_k$.
- **“Spread”**: Adjusting the airstream using vertical blades enables grilles or registers to offer either a narrow-concentrated air pattern or a wider air pattern. Setting the blades at 0° yields a spread of approximately 20°. Setting the blades at 22 1/2° on both sides increases the spread to around 30°, while a 45° blade setting on both sides results in a spread of approximately 60°. It’s noteworthy that as the angle of the blade setting increases, the throw distance decreases. Please refer to Figure 1 for further clarification.



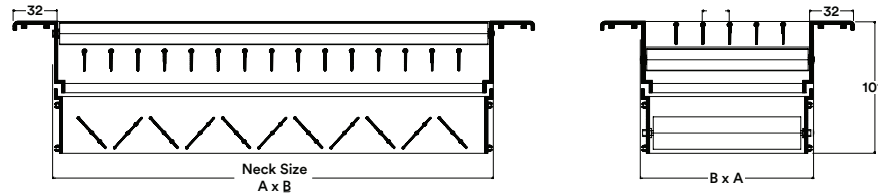
Technical Guidelines:

- The Grille/Register size can be chosen based on throw, velocity, pressure loss, and noise level considerations from the selection diagrams/tables.
- To prevent overblow, select a throw that is 75% of the distance to the opposite wall. Alternatively, if outlets oppose each other, choose one-third of the distance between them.
- If the throw exceeds 75% of the distance to the opposite wall, distribute the airflow across multiple outlets to decrease the throw.
- The minimum height of the Grille/Register above the floor level is determined by the drop of the selected outlet plus 1.8 meters.
- Properly selected Grilles/Registers will not significantly increase the noise level of the existing system.
- For a long throw and narrow air pattern, use blade deflection angles between 0° and 15°. For a shorter throw and wider air pattern, utilize deflection angles up to 45°.
- Outlets with straight blades produce a spread of approximately 19° in both horizontal and vertical planes.
- Outlets with converging blades have a similar spread to straight blades but offer about a 15% longer throw.
- Diverging blades at a 22.5° angle result in a throw approximately 20% less than straight blades. Diverging blades at a 45° angle create a spread angle of approximately 60° and a throw about 50% less than straight blades.
- To improve air mixing, reduce the throw and increase the spread and induction by deflecting blades towards the maximum recommended angle (angle < 45°).
- Double Deflection Grilles/Registers allow adjustment of spread in both horizontal and vertical planes.
- If an Opposed Blade Damper is used with the grille outlet, the effective area will be reduced by approximately 5%, with negligible effects on throw and pressure drop.

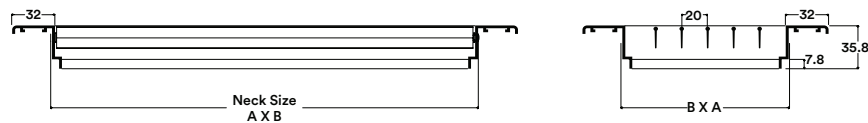
- Model: SAG HFB Supply Air Grill Horizontal First Blade
- Model: SAG VFB Supply Air Grill Vertical First Blade



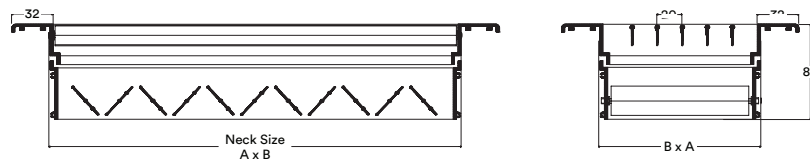
- Model: SAR HFB Supply Air Register Horizontal First Blade
- Model: SAR VFB Supply Air Register Vertical First Blade



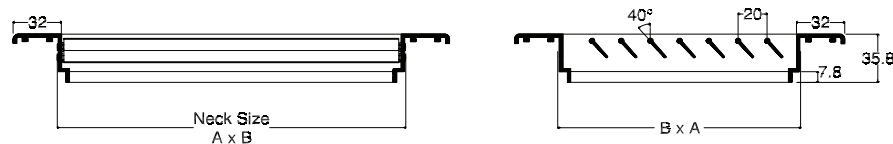
- Model: SAG H Supply Air Grill Horizontal Blade
- Model: SAG V Supply Air Grill vertical Blade



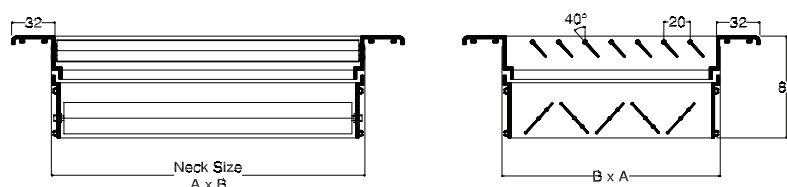
- Model: SAR H Supply Air Register Horizontal Blade
- Model: SAR V Supply Air Register Vertical Blade



- Model: RAG H Return Air Grill Horizontal Blade
- Model: RAG V Return Air Grill Vertical Blade



- Model: RAR H Return Air Register Horizontal Blade
- Model: RAR V Return Air Register Vertical Blade



EFFECTIVE AREA VALUES FOR DOUBLE BLADES DEFLECTION GRILLES AND REGISTERS IN (mm²) MODEL SAR and SAG

L H	100	150	200	250	300	350	400	450	500	550	600
100	0.005										
150	0.008	0.013									
200	0.011	0.017	0.022								
250	0.014	0.022	0.029	0.037							
300	0.016	0.026	0.034	0.043	0.052						
350	0.019	0.030	0.039	0.050	0.060	0.069					
400	0.022	0.035	0.046	0.058	0.069	0.080	0.093				
450	0.025	0.039	0.051	0.065	0.077	0.090	0.104	0.116			
500	0.028	0.043	0.057	0.073	0.087	0.101	0.116	0.130	0.146		
550	0.029	0.046	0.060	0.077	0.092	0.106	0.123	0.137	0.154	0.169	
600	0.032	0.051	0.067	0.085	0.101	0.117	0.135	0.151	0.170	0.186	0.204
650	0.035	0.055	0.072	0.092	0.109	0.127	0.146	0.164	0.184	0.201	0.221
700	0.038	0.059	0.078	0.100	0.119	0.137	0.159	0.178	0.199	0.218	0.240
750	0.040	0.063	0.084	0.107	0.127	0.147	0.170	0.190	0.213	0.233	0.256
800	0.043	0.068	0.090	0.115	0.136	0.158	0.183	0.204	0.229	0.251	0.275
850	0.046	0.072	0.095	0.121	0.144	0.167	0.194	0.217	0.243	0.266	0.292
900	0.049	0.077	0.101	0.129	0.154	0.178	0.206	0.231	0.259	0.283	0.311
950	0.052	0.081	0.107	0.136	0.162	0.188	0.217	0.243	0.272	0.298	0.328
1000	0.055	0.086	0.113	0.144	0.171	0.199	0.230	0.257	0.288	0.315	0.347
1050	0.056	0.088	0.116	0.148	0.176	0.204	0.236	0.264	0.296	0.324	0.356
1100	0.059	0.093	0.122	0.156	0.185	0.215	0.249	0.278	0.312	0.341	0.375
1150	0.062	0.097	0.128	0.163	0.194	0.224	0.260	0.290	0.326	0.356	0.392
1200	0.065	0.102	0.134	0.171	0.203	0.235	0.272	0.305	0.341	0.374	0.411
1250	0.067	0.106	0.139	0.178	0.211	0.245	0.283	0.317	0.355	0.389	0.427
1300	0.070	0.110	0.145	0.186	0.221	0.256	0.296	0.331	0.371	0.406	0.446
1350	0.073	0.114	0.151	0.192	0.229	0.265	0.307	0.343	0.385	0.421	0.463
1400	0.076	0.119	0.157	0.200	0.238	0.276	0.319	0.357	0.401	0.439	0.482
1450	0.078	0.123	0.162	0.207	0.246	0.286	0.330	0.370	0.414	0.454	0.498
1500	0.081	0.128	0.169	0.215	0.256	0.297	0.343	0.384	0.430	0.471	0.517

- The dimensions L & H are in mm.
- Values at the above are based on 0 ° Blades Deflection.
- Damper at fully open position.

EFFECTIVE AREA VALUES FOR SINGLE BLADES DEFLECTION GRILLES AND REGISTERS IN (mm²) MODEL RAR, RAG (HB or VB)

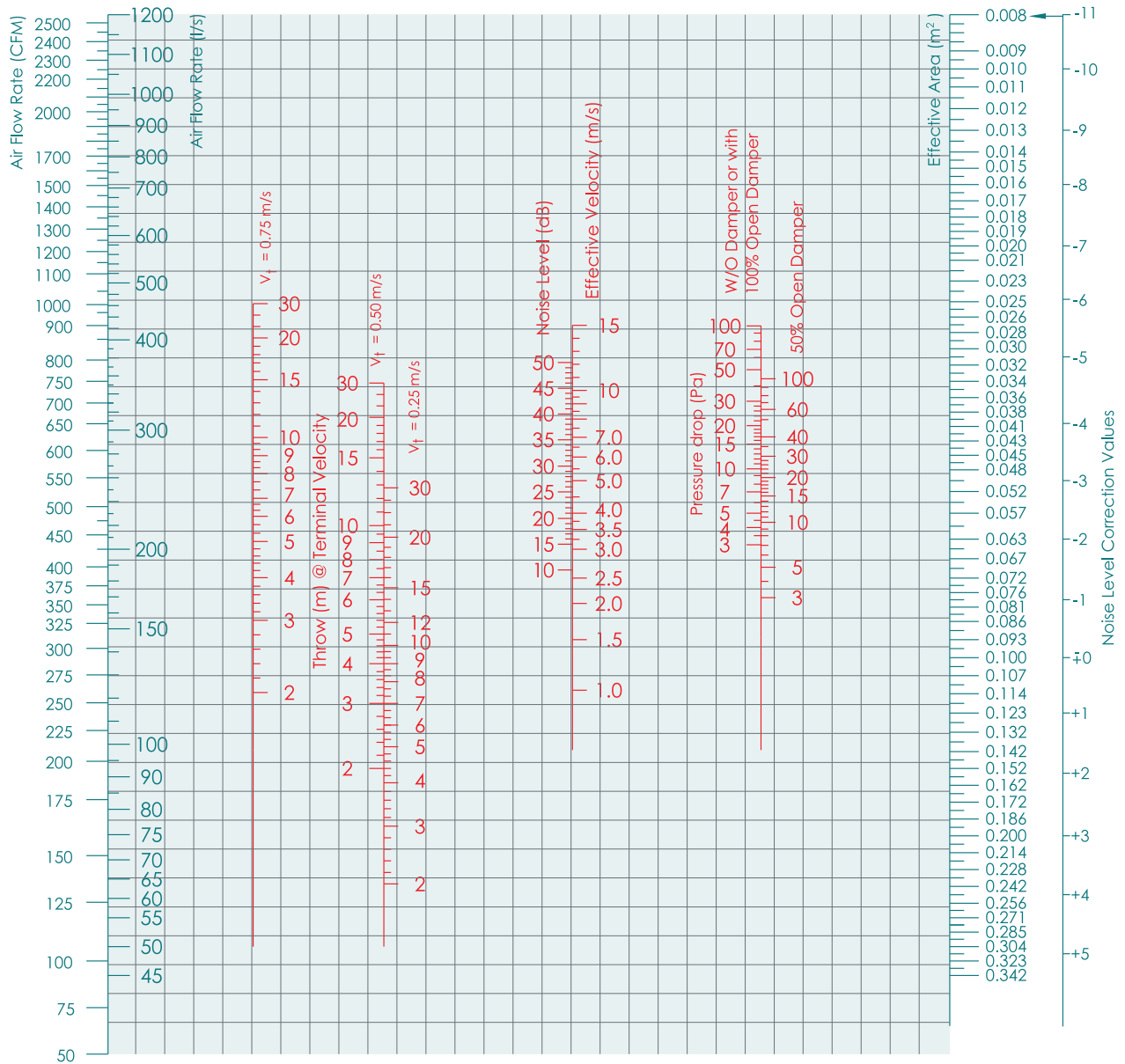
L H	100	150	200	250	300	350	400	450	500	550	600
100	0.007										
150	0.010	0.016									
200	0.014	0.022	0.029								
250	0.018	0.028	0.037	0.047							
300	0.021	0.034	0.045	0.057	0.068						
350	0.025	0.039	0.052	0.067	0.080	0.092					
400	0.029	0.045	0.060	0.076	0.091	0.106	0.122				
450	0.033	0.051	0.068	0.086	0.103	0.120	0.138	0.155			
500	0.036	0.057	0.075	0.096	0.115	0.133	0.154	0.172	0.193		
550	0.039	0.061	0.081	0.103	0.123	0.143	0.165	0.185	0.207	0.227	
600	0.043	0.067	0.089	0.113	0.135	0.156	0.181	0.202	0.227	0.248	0.273
650	0.046	0.073	0.096	0.123	0.146	0.170	0.196	0.220	0.246	0.270	0.296
700	0.050	0.078	0.104	0.132	0.158	0.184	0.212	0.238	0.266	0.292	0.320
750	0.054	0.084	0.112	0.142	0.170	0.197	0.228	0.255	0.286	0.313	0.344
800	0.057	0.090	0.119	0.152	0.181	0.211	0.243	0.273	0.305	0.335	0.367
850	0.061	0.096	0.127	0.162	0.193	0.224	0.259	0.290	0.325	0.356	0.391
900	0.065	0.102	0.135	0.172	0.205	0.238	0.275	0.308	0.345	0.378	0.415
950	0.068	0.107	0.142	0.181	0.216	0.252	0.290	0.326	0.364	0.400	0.438
1000	0.072	0.113	0.150	0.191	0.228	0.265	0.306	0.343	0.384	0.421	0.462
1050	0.075	0.117	0.156	0.198	0.236	0.275	0.317	0.356	0.398	0.436	0.479
1100	0.078	0.123	0.163	0.208	0.248	0.288	0.337	0.373	0.418	0.458	0.502
1150	0.082	0.129	0.171	0.218	0.260	0.302	0.349	0.391	0.437	0.480	0.526
1200	0.086	0.135	0.179	0.227	0.271	0.316	0.364	0.408	0.457	0.501	0.550
1250	0.090	0.140	0.186	0.237	0.283	0.329	0.380	0.426	0.477	0.523	0.574
1300	0.093	0.146	0.194	0.247	0.295	0.343	0.396	0.444	0.496	0.544	0.597
1350	0.097	0.152	0.202	0.257	0.307	0.356	0.411	0.461	0.516	0.566	0.621
1400	0.101	0.158	0.209	0.267	0.318	0.370	0.427	0.479	0.536	0.588	0.645
1450	0.104	0.164	0.217	0.276	0.330	0.384	0.443	0.496	0.556	0.609	0.668
1500	0.108	0.169	0.225	0.286	0.342	0.397	0.458	0.514	0.575	0.631	0.692

- The dimensions L & H are in mm.
- Values at the above are based on 0 ° Blades Deflection.
- Damper at fully open position.

Engineering and Performance Data

General Selection Diagram

Draw a straight horizontal line from the Effective Area point in the direction of the Noise Level correction line on the right side to determine its correction value.



Correction Multipliers / Values:

Blades Deflection	22 1/2 °	45 °
Velocity	x 1.20	x 1.40
Pressure Drop	x 1.30	x 1.60
Throw	x 0.80	x 0.60
Noise Level	+ 2.0	+ 3.0

How to use this Diagram?

Scenario I: Size and Air Flow Rate Provided

Illustrative Example: Given Specifications:

Required Model: SAR HFB DD

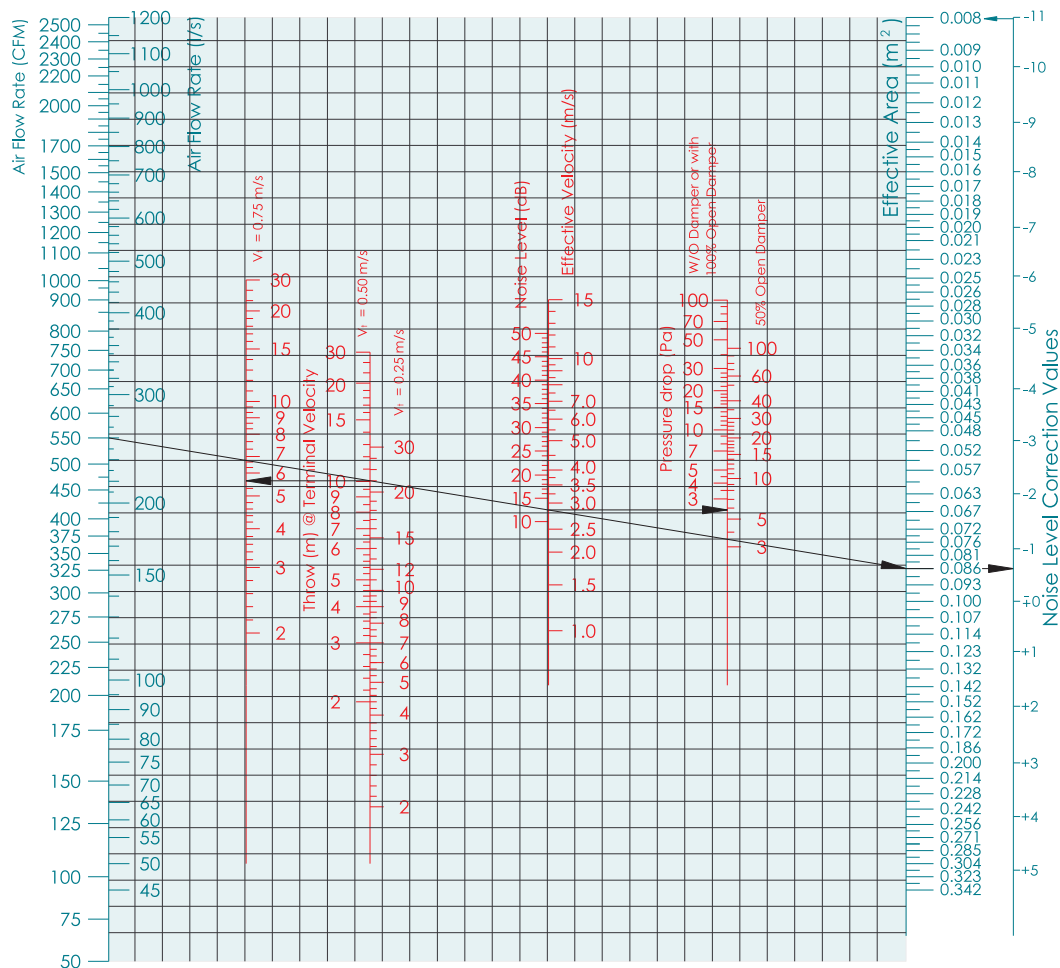
Nominal Size: 1000 x 150 mm

Air Flow Rate: 550 CFM

Assuming Blades set at 0° Deflection and Damper at fully open position.

Referencing Table for Effective Area, which equals 0.086 m². Utilize the CFM and Effective Area values to plot a straight line connecting them on the diagram. From the intersection point, the following data can be obtained:

- Effective Velocity (Veff.): 2.8 m/s (intersection point of the drawn line with the Veff. vertical line).
- Noise Level: <15 dB (value obtained where the drawn line intersects the Noise Level Vertical line after considering Noise Level correction values).
- Pressure Drop: 2.5 Pa (draw a horizontal line from the same Veff. point intersecting the opposite Pressure Drop vertical line to read this value).
- Throw @ Vt=0.25 m/s: 23.0 m (intersection point of the drawn line with the Throw vertical line at Vt = 0.25 m/s).
- Throw @ Vt=0.50 m/s: 10.0 m (intersection point of the drawn line with the Throw vertical line at Vt = 0.50 m/s).
- Throw @ Vt=0.75 m/s: 5.7 m (draw a horizontal straight line from the intersection points of the drawn line with the Throw vertical lines at Vt = 0.25 and 0.50 m/s, towards the opposite Throw vertical line at Vt = 0.75 m/s and read this value).



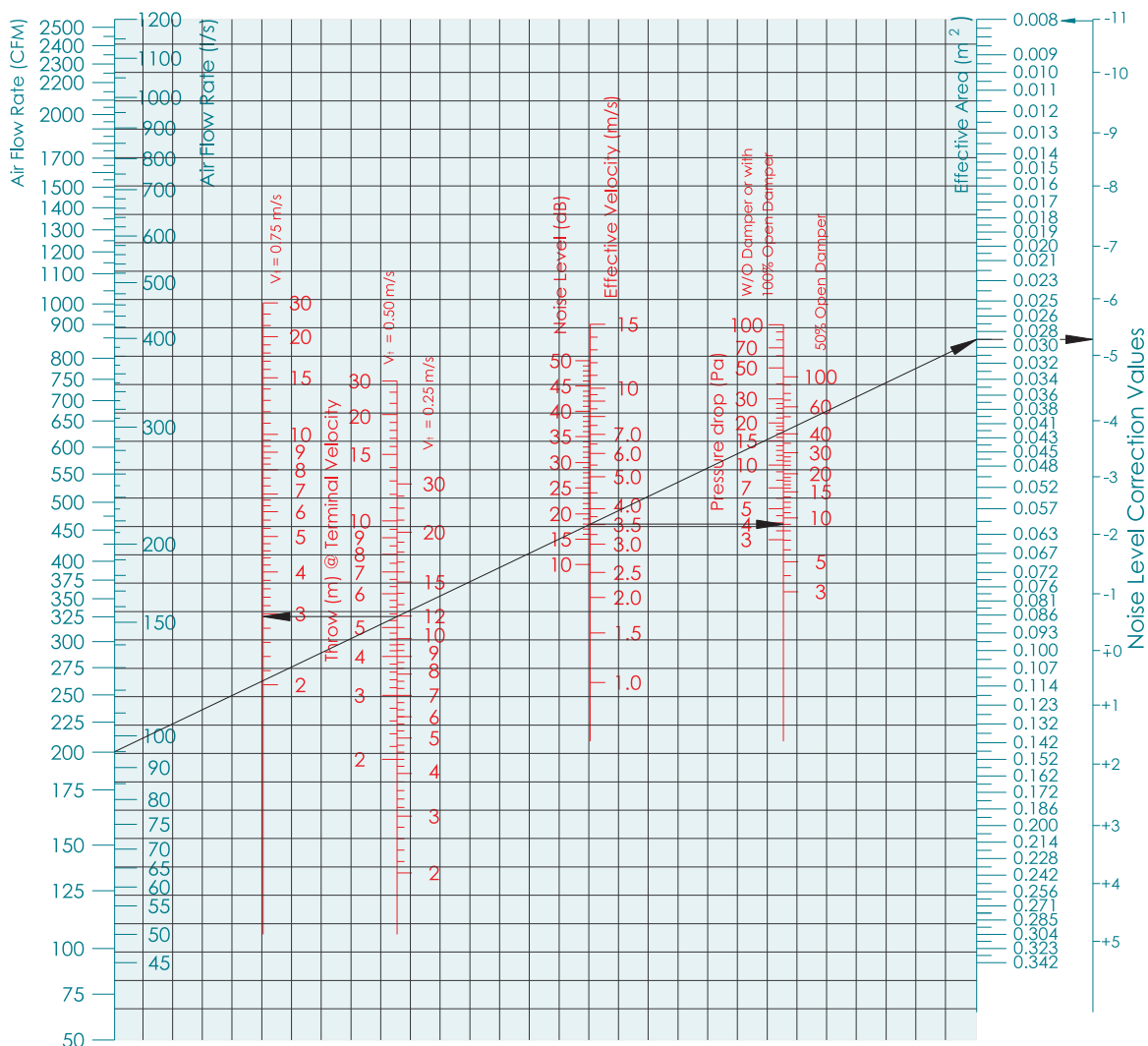
Scenario II: Air Flow Rate and Noise Level Provided

Illustrative Example: Given Specifications: Required Model: RAG HB SD Air Flow Rate: 200 CFM
 Noise Level: Not to exceed 25 dB Assumption: Effective Velocity ($V_{eff.}$) = 3.5 m/s. To achieve a Noise Level of $(18 - 5) = 13$ (which does not exceed 25 dB), then other related data can be determined as follows:

- Effective Area = 0.029 m^2
- Grille Nominal Size = 200 x 200 mm
- Pressure Drop = 3.9 Pa
- Throw Values: Not required for Return Air Grilles.

The above data are based on 0° Blades Deflection. If the same Grille is required but with a 45° Blades Deflection, the data needs to be corrected as follows:

- Effective Velocity ($V_{eff.}$) = $3.5 \times 1.4 = 4.9$ m/s
- Noise Level = $13 + 3 = 16$ dB
- Pressure Drop = $3.9 \times 1.6 = 6.24$ Pa



Tabular Selection for Double Deflection Grilles / Registers

Model S A R & SAG (HFB or VFB) DD

SIZE (L) x (H)		A _{eff.} m ²	Flow Rate L/S (CFM)	24	35	47	59	71	83	94	106	118	130	275
mm	Inch			(50)	(75)	(100)	(125)	(150)	(175)	(200)	(225)	(250)		
100 x 100	4" x 4"	0.005	Veff. FPM (m/s)	664 (3.3)	995 (5.0)	1327 (6.6)	1659 (8.3)							
150 x 100	6" x 4"	0.008	Δ Pt (pa)	8.4	11.5	16.0	24.0							
			Th. (m)	1.7-2.8-6.5	2.1-3.5-8.0	2.6-4.4-11	3.2-5.7-13							
			Noise Level	16	20	24	29							
200 x 100	8" x 4"	0.011	Veff. FPM (m/s)	422 (2.1)	633 (3.2)	844 (4.2)	1056 (5.3)	1267 (6.3)	1478 (7.4)	1689 (8.4)	1900 (9.5)	2111 (10.6)		
			Δ Pt (pa)	4.5	5.6	8.7	13.0	18.0	28.0	40.0	48.0	55.0		
			Th. (m)	1.4-2.5-5.5	1.9-3.0-7.0	2.2-3.7-8.4	2.8-5.0-11	3.3-6-12.4	4.2-7.5-17	5.3-9.3-20	5.9-10.5-24	7.0-12-28		
			Noise Level	<15	<15	17	24	27	32	36	37	40		
150 x 150	6" x 6"	0.013	Veff. FPM (m/s)	344 (1.7)	516 (2.6)	688 (3.4)	860 (4.3)	1032 (5.2)	1204 (6.0)	1376 (6.9)	1548 (7.7)	1720 (8.6)	1892 (9.5)	
250 x 100	10" x 4"	0.014	Δ Pt (pa)	2.5	4.0	5.4	8.2	11.5	17.0	22.0	28.0	35.0	43.0	
			Th. (m)	1.1-2.2-4.8	1.5-2.7-6.0	2.0-3.3-7.5	2.6-4.4-9.7	3.0-5.3-12	3.8-6.7-15	4.6-8.2-18	5.2-9.4-20	5.9-10.5-24	7.0-12-27	
			Noise Level	<15	<15	<15	19	23	28	31	33	35	37	
300 x 100	12" x 4"	0.016	Veff. FPM (m/s)	265 (1.3)	398 (2.0)	531 (2.7)	664 (3.3)	796 (4.0)	929 (4.6)	1062 (5.3)	1194 (6.0)	1327 (6.6)	1460 (7.3)	
200 x 150	8" x 6"	0.017	Δ Pt (pa)	0.7	1.5	2.0	3.7	5.0	7.3	10.0	13.0	15.0	19.0	
350 x 100	14" x 4"	0.019	Th. (m)	0.8-1.8-4.0	1.1-2.3-5.0	1.6-2.7-6.2	2.2-3.5-8.0	2.6-4.4-9.7	3.2-5.6-13	3.8-6.5-15	4.2-7.5-17	4.8-8.7-19	5.4-9.8-22	
			Noise Level	<15	<15	<15	<15	<15	19	23	25	27	30	
400 x 100	16" x 4"	0.022	Veff. FPM (m/s)	211 (1.1)	317 (1.6)	422 (2.1)	528 (2.6)	633 (3.2)	739 (3.7)	844 (4.2)	950 (4.8)	1056 (5.3)	1161 (5.8)	
250 x 150	10" x 6"	0.022	Δ Pt (pa)	0.3	0.5	1.0	2.5	3.7	4.5	7.0	9.0	11.0	13.5	
200 x 200	8" x 8"	0.022	Th. (m)	0.5-1.4-3.7	1.0-2.0-4.4	1.4-2.5-5.7	2.0-3.2-7.3	2.4-4.0-9.0	2.8-5.0-11	3.5-6.0-14	4.0-7.0-16	4.4-8-17.5	5.0-9-19.5	
			Noise Level	<15	<15	<15	<15	<15	<15	18	21	23	26	
450 x 100	18" x 4"	0.025	Veff. FPM (m/s)			364 (1.8)	455 (2.3)	546 (2.7)	638 (3.2)	729 (3.6)	820 (4.1)	911 (4.6)	1002 (5.0)	
300 x 150	12" x 6"	0.026	Δ Pt (pa)			0.5	1.0	2.0	3.5	4.8	6.0	7.0	9.0	
			Th. (m)			1.2-2.3-5.0	1.8-2.9-6.7	2.2-3.6-8.0	2.7-4.8-10.5	3.1-5.5-12.2	3.6-6.2-14.5	4.0-7.0-16	4.6-9.0-18	
			Noise Level			<15	<15	<15	<15	<15	17	19	22	
500 x 100	20" x 4"	0.028	Veff. FPM (m/s)			320 (1.6)	400 (2.0)	480 (2.4)	561 (2.8)	641 (3.2)	721 (3.6)	801 (4.0)	881 (4.4)	
550 x 100	22" x 4"	0.029	Δ Pt (pa)			0.4	0.6	1.0	2.5	3.6	4.5	5.5	7.0	
250 x 200	10" x 8"	0.029	Th. (m)			1.1-2.1-4.6	1.6-2.7-6.2	2.1-3.4-7.7	2.6-4.4-9.7	2.9-5.2-11.5	3.3-5.8-13.5	3.8-6.7-15	4.2-7.5-17	
350 x 150	14" x 6"	0.030	Noise Level			<15	<15	<15	485 (2.4)	<15	<15	17	20	
600 x 100	24" x 4"	0.032	Veff. FPM (m/s)			277 (1.4)	347 (1.7)	416 (2.1)	0.9	555 (2.8)	624 (3.1)	693 (3.5)	763 (3.8)	
300 x 200	12" x 8"	0.034	Δ Pt (pa)			0.2	0.4	0.6	2.3-3.8-8.7	1.7	3.0	4.0	4.7	
650 x 100	26" x 4"	0.035	Th. (m)			0.8-1.8-4.2	1.4-2.5-5.5	1.8-3.0-7.0	<15	2.6-4.6-10	3.0-5.4-12	3.5-6.0-14	3.9-6.8-15	
400 x 150	16" x 6"	0.035	Noise Level			<15	<15	<15	<15	<15	<15	<15	16	

Tabular Selection for Double Deflection Grilles / Registers Model S A R & SAG (HFB or VFB) DD

SIZE (L) x (H)		A _{eff.} m ²	Flow Rate L/S (CFM)	142 (300)	153 (325)	165 (350)	177 (375)	189 (400)	212 (450)	236 (500)
mm	Inch									
150 x 150	6" x 6"	0.013	V _{eff.} FPM (m/s) △ Pt (pa)	2064 (10.3)						
250 x 100	10" x 4"	0.014	Th. (m)	50.0						
			Noise Level	7.6-13.2- /						
			Noise Level	40						
300 x 100	12" x 4"	0.016	V _{eff.} FPM (m/s)	1592 (8.0)						
200 x 150	8" x 6"	0.017	△ Pt (pa)	21.5						
350 x 100	14" x 4"	0.019	Th. (m)	6.3-11-25						
			Noise Level	32						
400 x 100	16" x 4"	0.022	V _{eff.} FPM (m/s)	1267 (6.3)						
250 x 150	10" x 6"	0.022	△ Pt (pa)	16.0						
200 x 200	8" x 8"	0.022	Th. (m)	5.7-10-22						
			Noise Level	28						
450 x 100	18" x 4"	0.025	V _{eff.} FPM (m/s)	1093 (5.5)						
300 x 150	12" x 6"	0.026	△ Pt (pa)	10.5						
			Th. (m)	5.9-2-19.8						
			Noise Level	24						
500 x 100	20" x 4"	0.028	V _{eff.} FPM (m/s)	978 (4.9)						
550 x 100	22" x 4"	0.029	△ Pt (pa)	8.0						
250 x 200	10" x 8"	0.029	Th. (m)	4.7-8.5-18.8						
350 x 150	14" x 6"	0.030	Noise Level	22						
600 x 100	24" x 4"	0.032	V _{eff.} FPM (m/s)	832 (4.2)						
300 x 200	12" x 8"	0.034	△ Pt (pa)	5.9						
650 x 100	26" x 4"	0.035	Th. (m)	4.4-7.9-15.5						
400 x 150	16" x 6"	0.035	Noise Level	19						

Tabular Selection for Double Deflection Grilles / Registers Model S A R & SAG (HFB or VFB) DD

SIZE (L) x (H)		A _{eff.} m ²	Flow Rate L/S (CFM)	118 (250)	130 (275)	142 (300)	153 (325)	165 (350)	170 (375)	189 (400)	200 (425)	212 (450)	224 (475)
mm	Inch												
250 x 250	10" x 10"	0.037	Veif. FPM (m/s)	603 (3.0)	664 (3.3)	724 (3.6)	784 (3.9)	844 (4.2)	905 (4.5)	965 (4.8)	1025 (5.1)	1086 (5.4)	1146 (5.7)
700 x 100	28" x 4"	0.038	Δ Pt	2.7	3.6	4.3	5.1	6.0	5.9	8.0	8.8	10.0	11.8
450 x 150	18" x 6"	0.039	Th.	3.3-5.7-13	3.7-6.4-14.8	4.1-7.2-16.5	4.6-8.1-18	5.0-9-19.5	5.4-9.6-21	6.0-11-23	6.5-11.3-26	7.0-12-28	7.6-13- /
750 x 100	30" x 4"	0.040	Noise Level	<15	<15	15	18	19	20	22	23	25	27
800 x 100	32" x 4"	0.043	Veif. FPM (m/s)	540 (2.7)	594 (3.0)	648 (3.2)	702 (3.5)	756 (3.8)	810 (4.1)	864 (4.3)	918 (4.6)	972 (4.9)	1026 (5.1)
500 x 150	20" x 6"	0.043	Δ Pt	2.0	3.0	3.5	4.3	5.0	5.7	6.5	7.4	8.0	9.0
300 x 250	12" x 10"	0.043	Th.	3.1-5.5-12.5	3.5-6.0-14	3.9-6.8-15.5	4.4-7.8-17.5	4.8-8.5-18.5	5.2-9.3-20	5.6-10-22	6.3-11-25	6.6-12-26.5	7.2-12.2-29
			Noise Level	<15	<15	<15	16	18	19	21	22	24	25
850 x 100	32" x 4"	0.046	Veif. FPM (m/s)	505 (2.5)	555 (2.8)	606 (3.0)	656 (3.3)	707 (3.5)	757 (3.8)	808 (4.0)	858 (4.3)	909 (4.5)	959 (4.8)
550 x 150	22" x 6"	0.046	Δ Pt	1.5	2.4	3.0	3.7	4.3	4.9	6.0	6.3	7.0	8.0
400 x 200	16" x 8"	0.046	Th.	3.0-5.3-12	3.4-5.8-13.5	3.8-6.6-15	4.3-7.5-17	4.5-8.0-18	5.0-9.0-19.5	5.4-9.6-21	5.9-10.5-23	6.3-11-25	7.0-12-27
			Noise Level	<15	<15	<15	<15	16	18	19	21	22	23
900 x 100	36" x 4"	0.049	Veif. FPM (m/s)	460 (2.3)	506 (2.5)	552 (2.8)	598 (3.0)	644 (3.2)	690 (3.4)	736 (3.7)	782 (3.9)	828 (4.1)	874 (4.4)
350 x 250	14" x 10"	0.050	Δ Pt	0.9	1.0	1.8	2.5	3.5	3.6	4.2	4.7	5.2	6.0
450 x 200	18" x 8"	0.051	Th.	2.8-11-5.0	3.1-8.0-12.8	3.5-6.1-14.2	4.0-7.0-16	4.3-7.5-17	4.6-8.3-18	5.0-9.0-19.5	5.5-9.6-21	6.0-10-23	6.3-11-25
300 x 300	12" x 12"	0.052	Noise Level	<15	<15	<15	<15	<15	<15	16	17	18	20

SIZE (L) x (H)		A _{eff.} m ²	Flow Rate L/S (CFM)	142 (300)	153 (325)	165 (350)	170 (375)	189 (400)	200 (425)	212 (450)	224 (475)	236 (500)	260 (550)
mm	Inch												
650 x 150	26" x 6"	0.055	Veif. FPM (m/s)	489 (2.4)	530 (2.6)	570 (2.9)	611 (3.1)	652 (3.3)	693 (3.5)	733 (3.7)	774 (3.9)	815 (4.1)	896 (4.5)
500 x 200	20" x 8"	0.057	Δ Pt	1.2	1.9	2.5	3.0	3.5	4.0	4.5	4.8	5.1	6.5
400 x 250	16" x 10"	0.058	Th.	3.4-5.8-13.5	3.8-6.6-15	4.0-7.0-16	4.5-8.0-17.7	4.8-8.5-19	5.2-9.5-20	5.5-9.8-22	5.8-10.1-25	6.5-11.3-26	7.5-13-30
700 x 150	28" x 6"	0.059	Noise Level	<15	<15	<15	<15	<15	16	18	19	20	22
350 x 300	14" x 12"	0.060	Veif. FPM (m/s)	446 (2.2)	483 (2.4)	520 (2.6)	557 (2.8)	595 (3.0)	632 (3.2)	669 (3.3)	706 (3.5)	743 (3.7)	817 (4.1)
1150 x 100	46" x 4"	0.062	Δ Pt	0.8	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.0	5.0
750 x 150	30" x 6"	0.063	Th.	3.2-5.6-13	3.6-6.2-14.2	3.9-6.7-15.5	4.2-7.5-17	4.6-8.0-18	4.9-8.9-19	5.2-9.3-20	5.6-10-22	6.3-10.5-24	7.0-12-28
450 x 200	18" x 10"	0.065	Noise Level	<15	<15	<15	<15	<15	<15	<15	16	17	19
600 x 250	24" x 8"	0.067	Veif. FPM (m/s)	410 (2.0)	444 (2.2)	478 (2.4)	512 (2.6)	546 (2.7)	581 (2.9)	615 (3.1)	649 (3.2)	683 (3.4)	751 (3.8)
800 x 150	32" x 6"	0.068	Δ Pt	0.6	0.9	1.0	1.6	2.0	2.7	3.0	3.4	3.8	4.6
400 x 300	16" x 12"	0.069	Th.	3.1-5.5-12.8	3.5-6.0-14	3.8-6.6-15	4.1-7.2-16.5	4.5-8.0-18	4.8-8.6-19	5.1-9-19.7	5.5-9.6-21	6.3-11-23	6.9-11.8-27
350 x 350	14" x 14"	0.069	Noise Level	<15	<15	<15	<15	<15	<15	<15	15	16	18

Tabular Selection for Double Deflection Grilles / Registers Model S A R & SAG (HFB or VFB) DD

SIZE (L) x (H)		A _{eff.} m ²	Flow Rate L/S (CFM)	236 (500)	260 (550)	283 (600)	307 (650)	330 (700)	354 (750)	378 (800)	398 (900)
mm	Inch										
250 x 250	10" x 10"	0.037	Veif. FPM (m/s)	1206 (6.0)	1327 (6.6)	1448 (7.2)	1568 (7.8)	1689 (8.4)	1810 (9.0)		
700 x 100	28" x 4"	0.038	ΔPt (pa)	13.0	16.0	18.5	24.0	26.0	30.0		
450 x 150	18" x 6"	0.039	Th. (m)	8.0-13.8- /	9.0-15- /	10-17- /	11.5-20- /	13-23- /	13.8-27- /		
750 x 100	30" x 4"	0.040	Noise Level	28	31	33	35	37	39		
800 x 100	32" x 4"	0.043	Veif. FPM (m/s)	1080 (5.4)	1188 (5.9)	1296 (6.5)	1404 (7.0)	1512 (7.6)	1620 (8.1)		
500 x 150	20" x 6"	0.043	ΔPt (pa)	10.0	12.0	15.0	18.0	21.0	24.0		
300 x 250	12" x 10"	0.043	Th. (m)	7.6-13- /	8.3-14.5- /	9.3-16- /	11-18.5- /	12.0-20- /	13-25- /		
			Noise Level	26	29	31	33	35	37		
850 x 100	32" x 4"	0.046	Veif. FPM (m/s)	1010 (5.0)	1111 (5.6)	1212 (6.1)	1313 (6.6)	1414 (7.1)	1515 (7.6)	1616 (8.1)	
550 x 150	22" x 6"	0.046	ΔPt (pa)	8.5	11.0	13.0	15.0	17.0	20.0	24.0	
400 x 200	16" x 8"	0.046	Th. (m)	7.3-12.5-29	8.3-14- /	9.3-16- /	10.5-18- /	11.3-19.5- /	12.5-23- /	14-27- /	
			Noise Level	24	27	29	32	33	35	37	
900 x 100	36" x 4"	0.049	Veif. FPM (m/s)	920 (4.6)	1012 (5.1)	1104 (5.5)	1196 (6.0)	1288 (6.4)	1380 (6.9)	1472 (7.4)	
350 x 250	14" x 10"	0.050	ΔPt (pa)	6.5	7.3	9.5	11.5	14.5	16.0	19.0	
450 x 200	18" x 8"	0.051	Th. (m)	6.7-12-27	7.6-13- /	8.5-15- /	9.5-16.5- /	10.8-18.5- /	12-20- /	13-25- /	
300 x 300	12" x 12"	0.052	Noise Level	21	23	26	28	31	32	34	

SIZE (L) x (H)		A _{eff.} m ²	Flow Rate L/S (CFM)	283 (600)	307 (650)	330 (700)	354 (750)	378 (800)	401 (850)	425 (900)
mm	Inch									
650 x 150	26" x 6"	0.055	Veif. FPM (m/s)	978 (4.9)	1059 (5.3)	1141 (5.7)	1222 (6.1)	1304 (6.5)	1385 (6.9)	1467 (7.3)
500 x 200	20" x 8"	0.057	ΔPt (pa)	7.8	9.3	11.0	13.0	14.0	17.0	18.0
400 x 250	16" x 10"	0.058	Th. (m)	8.0-14- /	9.0-15.5- /	10-17.3- /	11.0-19- /	12.5-23- /	13.5-26- /	14.5-29- /
700 x 150	28" x 6"	0.059	Noise Level	25	27	29	30	32	33	35
350 x 300	14" x 12"	0.060	Veif. FPM (m/s)	892 (4.5)	966 (4.8)	1040 (5.2)	1115 (5.6)	1189 (5.9)	1263 (6.3)	1338 (6.7)
1150 x 100	46" x 4"	0.062	ΔPt (pa)	6.5	7.3	9.0	10.0	12.0	14.0	15.0
750 x 150	30" x 6"	0.063	Th. (m)	7.7-13.5- /	8.6-14.8- /	9.3-16- /	10.2-18- /	11.8-20- /	13-23- /	14-26- /
450 x 250	18" x 10"	0.065	Noise Level	22	24	26	28	30	32	33
600 x 200	24" x 8"	0.067	Veif. FPM (m/s)	820 (4.1)	888 (4.4)	956 (4.8)	1025 (5.1)	1093 (5.5)	1161 (5.8)	1229 (6.1)
800 x 150	32" x 6"	0.068	ΔPt (pa)	5.0	7.0	8.0	9.5	9.8	11.0	12.0
400 x 300	16" x 12"	0.069	Th. (m)	7.6-13.0- /	8.4-14.5- /	9.2-15.9- /	10-17.5- /	11.0-19- /	12-20- /	13-23- /
350 x 350	14" x 14"	0.069	Noise Level	21	23	25	27	28	30	31

Tabular Selection for Double Deflection Grilles / Registers

Model S A R & SAG (HFB or VFB) DD

SIZE (L) x (H)		A eff. m 2	Flow Rate L/S (CFM)	200	(425)	212	(450)	224	(475)	236	(500)	260	(550)	283	(600)	307	(650)	330	(700)	354	(750)	378	(800)
mm	Inch																						
1300 x 100	52" x 4"	0.070	Veff. FPM (m/s)	552 (2.8)	585 (2.9)	617 (3.1)	650 (3.2)	715 (3.6)	780 (3.9)	844 (4.2)	909 (4.5)	974 (4.9)	1039 (5.2)										
850 x 150	34" x 6"	0.072	ΔPt (pa)	1.5	2.0	2.5	3.0	3.5	4.5	5.5	6.1	7.4	7.6										
650 x 200	26" x 8"	0.072	Th. (m)	4.5-8.0-18	4.8-8.5-19	5-9.2-19.8	5.5-9.7-21	6.3-11-25	7.3-12.5-29	8.0-14.0- /	8.3-14.9- /	9.5-16.5- /	10.5-18- /										
500 x 250	20" x 10"	0.073	Noise Level	<15	<15	<15	<15	16	19	21	23	24	26										
1350 x 100	54" x 4"	0.073																					
1400 x 100	56" x 4"	0.076	Veff. FPM (m/s)	513 (2.6)	543 (2.7)	573 (2.9)	603 (3.0)	664 (3.3)	724 (3.6)	784 (3.9)	844 (4.2)	905 (4.5)	965 (4.8)										
550 x 250	22" x 10"	0.077	ΔPt (pa)	1.0	1.2	1.5	2.3	3.0	3.9	4.5	5.2	6.2	7.0										
450 x 300	18" x 12"	0.077	Th. (m)	4.3-7.6-17	4.4-7.7-17.3	4.6-8.1-18.2	5.3-9.5-20	6.0-10.7-24	7.9-12-28	9.1-13.5- /	8.3-14.5- /	9.3-15.8- /	10-17.5- /										
700 x 200	28" x 8"	0.078	Noise Level	<15	<15	<15	<15	<15	16	19	20	22	24										
400 x 350	16" x 14"	0.080	Veff. FPM (m/s)	479 (2.4)	507 (2.5)	535 (2.7)	563 (2.8)	619 (3.1)	676 (3.4)	732 (3.7)	788 (3.9)	844 (4.2)	901 (4.5)										
950 x 150	38" x 6"	0.081	ΔPt (pa)	0.8	1.0	1.3	2.1	2.5	3.0	4.0	4.6	5.2	6.0										
750 x 200	30" x 8"	0.084	Th. (m)	4.2-7.5-16.8	4.5-8-17.5	4.7-8.2-18.5	5-9.0-19.5	5.7-10.2-23	6.6-11.5-26	7.5-13-30	8.0-14- /	9.0-15- /	9.7-17- /										
600 x 250	24" x 10"	0.085	Noise Level	<15	<15	<15	<15	<15	<15	17	19	21	23										
1000 x 150	40" x 6"	0.086	Veff. FPM (m/s)	454 (2.3)	480 (2.4)	507 (2.5)	534 (2.7)	587 (2.9)	641 (3.2)	694 (3.5)	747 (3.7)	801 (4.0)	854 (4.3)										
500 x 300	20" x 12"	0.087	ΔPt (pa)	0.7	0.9	1.0	1.5	2.1	2.9	3.5	4.2	5.0	5.8										
1050 x 150	42" x 6"	0.088	Th. (m)	4.1-7.3-16.5	4.4-7.8-17.2	4.6-8.4-18.3	4.9-8.9-19.2	5.6-10-23	6.5-11.3-25	7.3-12.9-30	7.9-13.9- /	8.6-14.9- /	9.5-16.5- /										
800 x 200	32" x 8"	0.090	Noise Level	<15	<15	<15	<15	<15	<15	16	18	20	22										
450 x 350	18" x 14"	0.090	Veff. FPM (m/s)	431 (2.2)	457 (2.3)	482 (2.4)	508 (2.5)	558 (2.8)	609 (3.0)	660 (3.3)	711 (3.6)	761 (3.8)	812 (4.1)										
650 x 250	26" x 10"	0.092	ΔPt (pa)	0.7	0.8	0.9	1.0	1.5	2.5	3.2	3.8	4.5	5.0										
550 x 300	22" x 12"	0.092	Th. (m)	4.0-7.0-16	4.2-7.5-17	4.6-8.0-18	4.8-8.6-19	5.4-9.8-21	6.2-11-25	7.2-12.5-29	7.7-13.5- /	8.5-14.5- /	9.3-16- /										
400 x 400	16" x 16"	0.093	Noise Level	<15	<15	<15	<15	<15	<15	16	18	20	21										
850 x 200	34" x 8"	0.095	Veff. FPM (m/s)	403 (2.0)	427 (2.1)	450 (2.3)	474 (2.4)	521 (2.6)	569 (2.8)	616 (3.1)	664 (3.3)	711 (3.6)	758 (3.8)										
1150 x 150	46" x 6"	0.097	ΔPt (pa)	0.5	0.6	0.7	0.8	1.0	1.5	2.5	3.0	3.6	4.0										
700 x 250	28" x 10"	0.100	Th. (m)	3.8-6.6-15	4.1-7.1-16.1	4.3-7.6-17.1	4.6-8.1-18	5.2-9.4-20	6.0-10.5-24	7.0-12-28	7.4-13-30	8.0-14- /	9.0-15- /										
900 x 200	36" x 8"	0.101	Noise Level	<15	<15	<15	<15	<15	<15	<15	15	17	19										
600 x 300	24" x 12"	0.101																					
500 x 350	20" x 14"	0.101																					
1200 x 150	48" x 6"	0.102	Veff. FPM (m/s)	378 (1.9)	400 (2.0)	422 (2.1)	444 (2.2)	489 (2.4)	533 (2.7)	578 (2.9)	622 (3.1)	667 (3.3)	711 (3.6)										
450 x 400	18" x 16"	0.104	Pt (pa)	0.3	0.5	0.6	0.7	0.9	1.4	1.5	2.6	3.3	3.8										
550 x 350	22" x 14"	0.106	Th. (m)	3.7-6.5-15	4.0-7.0-16	4.2-7.5-17	4.5-8.0-17.8	5-9.1-19.7	5.7-10.2-21	6.7-11.0-25	7.3-12.8-30	8.0-13.8- /	8.7-14.8- /										
950 x 200	38" x 8"	0.107	Noise Level	<15	<15	<15	<15	<15	<15	<15	<15	16	18										
750 x 250	30" x 10"	0.107																					

Tabular Selection for Double Deflection Grilles / Registers Model S A R & SAG (HFB or VFB) DD

SIZE (L) x (H)		A _{eff.} m ²	Flow Rate L/s (CFM)	401 (850)	425 (900)	448 (950)	472 (1000)	495 (1050)	519 (1100)	543 (1150)	566 (1200)	590 (1250)	613 (1300)
mm	Inch												
1300 x 100	52" x 4"	0.070	Verif. FPM (m/s)	1104 (5.5)	1169 (5.8)	1234 (6.2)	1299 (6.5)	1364 (6.8)	1429 (7.1)	1494 (7.5)	1559 (7.8)	1624 (8.1)	1689 (8.4)
850 x 150	34" x 6"	0.072	ΔPt (pa)	9.7	10.5	12.0	12.5	14.0	15.0	16.0	18.0	19.0	21.0
650 x 200	26" x 8"	0.072	Th. (m)	11.7-20 - /	12.5-23- /	13-25- /	14.0-26- /	14-29.5- /	15.5- / - /	16.3- / - /	16.5- / - /	18- / - /	19- / - /
500 x 250	20" x 10"	0.073	Noise Level	28	29	30	31	32	33	34	35	36	37
1350 x 100	54" x 4"	0.073											
1400 x 100	56" x 4"	0.076	Verif. FPM (m/s)	1025 (5.1)	1086 (5.4)	1146 (5.7)	1206 (6.0)	1267 (6.3)	1327 (6.6)	1387 (6.9)	1448 (7.2)	1508 (7.5)	1568 (7.8)
550 x 250	22" x 10"	0.077	ΔPt (pa)	8.5	9.0	10.0	10.5	11.0	13.0	14.3	15.0	17.0	18.5
450 x 300	18" x 12"	0.077	Th. (m)	11.0-19- /	12-21.5- /	12.9-23- /	13.2-25- /	14-29.2- /	15- / - /	16- / - /	17- / - /	18.5- / - /	18.7- / - /
700 x 200	28" x 8"	0.078	Noise Level	26	27	28	29	30	31	32	33	35	36
400 x 350	16" x 14"	0.080	Verif. FPM (m/s)	957 (4.8)	1013 (5.1)	1070 (5.3)	1126 (5.6)	1182 (5.9)	1239 (6.2)	1295 (6.5)	1351 (6.8)	1407 (7.0)	1464 (7.3)
950 x 150	38" x 6"	0.081	ΔPt (pa)	7.1	8.0	8.8	9.0	10.0	11.5	12.5	13.5	14.3	15.5
750 x 200	30" x 8"	0.084	Th. (m)	10.8-18.5- /	11.5-19.5- /	12-22.0- /	13-23.0- /	13.5-26- /	14.5-30- /	15- / - /	16- / - /	17- / - /	18- / - /
600 x 250	24" x 10"	0.085	Noise Level	24	25	26	27	29	30	31	32	33	34
1000 x 150	40" x 6"	0.086	Verif. FPM (m/s)	908 (4.5)	961 (4.8)	1014 (5.1)	1068 (5.3)	1121 (5.6)	1175 (5.9)	1228 (6.1)	1281 (6.4)	1335 (6.7)	1388 (6.9)
500 x 300	20" x 12"	0.087	ΔPt (pa)	6.8	7.4	8.1	8.5	9.0	10.0	11.0	12.0	13.0	14.0
1050 x 150	42" x 6"	0.088	Th. (m)	10.5-18- /	10.2-19- /	11.8-20- /	12.5-22- /	13-24- /	14-28- /	14.9-30- /	15.8- / - /	16.5- / - /	17.5- / - /
800 x 200	32" x 8"	0.090	Noise Level	23	24	26	27	28	30	31	32	33	34
450 x 350	18" x 14"	0.090	Verif. FPM (m/s)	863 (4.3)	914 (4.6)	964 (4.8)	1015 (5.1)	1066 (5.3)	1117 (5.6)	1168 (5.8)	1218 (6.1)	1269 (6.3)	1320 (6.6)
650 x 250	26" x 10"	0.092	ΔPt (pa)	6.0	6.5	7.0	7.5	8.5	9.0	10.5	11.5	12.0	13.0
550 x 300	22" x 12"	0.092	Th. (m)	10-17.5- /	11-19.0- /	12.0-20- /	12.3-21- /	13-23- /	14-27- /	14.8-30- /	10.5- / - /	16- / - /	17- / - /
400 x 400	16" x 16"	0.093	Noise Level	23	24	25	26	27	29	30	31	32	33
850 x 200	34" x 8"	0.095	Verif. FPM (m/s)	806 (4.0)	853 (4.3)	900 (4.5)	948 (4.7)	995 (5.0)	1043 (5.2)	1090 (5.5)	1137 (5.7)	1185 (5.9)	1232 (6.2)
1150 x 150	46" x 6"	0.097	ΔPt (pa)	5.0	5.5	6.0	6.3	7.2	7.4	8.4	9.0	9.8	10.5
700 x 250	28" x 10"	0.100	Th. (m)	9.7-15.8- /	10.2-18- /	10.3-19- /	11.2-19.5- /	12.2-21- /	13-25- /	13.8-27- /	14.8-30- /	15.2- / - /	16.1- / - /
900 x 200	36" x 8"	0.101	Noise Level	21	22	23	24	25	26	27	28	29	30
600 x 300	24" x 12"	0.101											
500 x 350	20" x 14"	0.101											
1200 x 150	48" x 6"	0.102	Verif. FPM (m/s)	756 (3.8)	800 (4.0)	844 (4.2)	889 (4.4)	933 (4.7)	978 (4.9)	1022 (5.1)	1067 (5.3)	1111 (5.6)	1156 (5.8)
450 x 400	18" x 16"	0.104	ΔPt (pa)	4.6	5.0	5.3	6.0	6.7	7.0	7.5	8.2	9.0	9.8
550 x 350	22" x 14"	0.106	Th. (m)	9.4-16.2- /	10-17.5- /	10.2-18.5- /	11-19.2- /	12-20- /	12.8-23- /	14-27- /	14.2-29- /	27- / - /	30- / - /
950 x 200	38" x 8"	0.107	Noise Level	20	21	22	23	24	25	26	27	28	29
750 x 250	30" x 10"	0.107											

Tabular Selection for Double Deflection Grilles / Registers

Model S A R & SAG (HFB or VFB) DD

SIZE (L) x (H)		A _{eff.} m ²	Flow Rate L/S (CFM)	637 (1350)	661 (1400)	684 (1450)	708 (1500)	731 (1550)	755 (1600)	779 (1650)	802 (1700)	826 (1750)	849 (1800)
mm	Inch												
1300 x 100	52" x 4"	0.070	Veif. FPM (m/s)	1754 (8.8)	1819 (9.1)	1884 (9.4)							
850 x 150	34" x 6"	0.072	ΔPt (pa)	22.0	25.0	27.0							
650 x 200	26" x 8"	0.072	Th. (m)	20- / - /	23- / - /	25- / - /							
500 x 250	20" x 10"	0.073	Noise Level	38	39	40							
1350 x 100	54" x 4"	0.073											
1400 x 100	56" x 4"	0.076	Veif. FPM (m/s)	1629 (8.1)	1689 (8.4)	1749 (8.7)	1810 (9.0)						
550 x 250	22" x 10"	0.077	ΔPt (pa)	20.0	22.0	24.0	26.0						
450 x 300	18" x 12"	0.077	Th. (m)	19.5- / - /	21- / - /	23- / - /	25- / - /						
700 x 200	28" x 8"	0.078	Noise Level	37	38	39	40						
400 x 350	16" x 14"	0.080	Veif. FPM (m/s)	1520 (7.6)	1576 (7.9)	1633 (8.2)	1689 (8.4)	1745 (8.7)					
950 x 150	38" x 6"	0.081	ΔPt (pa)	17.0	18.5	20.0	21.0	21.3					
750 x 200	30" x 8"	0.084	Th. (m)	18.8- / - /	20- / - /	21- / - /	23- / - /	25- / - /					
600 x 250	24" x 10"	0.085	Noise Level	35	36	37	38	39					
1000 x 150	40" x 6"	0.086	Veif. FPM (m/s)	1441 (7.2)	1495 (7.5)	1548 (7.7)	1602 (8.0)	1655 (8.3)	1708 (8.5)	1762 (8.8)	1815 (9.1)		
500 x 350	20" x 14"	0.087	ΔPt (pa)	15.2	16.0	17.5	19.0	20.0	21.0	21.2	25.0		
1050 x 150	42" x 6"	0.088	Th. (m)	18.2- / - /	19.4- / - /	20.2- / - /	22.5- / - /	24- / - /	25- / - /	27- / - /	28- / - /		
			Noise Level	35	35	36	37	38	39	39	40		
800 x 200	32" x 8"	0.090	Veif. FPM (m/s)	1371 (6.9)	1421 (7.1)	1472 (7.4)	1523 (7.6)	1574 (7.9)	1624 (8.1)	1675 (8.4)	1726 (8.6)	1777 (8.9)	
450 x 350	18" x 14"	0.090	ΔPt (pa)	14.0	15.5	16.0	17.5	19.0	20.0	20.5	21.0	25.0	
650 x 250	26" x 10"	0.092	Th. (m)	18- / - /	19- / - /	20- / - /	22- / - /	23- / - /	24- / - /	25- / - /	27- / - /	29- / - /	
550 x 300	22" x 12"	0.092	Noise Level	34	35	35	36	37	38	38	39	40	
400 x 400	16" x 16"	0.093											
850 x 200	34" x 8"	0.095	Veif. FPM (m/s)	1280 (6.4)	1327 (6.6)	1374 (6.9)	1422 (7.1)	1469 (7.3)	1517 (7.6)	1564 (7.8)	1611 (8.1)	1659 (8.3)	1706 (8.5)
1150 x 150	46" x 6"	0.097	ΔPt (pa)	11.0	11.5	13.5	14.5	16.0	16.4	17.0	18.0	19.0	20.0
700 x 250	28" x 10"	0.100	Th. (m)	17- / - /	18.5- / - /	19- / - /	19.5- / - /	21- / - /	22- / - /	23- / - /	25- / - /	27- / - /	28- / - /
900 x 200	36" x 8"	0.101	Noise Level	31	32	33	34	35	36	37	37	38	39
600 x 300	24" x 12"	0.101											
500 x 350	20" x 14"	0.101											
1200 x 150	48" x 6"	0.102	Veif. FPM (m/s)	1200 (6.0)	1245 (6.2)	1289 (6.4)	1333 (6.7)	1378 (6.9)	1422 (7.1)	1467 (7.3)	1511 (7.6)	1556 (7.8)	1600 (8.0)
450 x 400	18" x 16"	0.104	ΔPt (pa)	10.5	11.5	13.0	14.0	14.2	15.0	16.0	16.4	18.5	19.0
550 x 350	22" x 14"	0.106	Th. (m)	—	—	—	—	—	—	—	—	—	—
950 x 200	38" x 8"	0.107	Noise Level	30	31	32	33	34	34	35	35	36	37
750 x 250	30" x 10"	0.107											

Tabular Selection for Double Deflection Grilles / Registers Model S A R & SAG (HFB or VFB) DD

SIZE (L) x (H)		A _{eff.} m ²	Flow Rate L/S (CFM)	330 (700)	354 (750)	378 (800)	401 (850)	425 (900)	448 (950)	472 (1000)	495 (1050)	519 (1100)	543 (1150)
mm	Inch												
650 x 300	26" x 12"	0.109	V _{eff.} FPM (m/s)	583 (2.9)	625 (3.1)	667 (3.3)	708 (3.5)	750 (3.7)	791 (4.0)	833 (4.2)	875 (4.4)	916 (4.6)	958 (4.8)
1300 x 150	52" x 6"	0.110	Δ Pt (pa)	2.1	2.7	3.3	3.9	4.3	4.6	5.0	5.3	5.6	6.6
1000 x 200	40" x 8"	0.113	Th. (m)	7.2-12.2-28	7.7-13.5- /	8.3-14.5- /	9.2-15.5- /	9.7-16.9- /	10.5-18- /	10.8-18.5- /	11.5-19.5- /	12.5-21.9- /	13-24- /
1350 x 150	54" x 6"	0.114	Noise Level	<15	15	16	19	20	21	22	23	24	25
800 x 250	32" x 10"	0.115	V _{eff.} FPM (m/s)	561 (2.8)	601 (3.0)	641 (3.2)	681 (3.4)	721 (3.6)	761 (3.8)	801 (4.0)	841 (4.2)	881 (4.4)	921 (4.6)
500 x 400	20" x 16"	0.116	Δ Pt (pa)	1.6	2.3	2.9	3.4	3.8	4.2	4.4	4.8	5.2	6.0
450 x 450	18" x 18"	0.116	Th. (m)	7-12-28.2	7.5-13- /	8.0-14- /	9-15- /	9.4-16- /	9.9-17.3- /	10.4-17- /	11.0-19- /	12.0-12- /	12.8-23- /
1050 x 200	42" x 8"	0.116	Noise Level	<15	<15	15	17	19	20	21	22	23	24
600 x 350	24" x 14"	0.117											
700 x 300	28" x 12"	0.119	V _{eff.} FPM (m/s)	529 (2.6)	566 (2.8)	604 (3.0)	642 (3.2)	680 (3.4)	717 (3.6)	755 (3.8)	793 (4.0)	831 (4.2)	869 (4.3)
1400 x 150	56" x 6"	0.119	Δ Pt (pa)	1.3	1.6	2.3	3.0	3.3	3.7	3.8	4.4	4.8	5.2
850 x 250	34" x 10"	0.121	Th. (m)	6.7-11.5-28	7.2-12.5-30	7.8-13.5- /	8.5-14.5- /	9.2-15.5- /	9.4-16- /	9.7-16.9- /	10.5-18.5- /	12.0-20- /	12.4-22- /
1100 x 200	44" x 8"	0.122	Noise Level	<15	<15	<15	16	17	18	19	20	21	22
1450 x 150	58" x 6"	0.123	V _{eff.} FPM (m/s)	494 (2.5)	530 (2.6)	565 (2.8)	600 (3.0)	636 (3.2)	671 (3.4)	706 (3.5)	742 (3.7)	777 (3.9)	812 (4.1)
550 x 400	22" x 16"	0.123	Δ Pt (pa)	0.8	1.3	1.5	2.3	2.7	3.0	3.2	3.6	4.1	4.3
750 x 300	30" x 12"	0.127	Th. (m)	6.3-11-25	7.1-12.2-28	7.7-13.2- /	8.3-14.2- /	9.0-15- /	9.3-16- /	9.5-16.5- /	10.2-18- /	11.0-19- /	11.8-20- /
650 x 350	26" x 14"	0.127	Noise Level	<15	<15	<15	<15	15	17	18	19	20	21
1500 x 150	60" x 6"	0.128	V _{eff.} FPM (m/s)	473 (2.4)	507 (2.5)	540 (2.7)	574 (2.9)	608 (3.0)	642 (3.2)	676 (3.4)	709 (3.5)	743 (3.7)	777 (3.9)
1150 x 200	46" x 8"	0.128	Δ Pt (pa)	0.7	1.0	1.3	1.9	2.3	2.7	3.0	3.3	3.6	4.1
900 x 250	36" x 10"	0.129	Th. (m)	6.1-10.8-23	7.0-12-27	7.5-13- /	8.0-14- /	8.6-14.5- /	9.1-15.5- /	9.4-16- /	10-17- /	10.8-18.9- /	11.5-19.8- /
500 x 450	20" x 18"	0.130	Noise Level	<15	<15	<15	<15	<15	16	17	18	19	20
1200 x 200	48" x 8"	0.134	V _{eff.} FPM (m/s)	447 (2.2)	479 (2.4)	511 (2.6)	543 (2.7)	575 (2.9)	607 (3.0)	638 (3.0)	670 (3.4)	702 (3.5)	734 (3.7)
600 x 400	24" x 16"	0.135	Δ Pt (pa)	0.6	0.7	0.9	1.3	1.8	2.0	2.3	2.8	3.3	3.6
950 x 250	38" x 10"	0.136	Th. (m)	5.9-10.5-22	6.6-11.8-26	7.3-12.8-30	7.9-13.5- /	8.3-14.4- /	8.9-15- /	9.3-15.8- /	9.9-17- /	10.7-18.5- /	11.0-19- /
800 x 300	32" x 12"	0.144	Noise Level	<15	<15	<15	<15	<15	<15	<15	17	18	19
700 x 350	28" x 14"	0.137	V _{eff.} FPM (m/s)	447 (2.2)	479 (2.4)	511 (2.6)	543 (2.7)	575 (2.9)	607 (3.0)	638 (3.0)	670 (3.4)	702 (3.5)	734 (3.7)
550 x 450	22" x 18"	0.137	Δ Pt (pa)	0.6	0.7	0.9	1.3	1.8	2.0	2.3	2.8	3.3	3.6
1250 x 200	50" x 8"	0.139	Th. (m)	5.9-10.5-22	6.6-11.8-26	7.3-12.8-30	7.9-13.5- /	8.3-14.4- /	8.9-15- /	9.3-15.8- /	9.9-17- /	10.7-18.5- /	11.0-19- /
1000 x 250	40" x 10"	0.144	Noise Level	<15	<15	<15	<15	<15	<15	<15	17	18	19
850 x 300	34" x 12"	0.144	V _{eff.} FPM (m/s)	447 (2.2)	479 (2.4)	511 (2.6)	543 (2.7)	575 (2.9)	607 (3.0)	638 (3.0)	670 (3.4)	702 (3.5)	734 (3.7)
1300 x 200	52" x 8"	0.145	Δ Pt (pa)	0.6	0.7	0.9	1.3	1.8	2.0	2.3	2.8	3.3	3.6
650 x 400	26" x 16"	0.146	Th. (m)	5.9-10.5-22	6.6-11.8-26	7.3-12.8-30	7.9-13.5- /	8.3-14.4- /	8.9-15- /	9.3-15.8- /	9.9-17- /	10.7-18.5- /	11.0-19- /
500 x 500	20" x 20"	0.146	Noise Level	<15	<15	<15	<15	<15	<15	<15	17	18	19
750 x 350	30" x 14"	0.147											

Tabular Selection for Double Deflection Grilles / Registers Model S A R & SAG (HFB or VFB) DD

SIZE (L) x (H)		A _{eff.} m ²	Flow Rate L/S (CFM)	566 (1200)	590 (1250)	613 (1300)	637 (1350)	661 (1400)	684 (1450)	708 (1500)	731 (1550)	755 (1600)	779 (1650)
mm	Inch												
650 x 300	26" x 12"	0.109	Verif. FPM (m/s)	1000 (5.5)	1041 (5.2)	1083 (5.4)	1125 (5.6)	1166 (5.8)	1208 (6.0)	1250 (6.2)	1291 (6.5)	1333 (6.7)	1375 (6.9)
1300 x 150	52" x 6"	0.110	Δ Pt	7.1	7.8	8.5	9.0	9.8	11.0	11.5	11.6	13.0	13.5
1000 x 200	40" x 8"	0.113	Th.	13.9-27- /	14.5-29- /	15- / - /	16- / - /	17- / - /	18- / - /	18.5- / - /	19.5- / - /	20- / - /	21- / - /
1350 x 150	54" x 6"	0.114	Noise Level	26	27	28	29	30	31	32	33	33	34
800 x 250	32" x 10"	0.115	Verif. FPM (m/s)	961 (4.8)	1001 (5.0)	1041 (5.2)	1081 (5.4)	1121 (5.6)	1161 (5.8)	1201 (6.0)	1241 (6.2)	1281 (6.4)	1321 (6.6)
500 x 400	20" x 16"	0.116	Δ Pt	6.6	7.0	7.8	8.0	8.6	9.4	10.0	10.5	11.5	12.0
450 x 450	18" x 18"	0.116	Th.	13.4-25- /	14-28- /	14.8-30- /	15.5- / - /	16.5- / - /	17.5- / - /	18- / - /	19- / - /	19.5- / - /	20- / - /
1050 x 200	42" x 8"	0.116	Noise Level	25	26	27	28	29	30	31	31	32	33
600 x 350	24" x 14"	0.117											
700 x 300	28" x 12"	0.119	Verif. FPM (m/s)	906 (4.5)	944 (4.7)	982 (4.9)	1020 (5.1)	1057 (5.3)	1095 (5.5)	1133 (5.7)	1171 (5.9)	1208 (6.0)	1246 (6.2)
1400 x 150	56" x 6"	0.119	Δ Pt	5.3	6.2	6.6	7.1	7.8	8.5	9.0	9.4	9.8	10.5
850 x 250	34" x 10"	0.121	Th.	13.0-24- /	13.8-27- /	14.2-29- /	15.0-30- /	16- / - /	17- / - /	17.5- / - /	18- / - /	19- / - /	19.5- / - /
1100 x 200	44" x 8"	0.122	Noise Level	23	24	25	26	27	28	29	30	30	31
1450 x 150	58" x 6"	0.123											
550 x 400	22" x 16"	0.123	Verif. FPM (m/s)	848 (4.2)	883 (4.4)	918 (4.6)	954 (4.8)	989 (4.9)	1024 (5.1)	1060 (5.3)	1095 (5.5)	1130 (5.7)	1166 (5.8)
750 x 300	30" x 12"	0.127	Δ Pt	4.6	5.0	5.3	6.0	6.6	6.8	7.8	8.0	8.5	9.0
650 x 350	26" x 14"	0.127	Th.	12.5-24- /	13-24.4- /	13.8-27- /	14.4-29- /	15- / - /	16- / - /	16.9- / - /	17.5- / - /	18- / - /	18.5- / - /
1500 x 150	60" x 6"	0.128	Noise Level	22	23	24	25	26	27	28	29	29	30
1150 x 200	46" x 8"	0.128	Verif. FPM (m/s)	811 (4.1)	844 (4.2)	878 (4.4)	912 (4.6)	946 (4.7)	980 (4.9)	1013 (5.1)	1047 (5.2)	1081 (5.4)	1115 (5.6)
900 x 250	36" x 10"	0.129	Δ Pt	4.3	4.8	5.0	5.2	6.2	6.6	6.8	7.1	7.8	7.0
500 x 450	20" x 18"	0.130	Th.	12.0-21- /	12.8-23- /	13.5-26- /	14.0-28- /	14.9-30- /	15- / - /	16.4- / - /	16.9- / - /	17.5- / - /	18- / - /
1200 x 200	48" x 8"	0.134	Noise Level	21	22	23	24	25	26	27	28	28	29
600 x 400	24" x 16"	0.135											
950 x 250	38" x 10"	0.136	Verif. FPM (m/s)	766 (3.8)	798 (4.0)	830 (4.1)	862 (4.3)	894 (4.5)	926 (4.6)	958 (4.8)	990 (4.9)	1022 (5.1)	1053 (5.3)
800 x 300	32" x 12"	0.136	Δ Pt	3.8	4.3	4.6	5.0	5.3	5.8	6.2	6.6	7.0	7.3
700 x 350	28" x 14"	0.137	Th.	11.9-20- /	12.5-22- /	12.8-23- /	13.0-24- /	14.7-27- /	15- / - /	15.8- / - /	16.5- / - /	17- / - /	17.9- / - /
550 x 450	22" x 18"	0.137	Noise Level	20	21	22	23	24	25	26	26	27	28
1250 x 200	50" x 8"	0.139											
1000 x 250	40" x 10"	0.144	Verif. FPM (m/s)										
850 x 300	34" x 12"	0.144	Δ Pt										
1300 x 200	52" x 8"	0.145	Th.										
650 x 400	26" x 16"	0.146	Noise Level										
500 x 500	20" x 20"	0.146											
750 x 350	30" x 14"	0.147											

Tabular Selection for Double Deflection Grilles / Registers Model S A R & SAG (HFB or VFB) DD

SIZE (L) x (H)		A _{eff.} m ²	Flow Rate L/S (CFM)	802 (1700)	826 (1750)	849 (1800)	873 (1850)	897 (1900)	920 (1950)	944 (2000)	967 (2050)	991 (2100)	1015 (2150)
mm	Inch												
650 x 300	26" x 12"	0.109	V _{eff.} FPM (m/s)	1416 (7.1)	1458 (7.3)	1500 (7.5)	1541 (7.7)	1583 (7.9)	1625 (8.1)	1666 (8.3)	1708 (8.5)	1750 (8.7)	1791 (9.0)
1300 x 150	52" x 6"	0.110	Δ Pt (pa)	14.2	15.0	16.2	17.0	17.5	18.4	19.5	20.5	22.0	23.0
1000 x 200	40" x 8"	0.113	Th. (m)	22-/-	24-/-	25-/-	27-/-	28-/-	30-/-	—	—	—	—
1350 x 150	54" x 6"	0.114	Noise Level	35	35	36	37	37	38	39	39	40	40
800 x 250	32" x 10"	0.115	V _{eff.} FPM (m/s)	1361 (6.8)	1401 (7.0)	1441 (7.2)	1481 (7.4)	1522 (7.6)	1562 (7.8)	1602 (8.0)	1642 (8.2)	1682 (8.4)	1722 (8.6)
500 x 400	20" x 16"	0.116	Δ Pt (pa)	13.0	13.8	14.2	15.0	16.0	16.2	17.2	18.4	18.8	21.0
450 x 450	18" x 18"	0.116	Th. (m)	21-/-	23-/-	24-/-	26-/-	27-/-	29-/-	30-/-	—	—	—
1050 x 200	42" x 8"	0.116	Noise Level	33	34	35	35	36	36	37	38	38	39
600 x 350	24" x 14"	0.117											
700 x 300	28" x 12"	0.119	V _{eff.} FPM (m/s)	1284 (6.4)	1322 (6.6)	1359 (6.8)	1397 (7.0)	1435 (7.2)	1473 (7.4)	1510 (7.6)	1548 (7.7)	1586 (7.9)	1624 (8.1)
1400 x 150	56" x 6"	0.119	Δ Pt (pa)	11.0	12.0	11.6	13.1	13.9	14.2	15.5	16.2	17.0	18.0
850 x 250	34" x 10"	0.121	Th. (m)	20-/-	21.5-/-	23-/-	24-/-	26-/-	27-/-	28-/-	30-/-	—	—
1100 x 200	44" x 8"	0.122	Noise Level	32	32	33	34	35	35	36	36	37	37
1450 x 150	58" x 6"	0.123											
550 x 400	22" x 16"	0.123											
750 x 300	30" x 12"	0.127											
650 x 350	26" x 14"	0.127											
1500 x 150	60" x 6"	0.128	V _{eff.} FPM (m/s)	1201 (6.0)	1236 (6.2)	1272 (6.4)	1307 (6.5)	1342 (6.7)	1378 (6.9)	1413 (7.1)	1448 (7.2)	1483 (7.4)	1519 (7.6)
1150 x 200	46" x 8"	0.128	Δ Pt (pa)	9.4	9.8	10.5	11.0	11.5	12.0	13.0	13.8	14.2	15.0
900 x 250	36" x 10"	0.129	Th. (m)	19-/-	20-/-	20.5-/-	22-/-	24-/-	25-/-	26-/-	28-/-	30-/-	—
500 x 450	20" x 18"	0.130	Noise Level	31	31	32	33	33	34	34	35	36	36
1200 x 200	48" x 8"	0.134											
600 x 400	24" x 16"	0.135											
950 x 250	38" x 10"	0.136	V _{eff.} FPM (m/s)	1149 (5.7)	1182 (5.9)	1216 (6.1)	1250 (6.2)	1284 (6.4)	1317 (6.6)	1351 (6.8)	1385 (6.9)	1419 (7.1)	1453 (7.3)
800 x 300	32" x 12"	0.136	Δ Pt (pa)	8.6	9.0	9.4	10.0	10.5	11.4	12.0	13.0	13.1	14.0
700 x 350	28" x 14"	0.137	Th. (m)	18.8-/-	19.3-/-	20-/-	21-/-	23-/-	24-/-	25.5-/-	27-/-	29-/-	30-/-
550 x 450	22" x 18"	0.137	Noise Level	29	30	31	32	32	33	33	34	35	35
1250 x 200	50" x 8"	0.139											
1000 x 250	40" x 10"	0.144	V _{eff.} FPM (m/s)	1085 (5.4)	1117 (5.6)	1149 (5.7)	1181 (5.9)	1213 (6.1)	1245 (6.2)	1277 (6.4)	1309 (6.5)	1341 (6.7)	1373 (6.9)
850 x 300	34" x 12"	0.144	Δ Pt (pa)	7.8	8.0	8.5	9.0	9.4	10.0	10.5	11.0	11.4	12.5
1300 x 200	52" x 8"	0.145	Th. (m)	18.3-/-	19-/-	19.5-/-	20-/-	22-/-	23-/-	24-/-	26-/-	27-/-	28-/-
650 x 400	26" x 16"	0.146	Noise Level	28	29	29	30	30	31	32	33	34	34
500 x 500	20" x 20"	0.146											
750 x 350	30" x 14"	0.147											

Tabular Selection for Double Deflection Grilles / Registers

Model S A R & SAG (HFB or VFB) DD

SIZE (L) x (H)		A _{eff.} m ²	Flow Rate L/S (CFM)	472 (1000)	496 (1050)	519 (1100)	543 (1150)	566 (1200)	590 (1250)	613 (1300)	661 (1400)	708 (1500)	755 (1600)
mm	Inch												
1050 x 250	42"x10"	0.148	V _{eff.} FPM (m/s)	615 (3.1)	646 (3.2)	677 (3.4)	707 (3.5)	738 (3.7)	769 (3.8)	800 (4.0)	861 (4.3)	923 (4.6)	984 (4.9)
1350 x 200	54"x 8"	0.151	△ Pt (pa)	2.1	2.6	3.0	3.3	3.6	3.9	4.3	5.0	5.6	6.4
600 x 450	24"x18"	0.151	Th. (m)	9-15.1- /	9.5-16.5- /	10.5-18- /	11-19- /	11.8-19.8- /	12.1-21- /	13-24- /	14.2-28- /	15.5- / - /	16.8- / - /
900 x 300	36"x12"	0.154	Noise Level	<15	<15	17	18	19	20	21	23	24	26
550 x 500	22"x20"	0.154											
1100 x 250	44"x10"	0.156	V _{eff.} FPM (m/s)	584 (2.9)	613 (3.1)	643 (3.2)	672 (3.4)	701 (3.5)	730 (3.7)	760 (3.8)	818 (4.1)	876 (4.4)	935 (4.7)
1400 x 200	56"x 8"	0.157	△ Pt (pa)	1.6	2.0	2.3	2.9	3.2	3.3	3.8	4.4	5.0	5.8
800 x 350	32"x14"	0.158	Th. (m)	9-15.0- /	9.3-16- /	10-17.5- /	10.5-18.2- /	11.2-19.2- /	11.7-20- /	12.5-22- /	13.8-26- /	15- / - /	16.2- / - /
700 x 400	28"x16"	0.159											
950 x 300	38"x12"	0.162	Noise Level	<15	<15	15	17	18	19	20	21	23	25
1450 x 200	58"x 8"	0.162											
1150 x 250	46"x10"	0.163	V _{eff.} FPM (m/s)	556 (2.8)	584 (2.9)	612 (3.1)	640 (3.2)	667 (3.3)	695 (3.5)	723 (3.6)	779 (3.9)	834 (4.2)	890 (4.4)
650 x 450	26"x18"	0.164	△ Pt (pa)	1.4	1.5	2.0	2.3	2.7	3.0	3.2	3.8	4.5	5.0
850 x 350	34"x14"	0.167	Th. (m)	8-4-14.5- /	9-15.3- /	9.6-16.8- /	10.2-17.5- /	10.6-18.5- /	11.4-19.5- /	12-21- /	13.3-25- /	14.8-30- /	15.7- / - /
1500 x 200	60"x 8"	0.169											
750 x 400	30"x16"	0.170	Noise Level	<15	<15	<15	<15	15	17	18	20	22	23
600 x 500	24"x20"	0.170											
1200 x 250	48"x10"	0.171	V _{eff.} FPM (m/s)	525 (2.6)	551 (2.8)	577 (2.9)	604 (3.0)	630 (3.1)	656 (3.3)	682 (3.4)	735 (3.7)	787 (3.9)	840 (4.2)
1000 x 300	40"x12"	0.171	△ Pt (pa)	0.8	1.0	1.4	1.6	1.9	2.3	2.7	3.2	3.8	4.2
1050 x 300	42"x12"	0.176	Th. (m)	8-2-14- /	8.7-14.8- /	9.3-16- /	9.7-17- /	10.3-18- /	11-19- /	11.8-20- /	12.8-23- /	14-28- /	15- / - /
1250 x 250	50"x10"	0.178	Noise Level	<15	<15	<15	<15	<15	<15	15	18	20	21
900 x 350	36"x12"	0.178	V _{eff.} FPM (m/s)	495 (2.5)	520 (2.6)	545 (2.7)	570 (2.8)	595 (3.0)	619 (3.1)	644 (3.2)	694 (3.5)	743 (3.7)	793 (4.0)
700 x 450	28"x18"	0.178	△ Pt (pa)	0.7	0.8	1.0	1.4	1.6	1.9	2.3	3.0	3.4	3.8
800 x 400	32"x16"	0.183	Th. (m)	8-14- /	8.5-14.5- /	9.2-16- /	9.5-16.5- /	10-17.5- /	10.6-18.5- /	11.3-19.3- /	12.8-23- /	13.8-26- /	14.8-30- /
650 x 500	26"x20"	0.184	Noise Level	<15	<15	<15	<15	<15	<15	<15	17	19	20
1100 x 300	44"x12"	0.185	V _{eff.} FPM (m/s)	472 (2.4)	495 (2.5)	519 (2.6)	542 (2.7)	566 (2.8)	589 (2.9)	613 (3.1)	660 (3.3)	707 (3.5)	754 (3.8)
1300 x 250	52"x10"	0.186	△ Pt (pa)	0.6	0.7	0.8	1.0	1.4	1.6	1.9	2.7	3.2	3.4
950 x 350	38"x14"	0.188	Th. (m)	7-8-13.5- /	8.3-14.2- /	9-15- /	9.3-16- /	9.7-17- /	10.3-18- /	11-19- /	12.3-22- /	13.5-26- /	14.5-28- /
750 x 450	30"x18"	0.190	Noise Level	<15	<15	<15	<15	<15	<15	<15	15	18	17
1350 x 250	54"x10"	0.192	V _{eff.} FPM (m/s)	472 (2.4)	495 (2.5)	519 (2.6)	542 (2.7)	566 (2.8)	589 (2.9)	613 (3.1)	660 (3.3)	707 (3.5)	754 (3.8)
1150 x 300	46"x12"	0.194	△ Pt (pa)	0.6	0.7	0.8	1.0	1.4	1.6	1.9	2.7	3.2	3.4
850 x 400	34"x16"	0.194	Th. (m)	7-8-13.5- /	8.3-14.2- /	9-15- /	9.3-16- /	9.7-17- /	10.3-18- /	11-19- /	12.3-22- /	13.5-26- /	14.5-28- /
1000 x 350	40"x14"	0.199	Noise Level	<15	<15	<15	<15	<15	<15	<15	15	18	17
700 x 500	28"x20"	0.199											
1400 x 250	56"x10"	0.200											

Tabular Selection for Double Deflection Grilles / Registers Model S A R & SAG (HFB or VFB) DD

SIZE (L x H)		A _{eff.} m ²	Flow Rate L/S (CFM)	802 (1700)	849 (1800)	897 (1900)	944 (2000)	991 (2100)
mm	Inch							
1050 x 250	42"x10"	0.148	Verif. FPM (m/s)	1046 (5.2)	1107 (5.5)	1169 (5.8)	1230 (6.2)	1292 (6.5)
1350 x 200	54"x 8"	0.151	△ Pt (pa)	7.0	8.0	9.0	9.8	11.5
600 x 450	24"x18"	0.151	Th. (m)	18-/-	19.2-/-	21-/-	23-/-	27-/-
900 x 300	36"x12"	0.154	Noise Level	27	28	30	31	32
550 x 500	22"x20"	0.154						
1100 x 250	44"x10"	0.156	Verif. FPM (m/s)	993 (5.5)	1052 (5.3)	1110 (5.6)	1168 (5.8)	1227 (6.1)
1400 x 200	56"x 8"	0.157	△ Pt (pa)	6.4	7.0	8.0	8.8	9.8
800 x 350	32"x14"	0.158	Th. (m)	17.5-/-	18.6-/-	19.8-/-	22-/-	25-/-
700 x 400	28"x16"	0.159						
950 x 300	38"x12"	0.162	Noise Level	26	27	29	30	31
1450 x 200	58"x 8"	0.162						
1150 x 250	46"x10"	0.163	Verif. FPM (m/s)	946 (4.7)	1001 (5.0)	1057 (5.3)	1112 (5.6)	1168 (5.8)
650 x 450	26"x18"	0.164	△ Pt (pa)	5.6	6.2	6.9	7.8	8.3
850 x 350	34"x14"	0.167	Th. (m)	17-/-	18-/-	19-/-	21-/-	23-/-
1500 x 200	60"x 8"	0.169	Noise Level	24	25	27	28	29
750 x 400	30"x16"	0.170						
600 x 500	24"x20"	0.170						
1200 x 250	48"x10"	0.171	Verif. FPM (m/s)	892 (4.5)	945 (4.7)	997 (5.0)	1050 (5.2)	1102 (5.5)
1000 x 300	40"x12"	0.171	△ Pt (pa)	4.4	5.2	6.0	6.6	7.0
1050 x 300	42"x12"	0.176	Th. (m)	16-/-	16.5-/-	18.5-/-	19.8-/-	22-/-
1250 x 250	50"x10"	0.178	Noise Level	22	24	25	26	27
900 x 350	36"x12"	0.178						
700 x 450	28"x18"	0.178	Verif. FPM (m/s)	842 (4.2)	892 (4.5)	941 (4.7)	991 (5.0)	1040 (5.2)
800 x 400	32"x16"	0.183	△ Pt (pa)	4.3	4.8	5.6	6.0	6.6
650 x 500	26"x20"	0.184	Th. (m)	15.8-/-	17-/-	18-/-	19-/-	21-/-
1100 x 300	44"x12"	0.185	Noise Level	21	22	24	25	26
1300 x 250	52"x10"	0.186	Verif. FPM (m/s)	802 (4.0)	849 (4.2)	896 (4.5)	943 (4.7)	990 (5.0)
950 x 350	38"x14"	0.188	△ Pt (pa)	3.9	4.4	4.8	5.6	6.0
750 x 450	30"x18"	0.190	Th. (m)	15.3-/-	16.5-/-	17.8-/-	19-/-	20-/-
1350 x 250	54"x10"	0.192	Noise Level	20	22	23	24	25
1150 x 300	46"x12"	0.194	Verif. FPM (m/s)					
850 x 400	34"x16"	0.194	△ Pt (pa)					
1000 x 350	40"x14"	0.199	Th. (m)					
700 x 500	28"x20"	0.199	Noise Level					
1400 x 250	56"x10"	0.200						

Tabular Selection for Double Deflection Grilles / Registers Model S A R & SAG (HFB or VFB) DD

SIZE (L) x (H)		A _{eff.} m ²	Flow Rate L/S (CFM)	566 (1200)	613 (1300)	661 (1400)	708 (1500)	755 (1600)	802 (1700)	849 (1800)	897 (1900)	944 (2000)	991 (2100)
mm	Inch												
1200 x 300	48" x 12"	0.203	V _{eff.} FPM (m/s)	536 (2.7)	581 (2.9)	625 (3.1)	670 (3.3)	715 (3.6)	759 (3.8)	804 (4.0)	849 (4.2)	893 (4.5)	938 (4.7)
1050 x 350	42" x 14"	0.204	Δ Pt (pa)	1.0	1.5	2.0	2.7	3.0	3.4	3.9	4.3	4.8	5.3
800 x 450	32" x 18"	0.204	Th. (m)	9.5-16.5- /	10.6-18.4- /	11.8-20- /	13-24- /	14-27- /	14.8- / - /	16- / - /	17- / - /	18.5- / - /	19.5- / - /
900 x 400	36" x 16"	0.206	Noise Level	<15	<15	15	17	18	19	21	22	23	25
1450 x 250	58" x 10"	0.207											
1250 x 300	50" x 12"	0.211											
750 x 500	30" x 20"	0.213											
1500 x 250	60" x 10"	0.215	V _{eff.} FPM (m/s)	508 (2.5)	550 (2.8)	592 (3.0)	635 (3.2)	677 (3.4)	719 (3.6)	762 (3.8)	804 (4.0)	846 (4.2)	889 (4.4)
1100 x 350	44" x 14"	0.215	Δ Pt (pa)	0.8	1.0	1.6	2.3	2.7	3.2	3.5	3.9	4.3	4.8
950 x 400	38" x 16"	0.217	Th. (m)	9.3-15- /	10.4-18- /	11.6-19.8- /	12.8-23- /	13.6-26.5- /	14.5-30- /	15.3- / - /	16.5- / - /	17.8- / - /	18- / - /
850 x 450	34" x 18"	0.217	Noise Level	<15	<15	<15	15	16	18	20	21	22	23
1300 x 300	52" x 12"	0.221											
1150 x 350	46" x 14"	0.224											
800 x 500	32" x 20"	0.229	V _{eff.} FPM (m/s)	479 (2.4)	519 (2.6)	559 (2.8)	599 (3.0)	639 (3.2)	679 (3.4)	719 (3.6)	759 (3.8)	799 (4.0)	839 (4.2)
1350 x 300	54" x 12"	0.229	Δ Pt (pa)	0.6	0.7	1.0	1.5	2.0	2.3	2.7	3.2	3.6	3.8
1000 x 400	40" x 16"	0.230	Th. (m)	9-14.5- /	9.7-17- /	11-19- /	12.3-22.5- /	13-23- /	14-27.5- /	14.8-30- /	16- / - /	17- / - /	18- / - /
900 x 450	36" x 18"	0.231	Noise Level	<15	<15	<15	<15	15	16	17	18	20	21
1200 x 350	48" x 14"	0.235											
1050 x 400	42" x 16"	0.236											
1400 x 300	56" x 12"	0.238	V _{eff.} FPM (m/s)	458 (2.3)	496 (2.5)	534 (2.7)	572 (2.9)	610 (3.1)	649 (3.2)	687 (3.4)	725 (3.6)	763 (3.8)	801 (4.0)
950 x 450	38" x 18"	0.243	Δ Pt (pa)	0.4	0.6	0.7	1.0	1.4	1.5	2.3	2.7	3.1	3.4
850 x 500	34" x 20"	0.243	Th. (m)	8.6-14.4- /	9.5-16.5- /	10.5-18- /	11.8-20- /	12.8-23- /	13.5-26- /	14.3-28- /	15- / - /	16.4- / - /	17.5- / - /
1250 x 350	50" x 14"	0.245	Noise Level	<15	<15	<15	<15	<15	15	16	17	19	20
1450 x 300	58" x 12"	0.246											
1100 x 400	44" x 16"	0.249											
1500 x 300	60" x 12"	0.256	V _{eff.} FPM (m/s)	428 (2.1)	464 (2.3)	499 (2.5)	535 (2.7)	571 (2.9)	606 (3.0)	642 (3.2)	678 (3.4)	713 (3.6)	749 (3.7)
1300 x 350	52" x 14"	0.256	Δ Pt (pa)	0.3	0.4	0.6	0.8	1.0	1.4	1.5	2.2	2.7	3.1
1000 x 450	40" x 18"	0.257	Th. (m)	8.3-14.1- /	9.3-16- /	10.3-18- /	11.5-19.5- /	12.2-22- /	13-25- /	14-27- /	14.8-30- /	16- / - /	17- / - /
900 x 500	36" x 20"	0.259	Noise Level	<15	<15	<15	<15	<15	<15	15	16	18	19
1150 x 400	46" x 16"	0.260											
1050 x 450	42" x 18"	0.264											
1350 x 350	54" x 14"	0.265											
950 x 500	38" x 20"	0.272	V _{eff.} FPM (m/s)	405 (2.0)	439 (2.2)	473 (2.4)	507 (2.5)	540 (2.7)	574 (2.9)	608 (3.0)	642 (3.2)	676 (3.4)	709 (3.5)
1200 x 400	48" x 16"	0.272	Δ Pt (pa)	0.2	0.3	0.4	0.6	0.7	1.0	1.4	1.5	2.0	2.3
1400 x 350	56" x 14"	0.276	Th. (m)	8-14- /	8.8-15- /	9.6-17- /	11-19- /	11.9-20- /	12.5-23- /	13.5-25- /	14.2-29- /	15.3- / - /	16.5- / - /
1100 x 450	44" x 18"	0.278	Noise Level	<15	<15	<15	<15	<15	<15	<15	15	16	17

Tabular Selection for Double Deflection Grilles / Registers Model S A R & SAG (HFB or VFB) DD

SIZE (L) x (H)		A _{eff.} m ²	Flow Rate L/s (CFM)	1038 (2200)	1085 (2300)	1133 (2400)	1180 (2500)	1227 (2600)
mm	Inch							
1200 x 300	48" x 12"	0.203	V _{eff.} FPM (m/s)	983 (4.9)	1027 (5.1)	1072 (5.4)	1117 (5.6)	1161 (5.8)
1050 x 350	42" x 14"	0.204	Δ Pt (pa)	6.2	6.9	8.0	9.0	10.5
800 x 450	32" x 18"	0.204	Th. (m)	22.5- / - /	25.5- / - /	30- / - /	—	—
900 x 400	36" x 16"	0.206	Noise Level	27	28	29	31	33
1450 x 250	58" x 10"	0.207	V _{eff.} FPM (m/s)	931 (4.7)	973 (4.9)	1016 (5.1)	1058 (5.3)	1100 (5.5)
1250 x 300	50" x 12"	0.211	Δ Pt (pa)	5.6	6.2	6.9	8.0	9.0
750 x 500	30" x 20"	0.213	Th. (m)	21- / - /	24- / - /	28- / - /	—	—
1500 x 250	60" x 10"	0.215	Noise Level	25	27	28	30	31
1100 x 350	44" x 14"	0.215	V _{eff.} FPM (m/s)	879 (4.4)	919 (4.6)	959 (4.8)	999 (5.0)	1039 (5.2)
950 x 400	38" x 16"	0.217	Δ Pt (pa)	4.5	5.4	6.0	7.0	7.8
850 x 450	34" x 18"	0.231	Th. (m)	19.8- / - /	23- / - /	26- / - /	—	—
1300 x 300	52" x 12"	0.221	Noise Level	23	24	26	28	29
1150 x 350	46" x 14"	0.224	V _{eff.} FPM (m/s)	839 (4.2)	877 (4.4)	916 (4.6)	954 (4.8)	992 (5.0)
800 x 500	32" x 20"	0.229	Δ Pt (pa)	3.9	4.5	5.0	6.0	6.5
1350 x 300	54" x 12"	0.229	Th. (m)	19- / - /	21- / - /	25- / - /	28- / - /	—
1000 x 400	40" x 16"	0.230	Noise Level	22	23	25	27	28
900 x 450	36" x 18"	0.231	V _{eff.} FPM (m/s)	785 (3.9)	820 (4.1)	856 (4.3)	891 (4.5)	927 (4.6)
1200 x 350	48" x 14"	0.235	Δ Pt (pa)	3.4	3.9	4.6	5.3	6.0
1050 x 400	42" x 16"	0.236	Th. (m)	18.5- / - /	20- / - /	23- / - /	27- / - /	—
1400 x 300	56" x 12"	0.238	Noise Level	21	22	24	26	27
950 x 450	38" x 18"	0.243	V _{eff.} FPM (m/s)	743 (3.7)	777 (3.9)	811 (4.1)	844 (4.2)	878 (4.4)
850 x 500	34" x 20"	0.243	Δ Pt (pa)	3.0	3.4	3.9	4.5	5.0
1250 x 350	50" x 14"	0.245	Th. (m)	17.8- / - /	19.4- / - /	22.5- / - /	25.5- / - /	30- / - /
1450 x 300	58" x 12"	0.246	Noise Level	19	20	22	24	25
1100 x 400	44" x 16"	0.249	V _{eff.} FPM (m/s)	700 (3.5)	735 (3.7)	770 (3.9)	805 (4.1)	840 (4.3)
1500 x 300	60" x 12"	0.256	Δ Pt (pa)	2.8	3.2	3.6	4.0	4.4
1300 x 350	52" x 14"	0.256	Th. (m)	17.5- / - /	19.0- / - /	21.5- / - /	24.0- / - /	26.5- / - /
1000 x 450	40" x 18"	0.257	Noise Level	20	21	22	23	24
900 x 500	36" x 20"	0.259	V _{eff.} FPM (m/s)	680 (3.4)	715 (3.6)	750 (3.8)	785 (4.0)	820 (4.2)
1150 x 400	46" x 16"	0.260	Δ Pt (pa)	2.5	2.8	3.1	3.4	3.7
1050 x 450	42" x 18"	0.264	Th. (m)	17.0- / - /	18.5- / - /	20.0- / - /	21.5- / - /	23.0- / - /
1350 x 350	54" x 14"	0.265	Noise Level	18	19	20	21	22
950 x 500	38" x 20"	0.272	V _{eff.} FPM (m/s)	640 (3.3)	675 (3.5)	710 (3.7)	745 (3.9)	780 (4.1)
1200 x 400	48" x 16"	0.272	Δ Pt (pa)	2.2	2.5	2.8	3.1	3.4
1400 x 350	56" x 14"	0.276	Th. (m)	16.5- / - /	18.0- / - /	19.5- / - /	21.0- / - /	22.5- / - /
1100 x 450	44" x 18"	0.278	Noise Level	17	18	19	20	21

Tabular Selection for Double Deflection Grilles / Registers

Model S A R & SAG (HFB or VFB) DD

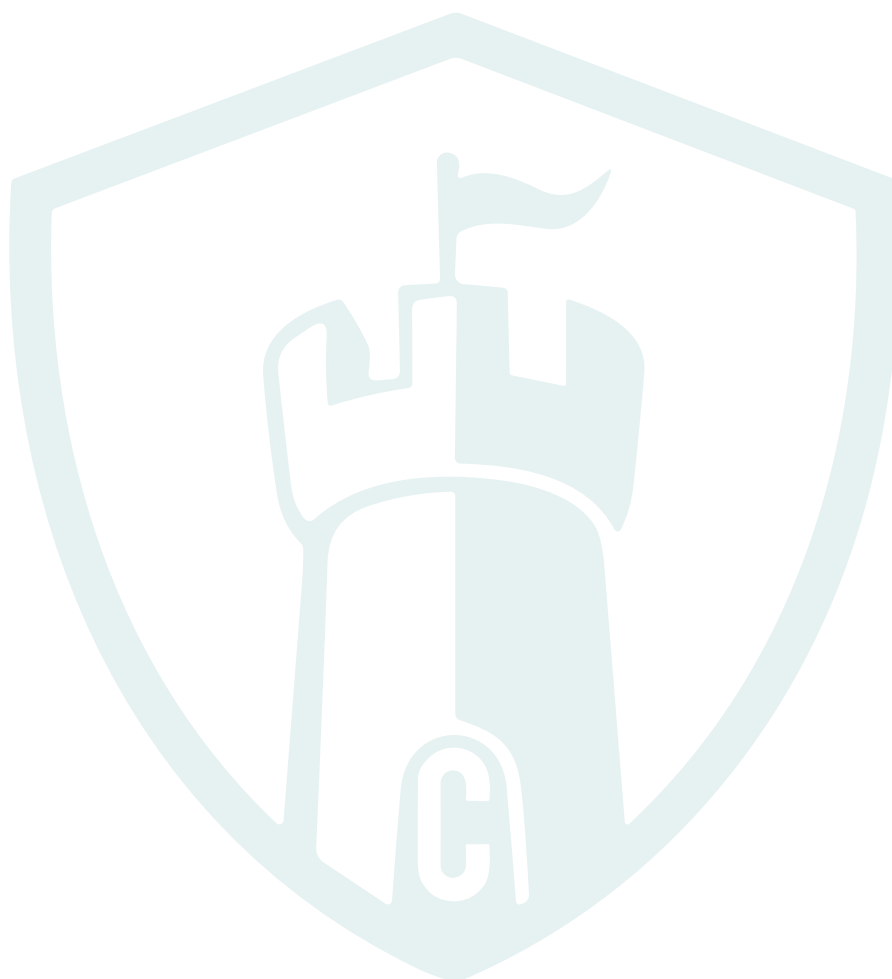
SIZE (L) x (H)		A _{eff.} m ²	Flow Rate L/S (CFM)	661 (1400)	708 (1500)	755 (1600)	802 (1700)	849 (1800)	897 (1900)	944 (2000)	991 (2100)	1038 (2200)	1085 (2300)
mm	Inch												
900 x 550	36" x 22"	0.283	Veff. FPM (m/s)	454 (2.3)	486 (2.4)	519 (2.6)	551 (2.8)	584 (2.9)	616 (3.1)	648 (3.2)	681 (3.4)	713 (3.6)	746 (3.7)
1250 x 400	50" x 16"	0.283	ΔPt (pa)	0.4	0.5	0.6	0.8	1.0	1.4	1.5	2.0	2.7	3.0
1450 x 350	58" x 14"	0.286	Th. (m)	9.5-16.5- /	10.4-18- /	11.2-19.3- /	12.2-21- /	13-24- /	14-27- /	14.9-30- /	16- / - /	17.2- / - /	19- / - /
1000 x 500	40" x 20"	0.288	Noise Level	<15	<15	<15	<15	<15	<15	15	17	19	20
1150 x 450	46" x 18"	0.290											
1300 x 400	52" x 16"	0.296	Veff. FPM (m/s)	438 (2.2)	469 (2.3)	500 (2.5)	532 (2.7)	563 (2.8)	594 (3.0)	626 (3.1)	657 (3.3)	688 (3.4)	719 (3.6)
1050 x 500	42" x 20"	0.296	ΔPt (pa)	0.3	0.4	0.5	0.7	0.8	1.0	1.4	1.5	2.3	2.7
1500 x 350	60" x 14"	0.297	Th. (m)	9.3-16- /	10.5-18- /	11-19- /	12-20.5- /	12.8-23.5- /	13.8-26- /	14.8-30- /	15.8- / - /	17- / - /	18.5- / - /
950 x 550	38" x 22"	0.298	Noise Level	<15	<15	<15	<15	<15	<15	<15	16	18	19
1200 x 450	48" x 18"	0.305	Veff. FPM (m/s)	414 (2.1)	443 (2.2)	473 (2.4)	502 (2.5)	532 (2.7)	561 (2.8)	591 (3.0)	620 (3.1)	650 (3.2)	679 (3.4)
1350 x 400	54" x 16"	0.307	ΔPt (pa)	0.2	0.3	0.4	0.6	0.7	0.8	1.0	1.4	1.5	2.3
1100 x 500	44" x 20"	0.312	Th. (m)	9.2-14.8- /	10.2-17.5- /	10.8-18.8- /	11.8-20- /	12.7-23- /	13.5-25.5- /	14.2-28- /	15.2- / - /	16.8- / - /	18- / - /
1000 x 550	40" x 22"	0.315	Noise Level	<15	<15	<15	<15	<15	<15	<15	<15	16	18
1250 x 450	50" x 18"	0.317	Veff. FPM (m/s)	389 (1.9)	417 (2.1)	444 (2.2)	472 (2.4)	500 (2.5)	528 (2.6)	555 (2.8)	583 (2.9)	611 (3.1)	639 (3.2)
1400 x 400	56" x 16"	0.319	ΔPt (pa)	0.1	0.2	0.3	0.4	0.5	0.6	0.8	1.0	1.4	2.0
1050 x 550	42" x 22"	0.324	Th. (m)	9-15- /	9.7-17- /	10.5-18- /	11.3-19.3- /	12.2-21.5- /	13-24- /	14-27- /	14.8-30- /	16- / - /	17.5- / - /
1150 x 500	46" x 20"	0.326	Noise Level	<15	<15	<15	<15	<15	<15	<15	<15	15	17
1450 x 400	58" x 16"	0.330	Veff. FPM (m/s)	357 (1.8)	382 (1.9)	408 (2.0)	433 (2.2)	459 (2.3)	484 (2.4)	510 (2.5)	535 (2.7)	561 (2.8)	586 (2.9)
1300 x 450	52" x 18"	0.331	ΔPt (pa)	0.05	0.1	0.2	0.3	0.35	0.4	0.5	0.6	0.7	1.4
1200 x 500	48" x 20"	0.341	Th. (m)	8.5-14.5- /	9.3-16- /	10-17.5- /	10.5-18.5- /	11.5-20- /	12.5-22- /	13.3-25- /	14-27- /	15.3- / - /	17- / - /
1500 x 400	60" x 16"	0.343	Noise Level	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
1350 x 450	54" x 18"	0.343	Veff. FPM (m/s)	357 (1.8)	382 (1.9)	408 (2.0)	433 (2.2)	459 (2.3)	484 (2.4)	510 (2.5)	535 (2.7)	561 (2.8)	586 (2.9)
1250 x 500	50" x 20"	0.355	ΔPt (pa)	0.05	0.1	0.2	0.3	0.35	0.4	0.5	0.6	0.7	1.4
1150 x 550	46" x 22"	0.356	Th. (m)	8.5-14.5- /	9.3-16- /	10-17.5- /	10.5-18.5- /	11.5-20- /	12.5-22- /	13.3-25- /	14-27- /	15.3- / - /	17- / - /
1400 x 450	56" x 18"	0.357	Noise Level	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
1450 x 450	58" x 18"	0.370	Veff. FPM (m/s)	357 (1.8)	382 (1.9)	408 (2.0)	433 (2.2)	459 (2.3)	484 (2.4)	510 (2.5)	535 (2.7)	561 (2.8)	586 (2.9)
1300 x 500	52" x 20"	0.371	ΔPt (pa)	0.05	0.1	0.2	0.3	0.35	0.4	0.5	0.6	0.7	1.4
1200 x 550	48" x 22"	0.374	Th. (m)	8.5-14.5- /	9.3-16- /	10-17.5- /	10.5-18.5- /	11.5-20- /	12.5-22- /	13.3-25- /	14-27- /	15.3- / - /	17- / - /
			Noise Level	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15

Tabular Selection for Double Deflection Grilles / Registers Model S A R & SAG (HFB or VFB) DD

SIZE (L) x (H)		A _{eff.} m ²	Flow Rate L/S (CFM)	1133 (2400)	1180 (2500)	1227 (2600)	1274 (2700)	1320 (2800)
mm	Inch							
900 x 550	36" x 22"	0.283	Verif. FPM (m/s)	778 (3.9)	811 (4.1)	843 (4.2)	875 (4.4)	908 (4.5)
1250 x 400	50" x 16"	0.283	Δ Pt (pa)	3.6	4.2	4.5	5.3	6.2
1450 x 350	58" x 14"	0.286	Th. (m)	21- / - /	25- / - /	28- / - /	—	—
1000 x 500	40" x 20"	0.288	Noise Level	22	23	25	27	28
1150 x 450	46" x 18"	0.290						
1300 x 400	52" x 16"	0.296	Verif. FPM (m/s)	751 (3.8)	782 (3.9)	813 (4.1)	844 (4.2)	876 (4.4)
1050 x 500	42" x 20"	0.296	Δ Pt (pa)	3.2	3.9	4.3	5.0	5.6
1500 x 350	60" x 14"	0.297	Th. (m)	19- / - /	23- / - /	26.5- / - /	27- / - /	—
950 x 550	38" x 22"	0.298	Noise Level	21	22	24	26	27
1200 x 450	48" x 18"	0.305	Verif. FPM (m/s)	709 (3.5)	738 (3.7)	768 (3.8)	797 (4.0)	827 (4.1)
1350 x 400	54" x 16"	0.307	Δ Pt (pa)	3.0	3.4	3.8	4.5	5.2
1100 x 500	44" x 20"	0.312	Th. (m)	20- / - /	22- / - /	26- / - /	30- / - /	—
1000 x 550	40" x 22"	0.315						
1250 x 450	50" x 18"	0.317	Noise Level	20	21	23	25	26
1400 x 400	56" x 16"	0.319						
1050 x 550	42" x 22"	0.324	Verif. FPM (m/s)	667 (3.3)	694 (3.5)	722 (3.6)	750 (3.7)	778 (3.9)
1150 x 500	46" x 20"	0.326	Δ Pt (pa)	2.3	3.0	3.4	3.9	4.5
1450 x 400	58" x 16"	0.330	Th. (m)	19.2- / - /	22.5- / - /	25- / - /	29- / - /	—
1300 x 450	52" x 18"	0.331	Noise Level	18	20	22	23	25
1200 x 500	48" x 20"	0.341						
1500 x 400	60" x 16"	0.343	Verif. FPM (m/s)	612 (3.1)	637 (3.2)	663 (3.3)	688 (3.4)	714 (3.6)
1350 x 450	54" x 18"	0.343	Δ Pt (pa)	1.5	2.3	2.7	3.2	3.6
1250 x 500	50" x 20"	0.355	Th. (m)	18. / - /	19.8. / - /	23. / - /	26. / - /	30. / - /
1150 x 550	46" x 22"	0.356	Noise Level	16	18	19	21	22
1400 x 450	56" x 18"	0.357						
1450 x 450	58" x 18"	0.370						
1300 x 500	52" x 20"	0.371						
1200 x 550	48" x 22"	0.374						

Ordering Data

- **Model code.**
 - **Grille or Register Dimensions.**
 - **Surface Finishes for Linear Bar Grilles and Registers.**
-
- Natural/Matt Silver Anodized.**
 - Powder Coating (standard 9010/9016) Other Colours Are Optional.**
 - Aluminium In Mill Finish.**
 - Other Special Finish Is on Request If Available.**





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Location

