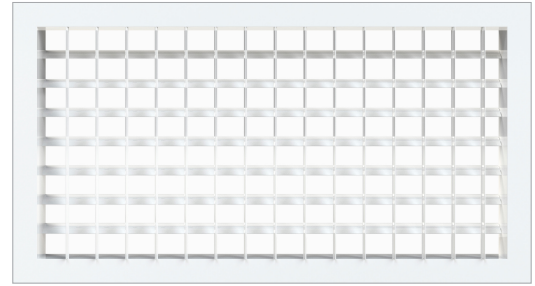


# VHI-HVI-20 MODEL

## SUPPLY GRILLES & REGISTERS INDUSTRIAL TYPE AERODYNAMIC BLADES. 2" BLADES SPACE



- VHI Model: vertical position blades in front and horizontal back.
- HVI Model: Horizontal position blades in front and vertical back.
- Individually adjustable blades for any deflection angle, allow an ideal air flow and keep the pattern distribution up to 2000 ft/min velocity.
- Designed and built specially for a high handler air distribution on installs where the temperature and humidity are main factor.

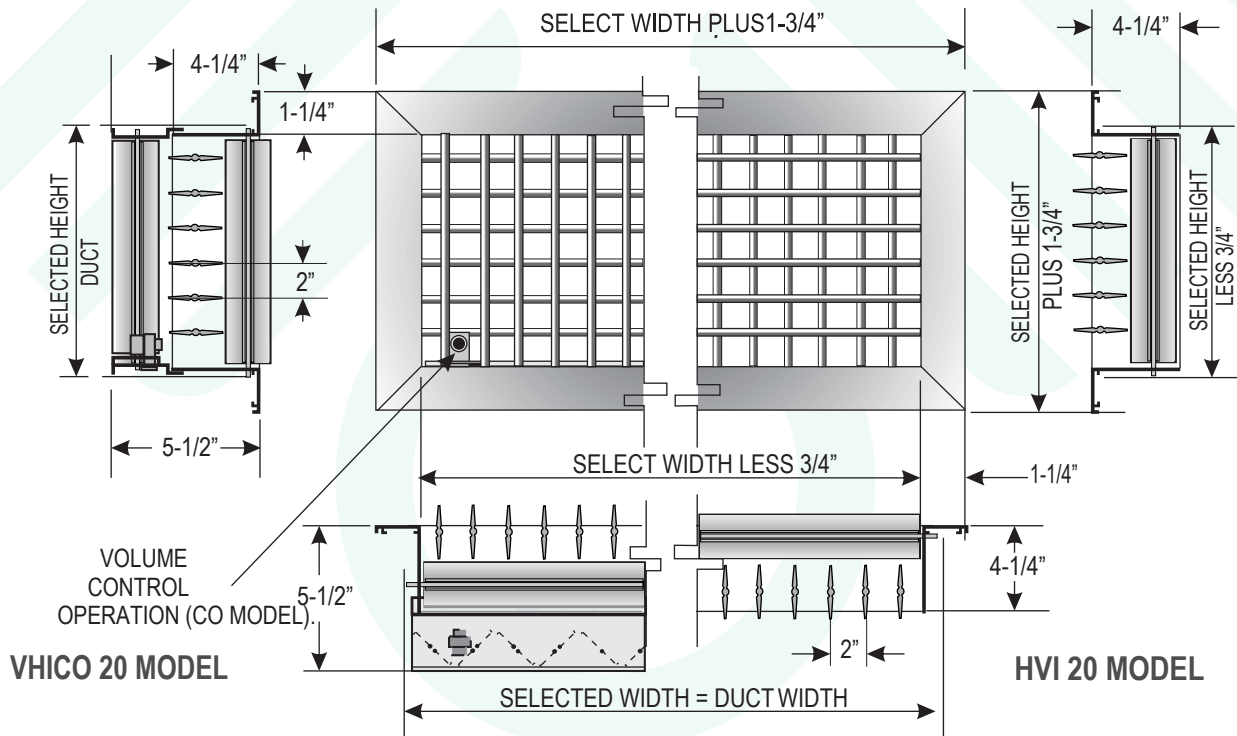
**CONSTRUCTION:** Extruded Aluminum

**FINISH:** Standard white Anodic acrylic paint.  
Other colors available.

**PERFORMANCE:** Operating efficiency, ensures reliable use with temperature differentials from 20 ° F in cooling up to 50 ° F in heating.

Maximum measure of 1 piece: 72"x 12"  
Minimum measure of 1 piece: 6"x 6"

## Dimensional Data



# VHI, HVI, SGI & GSI MODELS

## AIRFOIL BLADES & INDUSTRIAL SUPPLY GRILLES & REGISTERS

TABLE 1 - SELECTION DATA

		NC 20												NC 30												NC 40															
GRILLE SIZE (INCHES)	FACE VEL. (FT/MIN)	400				500				600				800				1000				1200				1400				1600				1800				2000			
	DEFLECTION	0°	22½°	45°	0°	22½°	45°	0°	22½°	45°	0°	22½°	45°	0°	22½°	45°	0°	22½°	45°	0°	22½°	45°	0°	22½°	45°	0°	22½°	45°	0°	22½°	45°	0°	22½°	45°	0°	22½°	45°				
Free Area = 0.54ft <sup>2</sup> 10 x 10 12 x 8 16 x 6 18 x 6	<b>CFM</b>	<b>215</b>				<b>270</b>				<b>325</b>				<b>430</b>				<b>540</b>				<b>645</b>				<b>750</b>				<b>860</b>				<b>970</b>				<b>1080</b>			
	TP (INCHES H <sub>2</sub> O)	0.009	0.013	0.018	0.010	0.021	0.028	0.024	0.030	0.038	0.042	0.049	0.066	0.066	0.078	0.107	0.092	0.107	0.140	0.123	0.158	0.196	0.161	0.207	0.256	0.203	0.262	0.325	0.250	0.327	0.408										
	THROW (FT.)	26	20	13	28	22	14	31	24	16	35	28	17	40	30	20	42	32	20	44	34	22	47	36	24	50	39	25	54	43	27										
Free Area = 0.68ft <sup>2</sup> 12 x 10 16 x 8 20 x 6	<b>CFM</b>	<b>275</b>				<b>340</b>				<b>410</b>				<b>545</b>				<b>680</b>				<b>815</b>				<b>950</b>				<b>1090</b>				<b>1225</b>				<b>1360</b>			
	TP (INCHES H <sub>2</sub> O)	0.009	0.016	0.018	0.010	0.023	0.028	0.024	0.030	0.036	0.042	0.049	0.066	0.066	0.086	0.107	0.092	0.123	0.158	0.123	0.167	0.196	0.161	0.218	0.256	0.203	0.276	0.325	0.250	0.337	0.407										
	THROW (FT.)	28	22	15	31	24	15	34	26	17	38	29	19	42	33	21	44	36	22	48	38	24	54	42	27	55	45	28	64	47	32										
Free Area = 0.81ft <sup>2</sup> 12 x 12 14 x 10 18 x 8 24 x 6	<b>CFM</b>	<b>325</b>				<b>405</b>				<b>485</b>				<b>650</b>				<b>810</b>				<b>970</b>				<b>1135</b>				<b>1300</b>				<b>1460</b>				<b>1620</b>			
	TP (INCHES H <sub>2</sub> O)	0.009	0.013	0.018	0.016	0.021	0.028	0.023	0.030	0.038	0.042	0.049	0.062	0.066	0.078	0.102	0.092	0.115	0.149	0.115	0.158	0.178	0.150	0.207	0.232	0.190	0.260	0.292	0.234	0.326	0.360										
	THROW (FT.)	31	24	15	34	26	17	37	28	18	41	32	21	45	37	23	48	38	24	51	40	25	58	46	29	62	50	31	66	52	33										
Free Area = 0.90ft <sup>2</sup> 14 x 12 20 x 8 28 x 6	<b>CFM</b>	<b>360</b>				<b>450</b>				<b>540</b>				<b>720</b>				<b>900</b>				<b>1080</b>				<b>1260</b>				<b>1440</b>				<b>1620</b>				<b>1800</b>			
	TP (INCHES H <sub>2</sub> O)	0.007	0.012	0.018	0.016	0.021	0.028	0.023	0.030	0.036	0.042	0.051	0.066	0.059	0.079	0.103	0.079	0.115	0.131	0.115	0.167	0.186	0.150	0.218	0.243	0.190	0.275	0.317	0.234	0.337	0.379										
	THROW (FT.)	33	25	16	36	27	18	38	29	19	43	32	22	48	38	24	51	40	26	55	44	27	62	48	31	65	52	33	68	56	34										
Free Area = 1.08ft <sup>2</sup> 14 x 14 16 x 12 24 x 8 32 x 6	<b>CFM</b>	<b>430</b>				<b>540</b>				<b>650</b>				<b>865</b>				<b>1080</b>				<b>1295</b>				<b>1510</b>				<b>1725</b>				<b>1940</b>				<b>2160</b>			
	TP (INCHES H <sub>2</sub> O)	0.009	0.016	0.021	0.016	0.021	0.028	0.024	0.030	0.038	0.042	0.054	0.066	0.066	0.086	0.103	0.085	0.115	0.140	0.123	0.167	0.210	0.161	0.219	0.273	0.203	0.277	0.342	0.250	0.340	0.433										
	THROW (FT.)	35	28	17	38	29	19	40	31	20	46	38	23	51	42	26	55	44	27	58	48	29	64	52	32	68	56	34	72	62	36										
Free Area = 1.33ft <sup>2</sup> 16 x 14 18 x 12 22 x 10 28 x 8 36 x 6	<b>CFM</b>	<b>530</b>				<b>665</b>				<b>800</b>				<b>1065</b>				<b>1330</b>				<b>1600</b>				<b>1860</b>				<b>2130</b>				<b>2395</b>				<b>2660</b>			
	TP (INCHES H <sub>2</sub> O)	0.012	0.016	0.021	0.021	0.024	0.033	0.028	0.036	0.044	0.046	0.060	0.079	0.072	0.092	0.123	0.107	0.131	0.178	0.140	0.178	0.242	0.184	0.232	0.315	0.232	0.292	0.395	0.284	0.362	0.476										
	THROW (FT.)	38	31	19	41	35	21	44	35	22	52	41	26	57	46	28	64	51	32	67	54	34	72	57	36	76	60	38	78	64	39										

NC 50

NOTES:

- 1.- FOR STRAIGHT BLADES MODELS (SGI & GSI) THE SAME SELECTION DATA ARE AVAILABLE EXCEPT THE TOTAL PRESSURE DATA, WHICH INCREASE UP TO 43% ONLY ON VERY LARGE DIMENSION GRILLES
- 2.- INDICATED THROWS ARE FOR 50 FPM TERMINAL VELOCITY. - FOR 100 & 150 FPM TERMINAL VELOCITIES MULTIPLY TABULATED VALUES BY 0.70 & 0.53 RESPECTIVELY.
- 3.- REFER TO EQUIVALENT SIZES TABLE TO CHOOSE ALTERNATIVE SIZE.

# VHI, HVI, SGI & GSI MODELS

## AIRFOIL BLADES INDUSTRIAL SUPPLY GRILLES & REGISTERS

TABLE 2 - SELECTION DATA

GRILLE SIZE (INCHES)	FACE VEL. (FT/MIN)	400			500			600			800			1000			1200			1400			1600			1800			2000		
		DEFLECTION	0°	22½°	45°	0°	22½°	45°	0°	22½°	45°	0°	22½°	45°	0°	22½°	45°	0°	22½°	45°	0°	22½°	45°	0°	22½°	45°	0°	22½°	45°		
Free Area = 1.60 ft <sup>2</sup> 16 x 16 18 x 14 20 x 12 32 x 8 42 x 6	CFM	640			800			960			1280			1600			1920			2240			2560			2880			3200		
	TP (INCHES H <sub>2</sub> O)	0.013	0.018	0.024	0.023	0.028	0.036	0.033	0.042	0.054	0.049	0.070	0.107	0.086	0.107	0.180	0.123	0.158	0.207	0.167	0.186	0.275	0.218	0.244	0.360	0.275	0.317	0.451	0.337	0.379	0.508
	THROW (FT.)	42	34	21	45	38	23	49	40	25	57	45	28	62	50	31	70	57	35	74	58	37	78	61	39	82	64	41	87	68	43
Free Area = 1.78 ft <sup>2</sup> 20 x 14 24 x 12 30 x 10 36 x 8	CFM	712			890			1070			1425			1780			2140			2490			2850			3205			3560		
	TP (INCHES H <sub>2</sub> O)	0.011	0.015	0.028	0.017	0.023	0.030	0.024	0.030	0.042	0.044	0.054	0.078	0.062	0.078	0.115	0.102	0.123	0.186	0.134	0.178	0.240	0.175	0.232	0.316	0.230	0.292	0.395	0.272	0.362	0.478
	THROW (FT.)	46	36	23	49	40	25	52	41	27	61	48	30	67	53	34	74	61	37	78	64	40	82	67	42	86	71	43	90	75	46
Free Area = 2.06 ft <sup>2</sup> 18 x 18 24 x 14 28 x 12 42 x 8	CFM	825			1030			1240			1650			2060			2470			2885			3300			3710			4120		
	TP (INCHES H <sub>2</sub> O)	0.013	0.016	0.021	0.021	0.024	0.030	0.028	0.036	0.044	0.049	0.054	0.083	0.078	0.092	0.131	0.115	0.131	0.178	0.140	0.178	0.229	0.183	0.232	0.296	0.232	0.292	0.378	0.284	0.362	0.463
	THROW (FT.)	50	38	25	51	42	26	56	43	29	64	51	32	73	57	37	82	64	41	87	69	44	92	73	46	97	77	48	102	81	51
Free Area = 2.44 ft <sup>2</sup> 20 x 20 24 x 16 28 x 14 40 x 10	CFM	975			1220			1465			1950			2440			2930			3420			3900			4390			4880		
	TP (INCHES H <sub>2</sub> O)	0.015	0.017	0.021	0.023	0.028	0.036	0.030	0.042	0.054	0.054	0.066	0.092	0.086	0.107	0.140	0.123	0.158	0.186	0.167	0.218	0.275	0.218	0.282	0.356	0.275	0.360	0.450	0.336	0.442	0.509
	THROW (FT.)	52	41	27	55	46	28	60	47	30	70	55	35	78	62	39	86	67	43	92	72	46	98	77	49	104	82	52	110	87	55
Free Area = 2.78 ft <sup>2</sup> 22 x 20 24 x 18 30 x 14 44 x 10	CFM	1100			1390			1670			2225			2780			3340			3890			4450			5005			5560		
	TP (INCHES H <sub>2</sub> O)	0.013	0.015	0.019	0.021	0.023	0.033	0.029	0.030	0.042	0.049	0.058	0.078	0.078	0.086	0.110	0.110	0.125	0.158	0.151	0.178	0.218	0.198	0.232	0.284	0.250	0.292	0.360	0.316	0.362	0.442
	THROW (FT.)	53	43	26	60	50	30	66	51	33	79	64	39	86	69	44	92	73	46	100	80	51	106	85	53	112	90	56	119	96	60
Free Area = 3.10 ft <sup>2</sup> 24 x 20 30 x 16 40 x 12 48 x 10	CFM	1240			1550			1860			2480			3100			3720			4340			4960			5580			6200		
	TP (INCHES H <sub>2</sub> O)	0.012	0.018	0.023	0.018	0.030	0.036	0.028	0.042	0.049	0.040	0.072	0.086	0.074	0.114	0.134	0.107	0.167	0.190	0.147	0.229	0.260	0.190	0.297	0.336	0.241	0.378	0.433	0.300	0.463	0.493
	THROW (FT.)	57	45	29	64	50	32	70	56	35	82	64	41	89	71	45	99	79	49	107	84	53	112	88	56	118	92	59	122	96	61

NOTES:

- FOR STRAIGHT BLADES MODELS (SGI & GSI) THE SAME SELECTION DATA ARE AVAILABLE EXCEPT THE TOTAL PRESSURE DATA, WHICH INCREASE UP TO 43% ONLY ON VERY LARGE DIMENSION GRILLES
- INDICATED THROWS ARE FOR 50 FPM TERMINAL VELOCITY. - FOR 100 & 150 FPM TERMINAL VELOCITIES MULTIPLY TABULATED VALUES BY 0.70 & 0.53 RESPECTIVELY.
- REFER TO EQUIVALENT SIZES TABLE TO CHOOSE ALTERNATIVE SIZE.

# VHI, HVI, SGI & GSI MODELS

## AIRFOIL BLADES INDUSTRIAL SUPPLY GRILLES & REGISTERS

### TABLE 3 - SELECTION DATA

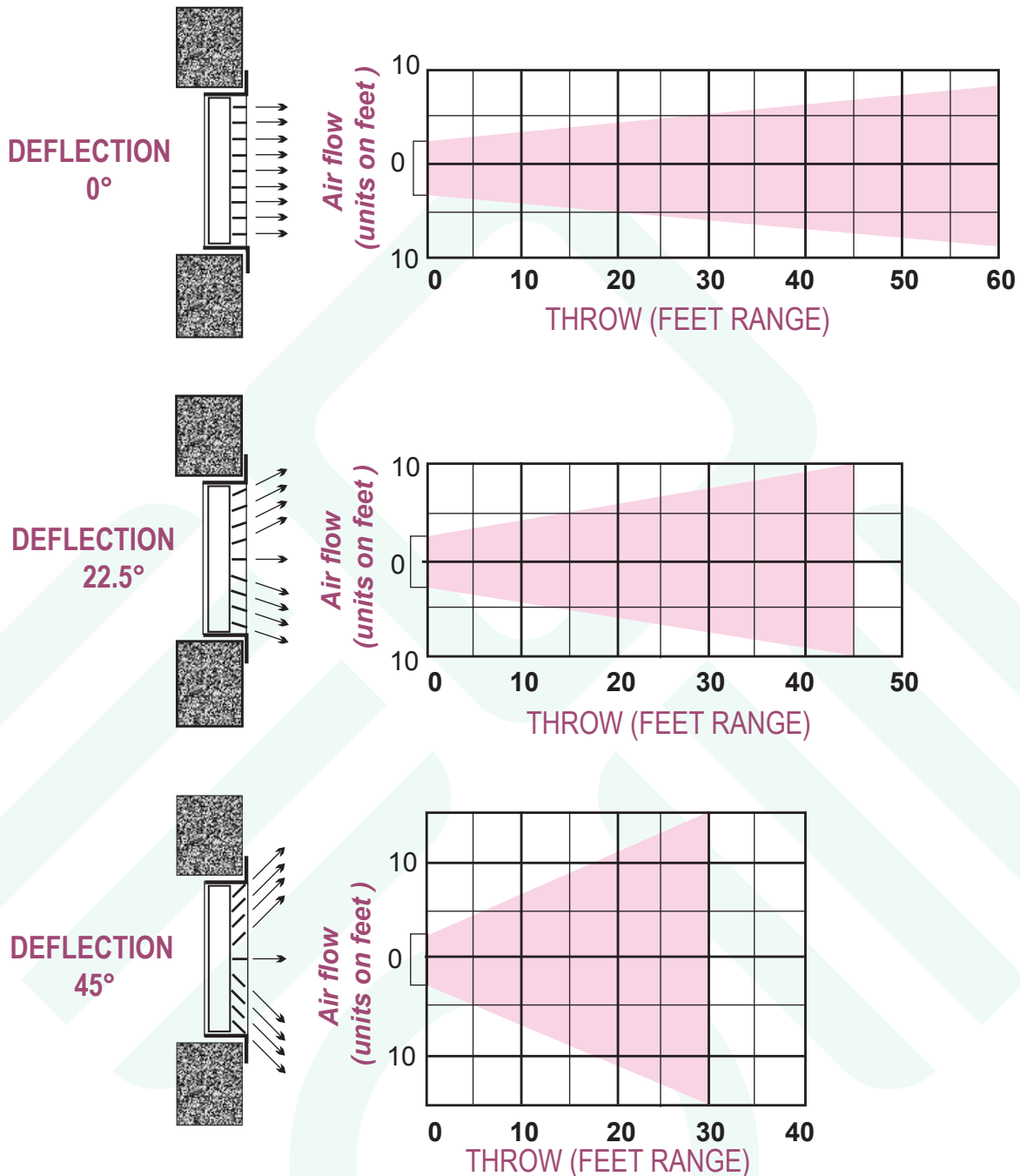
GRILLE SIZE (INCHES)	FACE VEL. (FT/MIN) DEFLECTION	NC 20			NC 30			NC 40			NC 50		
		400	500	600	800	1000	1200	1400	1600	1800	2000		
		0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°		
Free Area = 3.60 ft <sup>2</sup> 24 x 24 28 x 20 32 x 18 36 x 16 40 x 14	<b>CFM</b>	<b>1440</b>	<b>1800</b>	<b>2160</b>	<b>2880</b>	<b>3600</b>	<b>4320</b>	<b>5040</b>	<b>5760</b>	<b>6480</b>	<b>7200</b>		
	TP (INCHES H <sub>2</sub> O)	0.011 0.016 0.019	0.017 0.023 0.030	0.020 0.032 0.044	0.044 0.058 0.080	0.068 0.092 0.124	0.100 0.132 0.179	0.135 0.180 0.242	0.176 0.235 0.317	0.223 0.294 0.395	0.275 0.363 0.479		
	THROW (FT.)	61 49 31	68 55 34	75 60 37	86 70 43	97 78 48	105 83 53	114 92 57	126 101 63	134 107 67	140 114 71		
Free Area = 4.28 ft <sup>2</sup> 28 x 24 32 x 20 36 x 18 40 x 16 48 x 14	<b>CFM</b>	<b>1710</b>	<b>2140</b>	<b>2565</b>	<b>3420</b>	<b>4280</b>	<b>5135</b>	<b>5990</b>	<b>6840</b>	<b>7700</b>	<b>8560</b>		
	TP (INCHES H <sub>2</sub> O)	0.011 0.016 0.019	0.018 0.024 0.030	0.023 0.035 0.044	0.042 0.061 0.077	0.066 0.100 0.122	0.092 0.138 0.176	0.110 0.190 0.242	0.165 0.247 0.314	0.208 0.313 0.394	0.258 0.387 0.479		
	THROW (FT.)	68 54 34	76 60 38	83 67 42	97 78 48	108 86 54	119 95 60	128 103 64	137 109 69	145 116 72	149 121 75		
Free Area = 4.64 ft <sup>2</sup> 30 x 24 36 x 20 42 x 18 48 x 16 54 x 14	<b>CFM</b>	<b>1855</b>	<b>2320</b>	<b>2785</b>	<b>3710</b>	<b>4640</b>	<b>5570</b>	<b>6495</b>	<b>7425</b>	<b>8350</b>	<b>9280</b>		
	TP (INCHES H <sub>2</sub> O)	0.009 0.016 0.023	0.016 0.023 0.033	0.022 0.033 0.046	0.038 0.059 0.085	0.059 0.092 0.131	0.087 0.134 0.184	0.118 0.181 0.255	0.155 0.237 0.335	0.196 0.299 0.429	0.242 0.368 0.494		
	THROW (FT.)	71 57 35	80 64 39	87 70 44	100 81 50	113 90 56	124 99 61	134 107 67	143 115 71	151 120 75	156 125 78		
Free Area = 5.56 ft <sup>2</sup> 36 x 24 42 x 20 48 x 18 54 x 16 60 x 14	<b>CFM</b>	<b>2225</b>	<b>2780</b>	<b>3335</b>	<b>4450</b>	<b>5560</b>	<b>6670</b>	<b>7785</b>	<b>8900</b>	<b>10,010</b>	<b>11,120</b>		
	TP (INCHES H <sub>2</sub> O)	0.012 0.015 0.019	0.018 0.023 0.028	0.026 0.032 0.038	0.047 0.057 0.068	0.073 0.090 0.107	0.107 0.130 0.158	0.144 0.177 0.213	0.187 0.230 0.278	0.237 0.293 0.354	0.293 0.365 0.441		
	THROW (FT.)	78 62 39	87 70 44	95 76 47	112 90 56	124 99 61	136 108 68	147 119 73	157 126 78	165 128 82	168 130 85		
Free Area = 6.25 ft <sup>2</sup> 30 x 30 36 x 28 40 x 24 48 x 20 56 x 18	<b>CFM</b>	<b>2500</b>	<b>3125</b>	<b>3750</b>	<b>5000</b>	<b>6250</b>	<b>7500</b>	<b>8750</b>	<b>10,000</b>	<b>11,250</b>	<b>12,500</b>		
	TP (INCHES H <sub>2</sub> O)	0.012 0.016 0.022	0.018 0.024 0.034	0.026 0.036 0.048	0.048 0.066 0.086	0.071 0.102 0.138	0.092 0.148 0.196	0.138 0.196 0.262	0.182 0.256 0.340	0.231 0.325 0.437	0.285 0.407 0.505		
	THROW (FT.)	82 66 41	92 73 46	94 75 47	117 93 58	131 104 66	143 115 71	155 124 78	165 128 82	176 140 88	179 143 89		
Free Area = 6.80 ft <sup>2</sup> 36 x 32 38 x 30 40 x 28 48 x 24 60 x 18	<b>CFM</b>	<b>2720</b>	<b>3400</b>	<b>4080</b>	<b>5440</b>	<b>6800</b>	<b>8160</b>	<b>9520</b>	<b>10,880</b>	<b>12,240</b>	<b>13,600</b>		
	TP (INCHES H <sub>2</sub> O)	0.012 0.016 0.019	0.017 0.020 0.030	0.024 0.033 0.044	0.044 0.060 0.078	0.069 0.096 0.122	0.098 0.138 0.176	0.137 0.186 0.238	0.178 0.242 0.313	0.225 0.318 0.394	0.277 0.385 0.476		
	THROW (FT.)	87 71 43	96 77 48	99 79 49	124 98 61	138 110 70	148 120 74	158 129 79	168 134 84	179 142 90	183 145 92		

**NOTES:**

- FOR STRAIGHT BLADES MODELS (SGI & GSI) THE SAME SELECTION DATA ARE AVAILABLE EXCEPT THE TOTAL PRESSURE DATA, WHICH INCREASE UP TO 43% ONLY ON VERY LARGE DIMENSION GRILLES
- INDICATED THROWS ARE FOR 50 FPM TERMINAL VELOCITY. - FOR 100 & 150 FPM TERMINAL VELOCITIES MULTIPLY TABULATED VALUES BY 0.70 & 0.53 RESPECTIVELY.
- REFER TO EQUIVALENT SIZES TABLE TO CHOOSE ALTERNATIVE SIZE.

# WALL MOUNT GRILLES & REGISTERS.

GRAPHICS SHOWING THE AIR DISTRIBUTION PATTERN THROUGH A GRILLE WITH ITS ADJUSTABLE BLADES IN THREE DEVIATION POSITIONS.



When selecting grilles and supply registers, determine the appropriate deflection for each. For long throws and narrow deployment use the Selection Data corresponding to the zero-degree (0 °) deflection graph. For intermediate shots and deployments, use the selection data that corresponds to the 22-1/2-degree (22.5°) deflection graph. For short throws and wide deployment use the selection data corresponding to the 45-degree (45 °) deflection graph.

NOTE: The maximum range or shot shown in each of the graphs corresponds to a terminal speed of 50 feet / min.



# WALL MOUNT GRILLES & REGISTERS.

VELOCITY LIMITATIONS: AN IMPORTANT FACTOR, IN THE SELECTION OF THE PERFORATED DIFFUSERS, IS THE VELOCITY OF AIR THAT PASSES THROUGH THESE IF VELOCITY IS INCREASED VALUES GREATER THAN THE RECOMMENDED, WILL ALSO INCREASE THE NOISE LEVEL AND WILL RESULTS ON A DISTURBANCE.

## RECOMMENDED VELOCITY AND NOISE LEVELS.

AREA TYPE	Recommended outlet velocity (ft/min)		Variation Range of Noise Criteria Curves (NC)		Approx value of reading on the A equivalent scale (dBA)	
	Supply	Return	MIN.	MAX.	MIN.	MAX.
<b>AUDITORIUMS AND CONCERT HALLS</b>						
Concert and Opera Rooms	250-350	200-300	15	20	22	27
Theaters	350-500	250-350	20	30	27	37
Cinemas	500-600	300-450	30	35	37	42
Amphitheatres	400-500	300-400	25	30	32	37
Reading Rooms	350-500	250-400	20	30	27	37
Auditorium Lobbies	600-800	500-700	35	45	42	52
TV studio auditoriums	500-600	400-500	30	35	37	42
<b>SCHOOL'S AND CHURCHS</b>						
Sanctuaries	350-500	250-400	20	30	27	37
Schools and Classrooms	450-600	300-450	30	40	38	47
Recreation Rooms	700-1000	550-800	40	50	47	57
Kitchens	800-1000	600-800	45	50	52	57
Libraries	350-500	200-350	20	30	27	27
Laboratories	600-700	450-600	35	40	42	47
Rooms and halls	600-700	450-600	35	40	42	47
<b>HOSPITALS AND CLINICS</b>						
Private Rooms	400-600	250-450	25	35	32	42
Day care centers	500-700	350-500	30	40	37	47
Laboratories	600-800	450-600	35	45	42	52
Operating rooms	500-700	350-500	30	40	37	47
Lobbies and Waiting Rooms	600-700	450-600	35	40	42	47
Rooms and halls	600-700	450-600	35	40	42	47
<b>ROOF SPORTS</b>						
Stadiums	800-1200	600-900	45	55	52	62
Gyms and Bowling	600-800	450-700	35	45	42	52
Roofed pools	600-700	450-600	40	50	47	57
<b>INDUSTRIAL AREAS</b>						
Headquarters Offices	600-800	450-600	35	45	42	52
Maintenance	700-1200	550-900	40	50	47	57
Assembly Lines	1000-2000	800-1500	50	65	57	72
Light Manufactures	1000-2000	800-1500	50	70	57	77
Workshops	1200-2500	900-1800	55	75	62	82
<b>RETAIL STORES</b>						
Department stores	700-1000	550-750	40	50	47	57
Supermarkets	1000-1200	750-900	50	55	57	62
Clothes shops	600-800	450-650	35	45	42	52
Small Commerce	700-1000	600-800	40	50	47	57
<b>RESIDENCES</b>						
Residences (Rural and Sub-Urban)	350-500	250-400	20	30	27	37
Residences (Urban)	400-600	300-500	25	35	32	42
Apartments (Units of 2 and 3 families)	500-700	350-600	30	40	37	47
<b>OFFICES</b>						
Private Offices	400-500	300-400	25	30	32	37
General Office / Drawing Room	600-800	450-700	35	45	42	52
Council Rooms	300-400	250-300	20	30	27	37
Computer Rooms	800-1200	600-900	40	50	47	57
Conference Rooms	400-500	300-400	25	30	32	38
Lobby, etc.	600-800	450-600	35	45	42	52
<b>PUBLIC BUILDINGS</b>						
Public Libraries	350-500	250-400	20	30	27	37
Museums	350-500	250-400	20	30	27	37
Post Offices	600-700	450-550	35	40	42	47
Banks	700-800	500-700	40	45	47	52
courthouse	600-700	450-600	35	40	42	47
Resty, etc.	600-700	450-600	35	40	42	47
<b>RESTAURANTS AND CAFETERIA</b>						
Restaurants	600-800	500-700	35	45	42	52
Coffee shops	600-800	500-700	35	45	42	52
Night clubs	700-1000	500-800	40	50	47	57
Social Clubs	500-700	400-500	30	40	37	47
Banquet Rooms	700-1000	600-800	40	50	47	57
<b>HOTELS</b>						
Private Rooms and Suites	500-600	400-500	30	35	37	42
Banquet Rooms	700-1000	600-800	40	50	47	57
Ballrooms	700-1000	600-800	40	50	47	57
Kitchens and Laundries	700-1200	500-900	40	55	47	62
Hallways	600-700	450-600	35	40	42	47
Halls	600-700	450-600	35	40	42	47
<b>TRANSPORTS (Trains, Buses, Planes)</b>						
Ticket Sales Offices	500-700	400-500	30	40	37	47
Waiting room	600-800	450-600	35	45	42	52
Towers and Control Rooms	800-1200	600-900	40	50	47	57
Commercial stores	600-800	450-600	35	45	42	52
Restaurant Bar	800-1200	600-900	40	50	47	57
<b>MISCELLANY</b>						
Reception Rooms	600-700	450-600	35	40	42	47
Sanitary Services	600-800	450-600	35	45	42	52
Recording studios	200-300	150-200	15	20	22	27
Other studies	500-600	300-450	30	35	38	42

### DEFINITIONS:

**Sound Power (W)** - The equivalent of the Power source converted to sound in Watts unit.

**Sound Power Level (Lw)** - The logarithmic comparison between the Output Performance of the Sound Power exerted by a source and the Sound of a reference source,  $W_0$  (10<sup>-12</sup> watt).

$$Lw = 10 \log_{10}(W/W_0) \text{ dB}$$

**Sound Pressure (P)** - The pressure associated with the Output Performance of the Sound Power of a source. The human ear reacts to this Sound Pressure.

**Sound Pressure Level (LP)** - The logarithmic comparison between the Output Performance of the Sound Pressure exerted by a -5 source and the Sound of a reference source,  $P_0$  (2x10<sup>-5</sup>Pa).

$$Lp = 20 \log_{10}(P/P_0) \text{ dB}$$

Even if the Sound Power Level and Sound Pressure Level are expressed in decibels (dB) **NO CONVERSION FACTOR EXISTS BETWEEN THEM.**

NOTE: When specifying the Sound Criteria for **HVAC** equipment, refer to the **Sound Power Level**, and not the Sound Pressure Level.

# AIRFOIL BLADES INDUSTRIAL SUPPLY GRILLES & REGISTERS.

## EQUIVALENT SIZES.

Free Area = 0.54 ft <sup>2</sup>	Free Area = 0.68 ft <sup>2</sup>	Free Area = 0.81 ft <sup>2</sup>	Free Area = 0.90 ft <sup>2</sup>	Free Area = 1.08 ft <sup>2</sup>	Free Area = 1.33 ft <sup>2</sup>
10 X 10 12 X 8 16 X 6 18 X 6	12 X 10 14 X 8 16 X 8 20 X 6	12 X 12 14 X 10 24 X 6 18 X 8	14 X 12 20 X 8 28 X 6	14 X 14 16 X 12 30 X 6 32 X 6 24 X 8	16 X 14 20 X 10 22 X 10 28 X 8 36 X 6 40 X 6

Free Area = 1.60 ft <sup>2</sup>	Free Area = 1.78 ft <sup>2</sup>	Free Area = 2.06 ft <sup>2</sup>	Free Area = 2.44 ft <sup>2</sup>	Free Area = 2.78 ft <sup>2</sup>	Free Area = 3.10 ft <sup>2</sup>
16 X 16 18 X 14 20 X 12 32 X 8 42 X 6	18 X 16 20 X 14 22 X 14 30 X 10 36 X 8 48 X 6	18 X 18 20 X 16 24 X 14 28 X 12 42 X 8 54 X 6	20 X 20 20 X 18 22 X 18 24 X 16 26 X 14 30 X 12 40 X 10 60 X 6	22 X 20 26 X 16 30 X 14 32 X 14 36 X 12 44 X 10 56 X 8 72 X 6	24 X 20 26 X 18 34 X 14 48 X 10

Free Area = 3.60 ft <sup>2</sup>	Free Area = 4.28 ft <sup>2</sup>	Free Area = 4.64 ft <sup>2</sup>	Free Area = 5.56 ft <sup>2</sup>	Free Area = 6.25 ft <sup>2</sup>	Free Area = 6.80 ft <sup>2</sup>
24 X 24 28 X 20 30 X 18 32 X 18 40 X 14 44 X 12 48 X 12 56 X 10	28 X 24 30 X 20 36 X 18 40 X 16 48 X 14 56 X 12 60 X 10	30 X 24 36 X 20 48 X 16 54 X 14	36 X 24 42 X 20 54 X 16 60 X 14	30 X 30 36 X 28 40 X 24 48 X 20 56 X 18	36 X 32 36 X 30 48 X 24 54 X 20 60 X 18

**NOTE:** ALL SIZES IN INCHES. POPULAR SIZES IN COLOR MAY BE FOUND ON PERFORMANCE DATATABLES.