


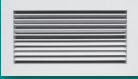
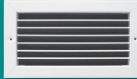

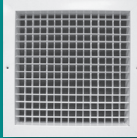


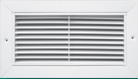
	<p><b>180/5180</b>  <b>180M/5180M</b>                  These supply grilles feature individually adjustable curved blades. Available in steel or aluminum construction.</p>		<p><b>4880</b>                  This heavy duty, double deflection, supply grille features 1/2" front and 3/4" back blade spacing. Available in steel construction only.</p>
	<p><b>80/580</b>                  These single deflection supply grilles feature 3/4" blade spacing. Available in steel or aluminum construction.</p>		<p><b>800/5800</b>                  These single deflection, steel supply registers feature a gang-operated rear louver and 3/4" blade spacing. Available in steel or aluminum construction.</p>
	<p><b>585</b>                  This single deflection supply grille features 1/2" blade spacing. Available in aluminum construction only.</p>		<p><b>AF80/AF580</b>                  These single deflection, supply grilles feature airfoil blades at 3/4" spacing. Blades are aluminum construction only with steel or aluminum frame.</p>
	<p><b>880/5880</b>                  These double deflection supply grilles feature 3/4" blade spacing. Available in steel or aluminum construction.</p>		<p><b>AF880/AF5880</b>                  These double deflection, supply grilles feature airfoil blades at 3/4" spacing. Blades are aluminum construction only with steel or aluminum frame.</p>
	<p><b>5885</b>                  This double deflection supply grille features 1/2" blade spacing. Available in aluminum construction only.</p>		<p><b>5815</b>                  This fixed-blade supply grille features a removable, reversible core. Deflection may be set at 5° or 15° up/down. Available in aluminum construction only.</p>
	<p><b>480</b>                  This heavy duty, single deflection, supply grille features 1/2" blade spacing. Available in steel construction only.</p>		

**180, 5180, 180M, 5180M**

Introduction & Blade Spacing.....I1-3  
 Dimensional Information .....I1-4  
 Reference Charts.....I1-5  
 Performance Data.....I1-6  
 Engineering Specification .....I1-24

**80, 580, 880, 5880, 585, 5885, 480, 4880, 800, 5800**

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 Dimensional Information .....I1-26  
 Frame Styles.....I1-29  
 Reference Charts.....I1-30  
 Performance Data.....I1-32  
 Engineering Specification .....I1-44

**AF80, AF580, AF880, AF5880**

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 Dimensional Information .....I1-48  
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 Performance Data.....I1-51  
 Engineering Specification .....I1-63

**5815**

Introduction & Dimensional Information .....I1-64  
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 Performance Data.....I1-67  
 Engineering Specification .....I1-75

### Introduction: 180, 5180, 180M, 5180M —

The 180/5180 series curved blade grille feature individually adjustable blades and multiple discharge configurations. The 180/5180 blades are easily adjusted without the use of tools while tension springs on the deflector pivots maintain deflector position. Blade settings can be achieved to increase throw values up to 43% or decreased down to 36% of listed catalog throws. These grilles are an excellent choice for residential and commercial buildings where different throw lengths are needed for the same sized grille.

#### MODELS

- 180 - Curved Blade Steel Supply Grille
- 5180 - Curved Blade Aluminum Supply Grille
- 180M - Curved Blade Steel Supply Grille with Multi-louver Operator
- 5180M - Curved Blade Aluminum Supply Grille with Multi-louver Operator

#### FEATURES

- Individually adjustable curved blades.
- 1, 2, 3, and 4-way air discharge patterns.

#### ACCESSORIES

- Steel Opposed Blade Damper (Model OBD)
- Steel Painted Opposed Blade Damper (Model POBD)
- Aluminum Opposed Blade Damper (Model 5OBD)
- Square to Round Adapter (Model SRAC325)
- Plaster Frame (Models 8PF & 58PF)

#### FINISHES

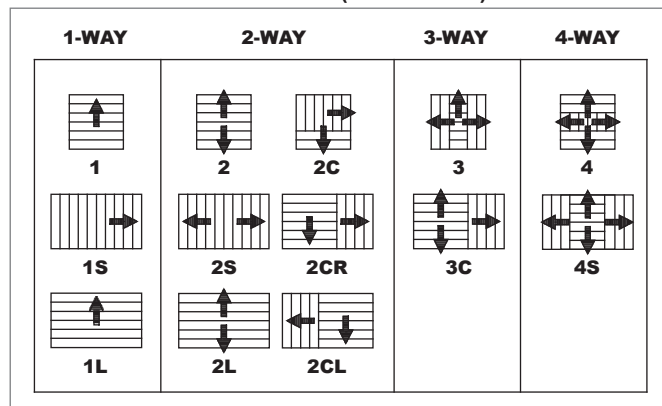
- Standard finish is #44 British White.
- Optional finishes available.



180

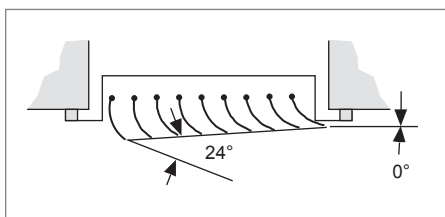
### 180, 5180, 180M, 5180M Discharge Air Patterns

#### 180, 5180, 180M, 5180M, DISCHARGE AIR PATTERNS (FACE VIEW)

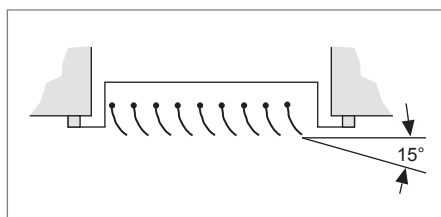


### 180, 5180, 180M, 5180M Blade Setting

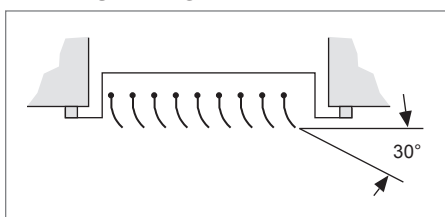
#### 180, 5180, 180M, 5180M, BLADE SETTING "A"



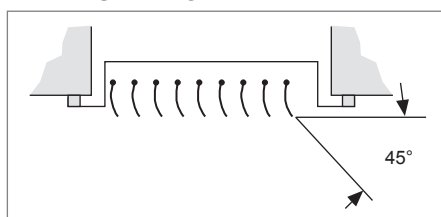
#### 180, 5180, 180M, 5180M, BLADE SETTING "B"



#### 180, 5180, 180M, 5180M, BLADE SETTING "C"



#### 180, 5180, 180M, 5180M, BLADE SETTING "D"



#### NOTES:

Drop may be determined as follows:

"A" - Pattern Stays on Ceiling

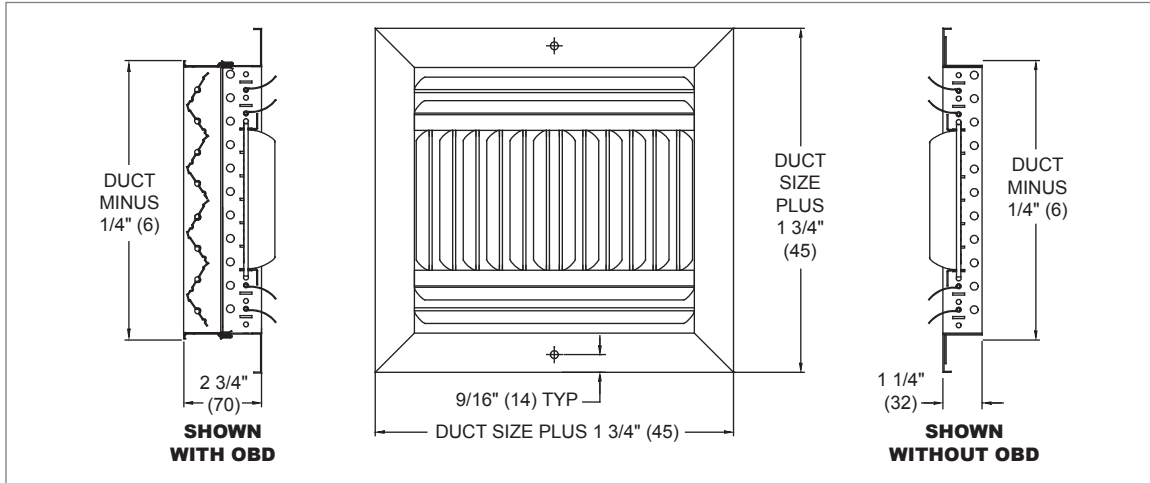
"B" - 10% of Throw

"C" - 20% of Throw

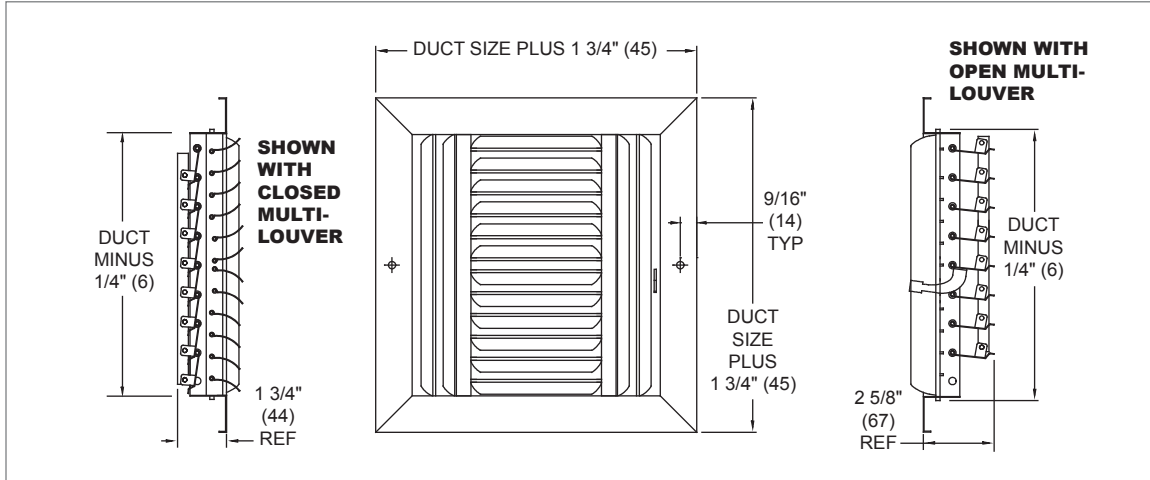
"D" - 30% of Throw

**180, 5180, 180M, 5180M Dimensional Information**

**180, 5180, FACE VIEW, SIDE VIEW, & CROSS SECTION**



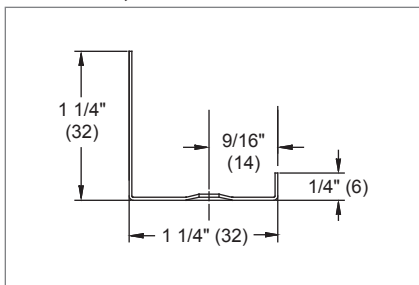
**180M, 5180M, FACE VIEW, SIDE VIEW, & CROSS SECTION**



NOTE: Dimensions in parentheses are mm.

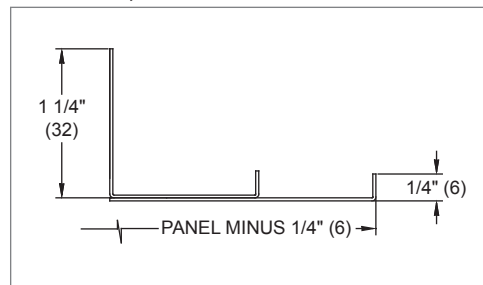
**180, 5180, 180M, 5180M Frame Styles & Concealed Mounting**

**180, 5180, 180M, 5180M, FRAME 22, SURFACE MOUNT**

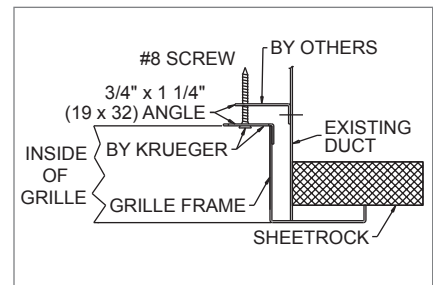


NOTE: Dimensions in parentheses are mm.

**180, 5180, 180M, 5180M, FRAME 23, LAY-IN T-BAR**



**180, 5180, CONCEALED MOUNTING**



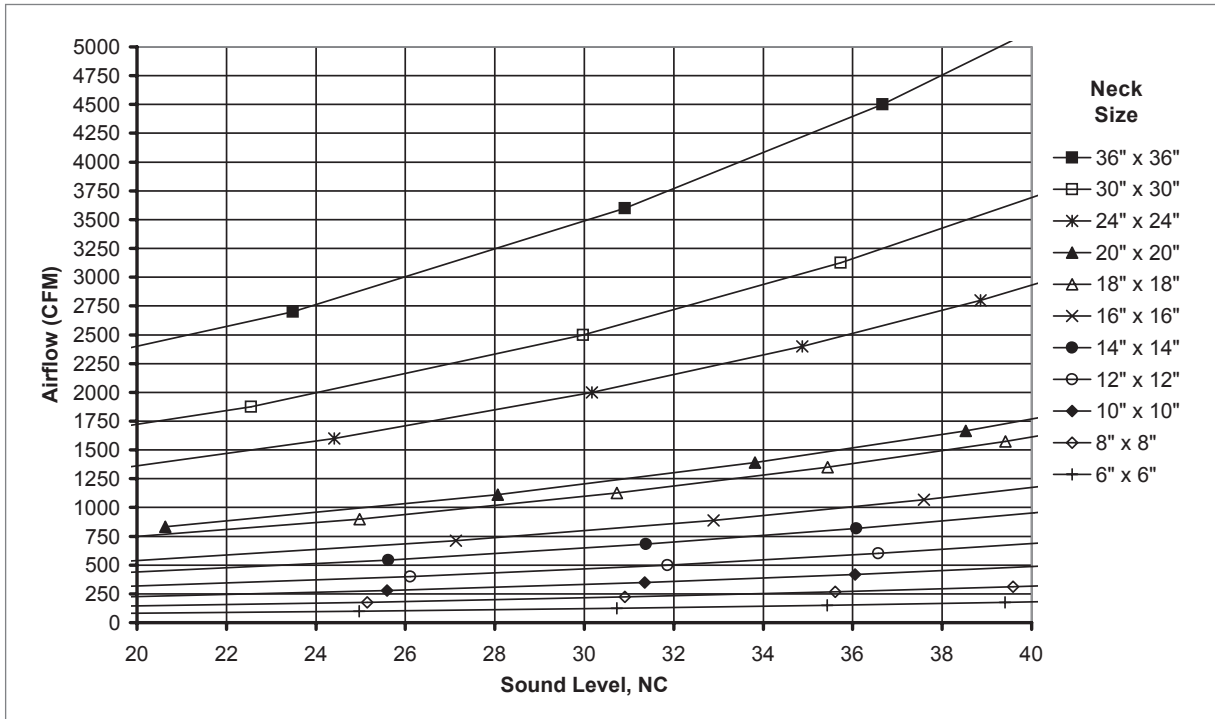
NOTES: Concealed mounting not available with an OBD or with the 180M/5180M series. Maximum unit size is 36"x20".

SUPPLY GRILLES

180-180M

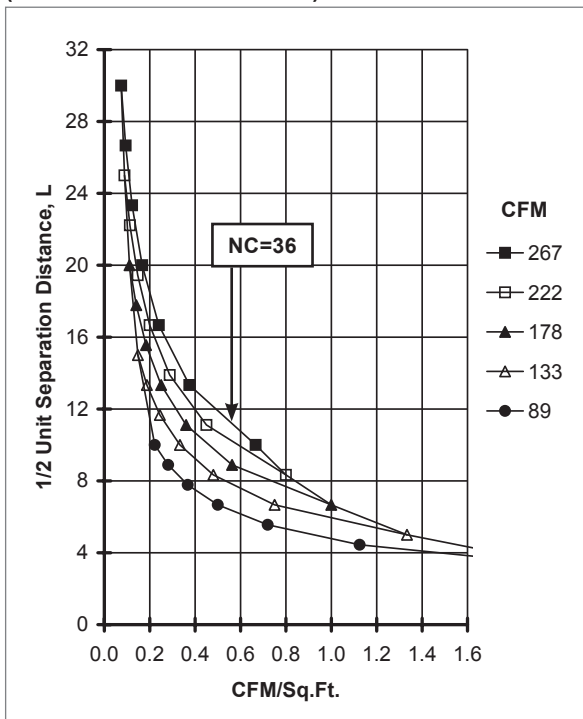
**180, 5180, 180M, 5180M Reference Charts: Horizontal Throw**

**AIRFLOW VS. NC: 180, 5180, 180M, 5180M (WITH OBD/MULTILOUVER)**

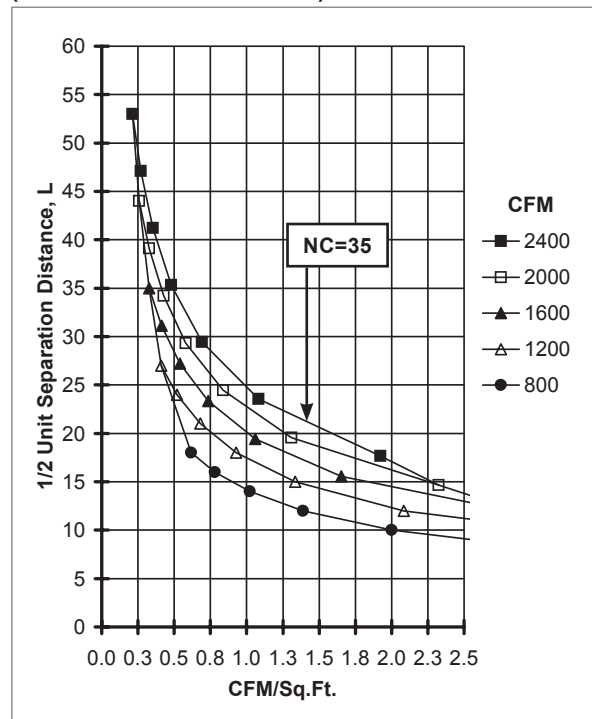


SUPPLY GRILLES

**GRILLE SPACING FOR 80% ADPI:  
180, 5180, 180M, 5180M, 8"x8" INLET, 4-WAY  
(WITH OBD/MULTILOUVER)**



**GRILLE SPACING FOR 80% ADPI:  
180, 5180, 180M, 5180M, 24"x24" INLET, 4-WAY  
(WITH OBD/MULTILOUVER)**



NOTES: Bottom two charts are at 20 BTUH/ft<sup>2</sup> loads. See the Engineering section of this catalog for instructions on how to read these charts and additional ADPI information.

**180, 5180, 180M, 5180M Performance Data: Horizontal Throw**

SQUARE IP DATA: 180, 5180, 180M, 5180M (WITH OBD/MULTILOUVER)

SUPPLY GRILLES

	Neck Vel	Total Pres	Air Flow	NC	Throw Direction				Octave Band, dB						
					1-Way Throw	2-Way Throw	3-Way Throw	4-Way Throw	2	3	4	5	6	7	
					FPM	"WG	CFM	ft	ft	ft	ft				
6" x 6"	200	0.024	50	-	4 - 6 - 13	4 - 6 - 11	3 - 5 - 10	3 - 4 - 9	-	13	19	17	12	-	
	300	0.055	75	18	6 - 10 - 19	6 - 8 - 17	5 - 7 - 14	4 - 7 - 13	18	23	29	27	22	17	
	400	0.098	100	25	8 - 13 - 25	7 - 11 - 22	6 - 10 - 19	6 - 9 - 18	25	30	36	34	29	24	
	500	0.153	125	31	11 - 16 - 32	9 - 14 - 28	8 - 12 - 24	7 - 11 - 22	31	36	42	40	35	30	
	600	0.220	150	35	13 - 19 - 35	11 - 17 - 33	10 - 14 - 29	9 - 13 - 26	36	41	47	45	40	35	
	700	0.299	175	39	15 - 22 - 37	13 - 19 - 36	11 - 17 - 32	10 - 16 - 28	40	45	51	49	44	39	
800	0.390	200	43	17 - 25 - 40	15 - 22 - 38	13 - 19 - 34	12 - 18 - 30	43	48	54	52	47	42		
8" x 8"	200	0.021	89	-	5 - 7 - 14	4 - 6 - 13	4 - 5 - 11	3 - 5 - 10	-	12	18	16	11	-	
	300	0.048	133	18	7 - 11 - 22	6 - 9 - 19	5 - 8 - 16	5 - 8 - 15	17	22	28	26	21	16	
	400	0.085	178	25	10 - 14 - 29	8 - 13 - 25	7 - 11 - 22	7 - 10 - 20	24	29	35	33	28	23	
	500	0.133	222	31	12 - 18 - 36	10 - 16 - 31	9 - 13 - 27	8 - 13 - 25	30	35	41	39	34	29	
	600	0.191	267	36	14 - 22 - 43	13 - 19 - 38	11 - 16 - 32	10 - 15 - 30	35	40	46	44	39	34	
	700	0.260	311	40	17 - 25 - 50	15 - 22 - 44	13 - 19 - 38	12 - 18 - 35	39	44	50	48	43	38	
800	0.339	356	43	19 - 29 - 53	17 - 25 - 50	14 - 22 - 43	13 - 20 - 40	42	47	53	51	46	41		
10" x 10"	200	0.020	139	-	5 - 8 - 16	5 - 7 - 14	4 - 6 - 12	4 - 6 - 11	-	11	17	15	-	-	
	300	0.044	208	18	8 - 12 - 24	7 - 10 - 21	6 - 9 - 18	6 - 8 - 17	17	22	28	26	21	16	
	400	0.078	278	26	11 - 16 - 32	9 - 14 - 28	8 - 12 - 24	7 - 11 - 22	24	29	35	33	28	23	
	500	0.122	347	31	13 - 20 - 40	12 - 17 - 35	10 - 15 - 30	9 - 14 - 28	30	35	41	39	34	29	
	600	0.176	417	36	16 - 24 - 48	14 - 21 - 42	12 - 18 - 36	11 - 17 - 34	34	39	45	43	38	33	
	700	0.239	486	40	19 - 28 - 56	16 - 24 - 49	14 - 21 - 42	13 - 20 - 39	38	43	49	47	42	37	
800	0.313	556	43	21 - 32 - 64	19 - 28 - 56	16 - 24 - 48	15 - 22 - 45	42	47	53	51	46	41		
12" x 12"	200	0.019	200	-	6 - 9 - 18	5 - 8 - 15	4 - 7 - 13	4 - 6 - 12	-	11	17	15	-	-	
	300	0.042	300	19	9 - 13 - 26	8 - 11 - 23	7 - 10 - 20	6 - 9 - 18	17	22	28	26	21	16	
	400	0.074	400	26	12 - 18 - 35	10 - 15 - 31	9 - 13 - 26	8 - 12 - 25	24	29	35	33	28	23	
	500	0.116	500	32	15 - 22 - 44	13 - 19 - 38	11 - 16 - 33	10 - 15 - 31	30	35	41	39	34	29	
	600	0.167	600	37	18 - 26 - 53	15 - 23 - 46	13 - 20 - 39	12 - 18 - 37	35	40	46	44	39	34	
	700	0.227	700	41	20 - 31 - 61	18 - 27 - 54	15 - 23 - 46	14 - 21 - 43	39	44	50	48	43	38	
800	0.296	800	44	23 - 35 - 70	20 - 31 - 61	18 - 26 - 53	16 - 25 - 49	42	47	53	51	46	41		
14" x 14"	200	0.018	272	-	6 - 9 - 19	6 - 8 - 17	5 - 7 - 14	4 - 7 - 13	-	11	17	15	-	-	
	300	0.040	408	18	9 - 14 - 28	8 - 12 - 25	7 - 11 - 21	7 - 10 - 20	17	22	28	26	21	16	
	400	0.071	544	26	13 - 19 - 38	11 - 17 - 33	9 - 14 - 28	9 - 13 - 27	24	29	35	33	28	23	
	500	0.111	681	31	16 - 24 - 47	14 - 21 - 41	12 - 18 - 36	11 - 17 - 33	30	35	41	39	34	29	
	600	0.160	817	36	19 - 28 - 57	17 - 25 - 50	14 - 21 - 43	13 - 20 - 40	35	40	46	44	39	34	
	700	0.218	953	40	22 - 33 - 66	19 - 29 - 58	17 - 25 - 50	15 - 23 - 46	39	44	50	48	43	38	
800	0.285	1089	44	25 - 38 - 76	22 - 33 - 66	19 - 28 - 57	18 - 27 - 53	42	47	53	51	46	41		
16" x 16"	200	0.017	356	-	7 - 10 - 20	6 - 9 - 18	5 - 8 - 15	5 - 7 - 14	-	11	17	15	-	-	
	300	0.039	533	20	10 - 15 - 31	9 - 13 - 27	8 - 11 - 23	7 - 11 - 21	17	22	28	26	21	16	
	400	0.069	711	27	14 - 20 - 41	12 - 18 - 36	10 - 15 - 31	9 - 14 - 28	24	29	35	33	28	23	
	500	0.108	889	33	17 - 25 - 51	15 - 22 - 44	13 - 19 - 38	12 - 18 - 36	30	35	41	39	34	29	
	600	0.156	1067	38	20 - 31 - 61	18 - 27 - 53	15 - 23 - 46	14 - 21 - 43	35	40	46	44	39	34	
	700	0.212	1244	42	24 - 36 - 71	21 - 31 - 62	18 - 27 - 53	17 - 25 - 50	39	44	50	48	43	38	
800	0.277	1422	45	27 - 41 - 81	24 - 36 - 71	20 - 31 - 61	19 - 28 - 57	42	47	53	51	46	41		
18" x 18"	200	0.017	450	-	7 - 11 - 22	6 - 9 - 19	5 - 8 - 16	5 - 8 - 15	-	11	17	15	-	-	
	300	0.038	675	18	11 - 16 - 32	9 - 14 - 28	8 - 12 - 24	8 - 11 - 23	17	22	28	26	21	16	
	400	0.068	900	25	14 - 22 - 43	13 - 19 - 38	11 - 16 - 32	10 - 15 - 30	24	29	35	33	28	23	
	500	0.106	1125	31	18 - 27 - 54	16 - 24 - 47	14 - 20 - 41	13 - 19 - 38	30	35	41	39	34	29	
	600	0.153	1350	35	22 - 32 - 65	19 - 28 - 57	16 - 24 - 49	15 - 23 - 45	35	40	46	44	39	34	
	700	0.208	1575	39	25 - 38 - 76	22 - 33 - 66	19 - 28 - 57	18 - 27 - 53	39	44	50	48	43	38	
800	0.271	1800	43	29 - 43 - 87	25 - 38 - 76	22 - 32 - 65	20 - 30 - 61	42	47	53	51	46	41		
20" x 20"	200	0.017	556	-	8 - 11 - 23	7 - 10 - 20	6 - 9 - 17	5 - 8 - 16	-	-	16	14	-	-	
	300	0.038	833	21	11 - 17 - 34	10 - 15 - 30	9 - 13 - 26	8 - 12 - 24	15	20	26	24	19	14	
	400	0.067	1111	28	15 - 23 - 46	13 - 20 - 40	11 - 17 - 34	11 - 16 - 32	23	28	34	32	27	22	
	500	0.104	1389	34	19 - 29 - 57	17 - 25 - 50	14 - 22 - 43	13 - 20 - 40	29	34	40	38	33	28	
	600	0.150	1667	39	23 - 34 - 69	20 - 30 - 60	17 - 26 - 52	16 - 24 - 48	33	38	44	42	37	32	
	700	0.204	1944	43	27 - 40 - 80	23 - 35 - 70	20 - 30 - 60	19 - 28 - 56	37	42	48	46	41	36	
800	0.267	2222	46	31 - 46 - 92	27 - 40 - 80	23 - 34 - 69	21 - 32 - 64	41	46	52	50	45	40		

NOTE: See notes and correction factors on page I1-7.

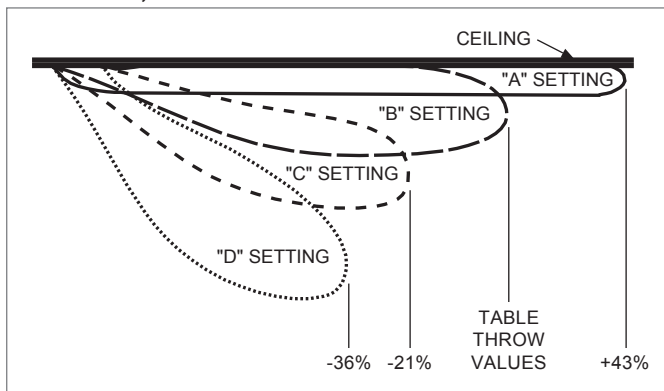
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**180, 5180, 180M, 5180M Performance Data: Horizontal Throw**
**SQUARE IP DATA: 180, 5180, 180M, 5180M (WITH OBD/MULTILOUVER)**

	Neck Vel	Total Pres	Air Flow	NC	Throw Direction				Octave Band, dB						
					1-Way Throw	2-Way Throw	3-Way Throw	4-Way Throw	2	3	4	5	6	7	
					ft	ft	ft	ft							
24" x 24"	200	0.016	800	-	7 - 13 - 25	6 - 11 - 22	5 - 10 - 19	5 - 9 - 18	-	-	16	14	-	-	
	300	0.037	1200	17	13 - 19 - 38	11 - 17 - 33	10 - 14 - 29	9 - 13 - 27	16	21	27	25	20	15	
	400	0.065	1600	24	17 - 25 - 51	15 - 22 - 44	13 - 19 - 38	12 - 18 - 35	23	28	34	32	27	22	
	500	0.102	2000	30	21 - 32 - 63	18 - 28 - 55	16 - 24 - 48	15 - 22 - 44	29	34	40	38	33	28	
	600	0.146	2400	35	25 - 38 - 76	22 - 33 - 67	19 - 29 - 57	18 - 27 - 53	34	39	45	43	38	33	
	700	0.199	2800	39	30 - 44 - 89	26 - 39 - 78	22 - 33 - 67	21 - 31 - 62	38	43	49	47	42	37	
800	0.260	3200	42	34 - 51 - 101	30 - 44 - 89	25 - 38 - 76	24 - 35 - 71	41	46	52	50	45	40		
30" x 30"	200	0.016	1250	12	7 - 14 - 29	6 - 13 - 25	5 - 11 - 22	5 - 10 - 20	-	-	16	14	-	-	
	300	0.036	1875	23	14 - 22 - 43	13 - 19 - 38	11 - 16 - 32	10 - 15 - 30	16	21	27	25	20	15	
	400	0.063	2500	30	19 - 29 - 57	17 - 25 - 50	14 - 22 - 43	13 - 20 - 40	23	28	34	32	27	22	
	500	0.099	3125	36	24 - 36 - 72	21 - 31 - 63	18 - 27 - 54	17 - 25 - 50	29	34	40	38	33	28	
	600	0.142	3750	40	29 - 43 - 86	25 - 38 - 75	22 - 32 - 65	20 - 30 - 60	34	39	45	43	38	33	
	700	0.194	4375	44	34 - 50 - 101	29 - 44 - 88	25 - 38 - 75	23 - 35 - 70	38	43	49	47	42	37	
800	0.253	5000	48	38 - 57 - 115	34 - 50 - 101	29 - 43 - 86	27 - 40 - 80	41	46	52	50	45	40		
36" x 36"	200	0.016	1800	13	6 - 14 - 32	12 - 18 - 36	10 - 16 - 31	10 - 14 - 29	-	11	17	15	-	-	
	300	0.035	2700	23	14 - 24 - 48	18 - 27 - 54	16 - 23 - 47	14 - 22 - 43	16	21	27	25	20	15	
	400	0.062	3600	31	21 - 32 - 64	24 - 36 - 72	21 - 31 - 62	19 - 29 - 58	23	28	34	32	27	22	
	500	0.097	4500	37	27 - 40 - 80	30 - 45 - 90	26 - 39 - 78	24 - 36 - 72	29	34	40	38	33	28	
	600	0.140	5400	41	32 - 48 - 96	36 - 54 - 109	31 - 47 - 93	29 - 43 - 87	34	39	45	43	38	33	
	700	0.191	6300	45	37 - 56 - 111	42 - 63 - 127	36 - 54 - 109	34 - 51 - 101	38	43	49	47	42	37	
800	0.249	7200	49	42 - 64 - 127	48 - 72 - 145	41 - 62 - 124	39 - 58 - 116	41	46	52	50	45	40		

SUPPLY GRILLES

NOTES: Throw values are given for terminal velocities of 150, 100, and 50 FPM. Throw values are given for isothermal conditions. NC values are based on octave band 2 - 7 sound power levels minus a room absorption of 10dB, re 10<sup>-12</sup> Watts. Dash in space denotes a NC or dB value of less than 10. Data was obtained from tests conducted in accordance with ANSI/ASHRAE Standard 70, ISO Standard 5219, and ISO Standard 3741. The throw values given for 1-Way Throw is for [Total CFM] CFM per side. The throw values given for 2-Way Throw is for [Total CFM/2] CFM per side. The throw values given for 3-Way Throw is for [Total CFM/3] CFM per side. The throw values given for 4-Way Throw is for [Total CFM/4] CFM per side. See Krueger's selection software for performance data not shown, including octave band data.

**180 SERIES, BLADE SETTING & THROW DETAIL**


NOTE: Reference page I1-3 for blade setting detail.

Correction Factor (with OBD)			
Blade Setting	Throws (Multiply)	Ps (Multiply)	NC (Add)
A	1.43	1.30	+2
B	1.00	1.00	+0
C	0.79	0.72	-3
D	0.64	0.52	-4

Correction Factor (without OBD)			
Blade Setting	Throws (Multiply)	Ps (Multiply)	NC (Add)
A	1.43	1.20	+0
B	1.00	0.85	-3
C	0.70	0.61	-4
D	0.64	0.33	-6

**180, 5180, 180M, 5180M Performance Data: Horizontal Throw**

RECTANGULAR IP DATA: 180, 5180, 180M, 5180M (WITH OBD/MULTILOUVER)

SUPPLY GRILLES

	Neck Vel	Total Pres	Air Flow	NC	Throw Direction				Octave Band, dB												
					1-Way Throw	2-Way Throw	3-Way Throw	4-Way Throw	2	3	4	5	6	7							
					ft	ft	ft	ft													
	FPM	"WG	CFM																		
4" x 6"	200	0.028	33	-	4 - 6 - 12	3 - 4 - 8	3 - 4 - 9	3 - 4 - 8	-	15	21	19	14	-							
	300	0.064	50	18	6 - 9 - 18	4 - 6 - 12	4 - 7 - 13	4 - 6 - 12	20	25	31	29	24	19							
	400	0.113	67	25	8 - 12 - 23	6 - 8 - 17	6 - 9 - 18	6 - 8 - 17	27	32	38	36	31	26							
	500	0.177	83	31	10 - 15 - 26	7 - 10 - 21	7 - 11 - 22	7 - 10 - 19	33	38	44	42	37	32							
	600	0.255	100	36	12 - 18 - 28	8 - 12 - 25	9 - 13 - 24	8 - 12 - 21	38	43	49	47	42	37							
	700	0.347	117	40	14 - 21 - 31	10 - 14 - 29	10 - 16 - 26	10 - 15 - 23	42	47	53	51	46	41							
800	0.453	133	43	16 - 23 - 33	11 - 17 - 31	12 - 18 - 28	11 - 17 - 24	45	50	56	54	49	44								
4" x 8"	200	0.026	44	-	4 - 6 - 13	5 - 7 - 14	3 - 5 - 9	3 - 4 - 9	-	14	20	18	13	-							
	300	0.059	67	18	6 - 9 - 19	7 - 10 - 21	5 - 7 - 14	4 - 7 - 13	20	25	31	29	24	19							
	400	0.106	89	25	8 - 13 - 25	9 - 14 - 25	6 - 9 - 19	6 - 9 - 18	27	32	38	36	31	26							
	500	0.165	111	31	11 - 16 - 30	12 - 17 - 28	8 - 12 - 24	7 - 11 - 22	33	38	44	42	37	32							
	600	0.237	133	36	13 - 19 - 33	14 - 21 - 31	9 - 14 - 28	9 - 13 - 24	38	43	49	47	42	37							
	700	0.323	156	40	15 - 22 - 35	16 - 24 - 34	11 - 17 - 30	10 - 15 - 26	42	47	53	51	46	41							
800	0.422	178	43	17 - 25 - 38	18 - 25 - 36	13 - 19 - 32	12 - 18 - 28	45	50	56	54	49	44								
4" x 10"	200	0.025	56	-	4 - 7 - 13	4 - 6 - 12	3 - 5 - 10	3 - 5 - 9	-	14	20	18	13	-							
	300	0.057	83	18	7 - 10 - 20	6 - 9 - 17	5 - 7 - 15	5 - 7 - 14	20	25	31	29	24	19							
	400	0.101	111	26	9 - 13 - 27	8 - 12 - 23	7 - 10 - 20	6 - 9 - 19	27	32	38	36	31	26							
	500	0.158	139	31	11 - 17 - 33	10 - 15 - 29	8 - 12 - 25	8 - 12 - 23	33	38	44	42	37	32							
	600	0.228	167	36	13 - 20 - 37	12 - 17 - 35	10 - 15 - 30	9 - 14 - 27	38	43	49	47	42	37							
	700	0.310	194	40	16 - 23 - 39	14 - 20 - 37	12 - 17 - 34	11 - 16 - 30	42	47	53	51	46	41							
800	0.405	222	44	18 - 27 - 42	16 - 23 - 40	13 - 20 - 36	12 - 19 - 32	45	50	56	54	49	44								
4" x 12"	200	0.025	67	-	5 - 7 - 14	4 - 6 - 12	3 - 5 - 10	3 - 5 - 10	-	15	21	19	14	-							
	300	0.055	100	19	7 - 10 - 21	6 - 9 - 18	5 - 8 - 16	5 - 7 - 15	20	25	31	29	24	19							
	400	0.099	133	26	9 - 14 - 28	8 - 12 - 24	7 - 10 - 21	6 - 10 - 19	28	33	39	37	32	27							
	500	0.154	167	32	12 - 17 - 35	10 - 15 - 30	9 - 13 - 26	8 - 12 - 24	34	39	45	43	38	33							
	600	0.222	200	36	14 - 21 - 40	12 - 18 - 37	10 - 16 - 31	10 - 15 - 29	38	43	49	47	42	37							
	700	0.302	233	40	16 - 24 - 43	14 - 21 - 41	12 - 18 - 37	11 - 17 - 32	42	47	53	51	46	41							
800	0.394	267	44	19 - 28 - 46	16 - 24 - 44	14 - 21 - 39	13 - 19 - 35	46	51	57	55	50	45								
4" x 14"	200	0.024	78	-	5 - 8 - 16	4 - 6 - 11	4 - 6 - 12	4 - 6 - 11	-	15	21	19	14	-							
	300	0.054	117	19	8 - 12 - 24	6 - 9 - 17	6 - 9 - 18	6 - 9 - 17	21	26	32	30	25	20							
	400	0.097	156	26	11 - 16 - 32	8 - 11 - 23	8 - 12 - 24	8 - 11 - 23	28	33	39	37	32	27							
	500	0.151	194	32	14 - 20 - 39	10 - 14 - 29	10 - 15 - 30	9 - 14 - 28	34	39	45	43	38	33							
	600	0.218	233	37	16 - 24 - 43	11 - 17 - 34	12 - 18 - 37	11 - 17 - 32	39	44	50	48	43	38							
	700	0.296	272	41	19 - 28 - 47	13 - 20 - 40	14 - 21 - 40	13 - 20 - 35	42	47	53	51	46	41							
800	0.387	311	44	22 - 32 - 50	15 - 23 - 46	16 - 24 - 42	15 - 23 - 37	46	51	57	55	50	45								
4" x 16"	200	0.024	89	-	5 - 8 - 15	4 - 7 - 13	4 - 6 - 11	4 - 5 - 11	-	15	21	19	14	-							
	300	0.054	133	19	8 - 11 - 23	7 - 10 - 20	6 - 8 - 17	5 - 8 - 16	21	26	32	30	25	20							
	400	0.095	178	26	10 - 15 - 30	9 - 13 - 26	8 - 11 - 23	7 - 11 - 21	28	33	39	37	32	27							
	500	0.149	222	32	13 - 19 - 38	11 - 16 - 33	9 - 14 - 28	9 - 13 - 26	34	39	45	43	38	33							
	600	0.215	267	37	15 - 23 - 45	13 - 20 - 39	11 - 17 - 34	11 - 16 - 32	39	44	50	48	43	38							
	700	0.292	311	41	18 - 26 - 50	15 - 23 - 46	13 - 20 - 39	12 - 18 - 37	43	48	54	52	47	42							
800	0.382	356	44	20 - 30 - 53	18 - 26 - 51	15 - 23 - 45	14 - 21 - 40	46	51	57	55	50	45								
4" x 18"	200	0.024	100	-	5 - 8 - 15	5 - 7 - 14	4 - 6 - 12	4 - 5 - 11	11	16	22	20	15	-							
	300	0.053	150	19	8 - 12 - 23	7 - 10 - 20	6 - 9 - 17	5 - 8 - 16	21	26	32	30	25	20							
	400	0.094	200	27	10 - 15 - 31	9 - 14 - 27	8 - 12 - 23	7 - 11 - 22	29	34	40	38	33	28							
	500	0.147	250	32	13 - 19 - 39	11 - 17 - 34	10 - 15 - 29	9 - 14 - 27	34	39	45	43	38	33							
	600	0.212	300	37	15 - 23 - 46	14 - 20 - 41	12 - 17 - 35	11 - 16 - 33	39	44	50	48	43	38							
	700	0.289	350	41	18 - 27 - 53	16 - 24 - 47	14 - 20 - 41	13 - 19 - 38	43	48	54	52	47	42							
800	0.377	400	45	21 - 31 - 57	18 - 27 - 54	15 - 23 - 46	14 - 22 - 42	47	52	58	56	51	46								
4" x 20"	200	0.023	111	-	5 - 8 - 16	5 - 7 - 14	4 - 6 - 12	4 - 6 - 11	-	14	20	18	13	-							
	300	0.053	167	20	8 - 12 - 24	7 - 10 - 21	6 - 9 - 18	6 - 8 - 17	20	25	31	29	24	19							
	400	0.094	222	27	11 - 16 - 32	9 - 14 - 28	8 - 12 - 24	7 - 11 - 22	27	32	38	36	31	26							
	500	0.146	278	33	13 - 20 - 40	12 - 17 - 35	10 - 15 - 30	9 - 14 - 28	33	38	44	42	37	32							
	600	0.211	333	37	16 - 24 - 48	14 - 21 - 42	12 - 18 - 36	11 - 17 - 33	38	43	49	47	42	37							
	700	0.287	389	41	19 - 28 - 56	16 - 24 - 49	14 - 21 - 42	13 - 20 - 39	42	47	53	51	46	41							
800	0.374	444	45	21 - 32 - 60	19 - 28 - 56	16 - 24 - 48	15 - 22 - 45	45	50	56	54	49	44								

NOTE: See notes and correction factors on page I1-14.

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**180, 5180, 180M, 5180M Performance Data: Horizontal Throw**

RECTANGULAR IP DATA: 180, 5180, 180M, 5180M (WITH OBD/MULTILOUVER)

	Neck Vel	Total Pres	Air Flow	NC	Throw Direction				Octave Band, dB						
					1-Way Throw	2-Way Throw	3-Way Throw	4-Way Throw	2	3	4	5	6	7	
					ft	ft	ft	ft							
4" x 24"	200	0.023	133	-	6 - 8 - 17	5 - 7 - 15	4 - 6 - 13	4 - 6 - 12	-	15	21	19	14	-	
	300	0.052	200	20	8 - 13 - 25	7 - 11 - 22	6 - 9 - 19	6 - 9 - 18	20	25	31	29	24	19	
	400	0.092	267	27	11 - 17 - 34	10 - 15 - 29	8 - 13 - 25	8 - 12 - 23	28	33	39	37	32	27	
	500	0.144	333	33	14 - 21 - 42	12 - 18 - 37	10 - 16 - 31	10 - 15 - 29	33	38	44	42	37	32	
	600	0.208	400	38	17 - 25 - 50	15 - 22 - 44	13 - 19 - 38	12 - 18 - 35	38	43	49	47	42	37	
	700	0.283	467	42	20 - 29 - 59	17 - 26 - 51	15 - 22 - 44	14 - 21 - 41	42	47	53	51	46	41	
800	0.369	533	45	22 - 34 - 65	20 - 29 - 59	17 - 25 - 50	16 - 23 - 47	45	50	56	54	49	44		
6" x 10"	200	0.022	83	-	5 - 7 - 14	4 - 6 - 12	4 - 5 - 11	3 - 5 - 10	-	15	21	19	14	-	
	300	0.049	125	18	7 - 11 - 21	6 - 9 - 19	5 - 8 - 16	5 - 7 - 15	20	25	31	29	24	19	
	400	0.087	167	25	10 - 14 - 29	8 - 12 - 25	7 - 11 - 21	7 - 10 - 20	27	32	38	36	31	26	
	500	0.136	208	31	12 - 18 - 36	10 - 16 - 31	9 - 13 - 27	8 - 12 - 25	33	38	44	42	37	32	
	600	0.197	250	36	14 - 21 - 43	12 - 19 - 37	11 - 16 - 32	10 - 15 - 30	38	43	49	47	42	37	
	700	0.267	292	40	17 - 25 - 48	15 - 22 - 44	12 - 19 - 37	12 - 17 - 35	42	47	53	51	46	41	
800	0.349	333	43	19 - 29 - 52	17 - 25 - 49	14 - 21 - 43	13 - 20 - 39	45	50	56	54	49	44		
6" x 12"	200	0.021	100	-	5 - 7 - 15	4 - 7 - 13	4 - 6 - 11	3 - 5 - 10	-	15	21	19	14	-	
	300	0.048	150	18	7 - 11 - 22	7 - 10 - 20	6 - 8 - 17	5 - 8 - 16	20	25	31	29	24	19	
	400	0.085	200	26	10 - 15 - 30	9 - 13 - 26	7 - 11 - 22	7 - 10 - 21	27	32	38	36	31	26	
	500	0.133	250	31	12 - 19 - 37	11 - 16 - 33	9 - 14 - 28	9 - 13 - 26	33	38	44	42	37	32	
	600	0.191	300	36	15 - 22 - 45	13 - 20 - 39	11 - 17 - 34	10 - 16 - 31	38	43	49	47	42	37	
	700	0.260	350	40	17 - 26 - 52	15 - 23 - 46	13 - 20 - 39	12 - 18 - 37	42	47	53	51	46	41	
800	0.340	400	43	20 - 30 - 57	17 - 26 - 52	15 - 22 - 45	14 - 21 - 42	45	50	56	54	49	44		
6" x 14"	200	0.021	117	-	5 - 8 - 16	5 - 7 - 14	4 - 6 - 12	4 - 5 - 11	-	15	21	19	14	-	
	300	0.047	175	18	8 - 12 - 23	7 - 10 - 20	6 - 9 - 17	5 - 8 - 16	20	25	31	29	24	19	
	400	0.083	233	26	10 - 16 - 31	9 - 14 - 27	8 - 12 - 23	7 - 11 - 22	28	33	39	37	32	27	
	500	0.130	292	32	13 - 19 - 39	11 - 17 - 34	10 - 15 - 29	9 - 14 - 27	33	38	44	42	37	32	
	600	0.188	350	36	16 - 23 - 47	14 - 20 - 41	12 - 17 - 35	11 - 16 - 33	38	43	49	47	42	37	
	700	0.256	408	40	18 - 27 - 54	16 - 24 - 48	14 - 20 - 41	13 - 19 - 38	42	47	53	51	46	41	
800	0.334	467	44	21 - 31 - 61	18 - 27 - 54	16 - 23 - 47	14 - 22 - 43	45	50	56	54	49	44		
6" x 16"	200	0.021	133	-	5 - 8 - 16	5 - 7 - 14	4 - 6 - 12	4 - 6 - 11	-	14	20	18	13	-	
	300	0.046	200	19	8 - 12 - 24	7 - 11 - 21	6 - 9 - 18	6 - 8 - 17	20	25	31	29	24	19	
	400	0.082	267	26	11 - 16 - 32	9 - 14 - 28	8 - 12 - 24	8 - 11 - 23	27	32	38	36	31	26	
	500	0.129	333	32	13 - 20 - 40	12 - 18 - 35	10 - 15 - 30	9 - 14 - 28	33	38	44	42	37	32	
	600	0.185	400	37	16 - 24 - 48	14 - 21 - 42	12 - 18 - 36	11 - 17 - 34	38	43	49	47	42	37	
	700	0.252	467	40	19 - 28 - 56	16 - 25 - 49	14 - 21 - 42	13 - 20 - 39	41	46	52	50	45	40	
800	0.329	533	44	21 - 32 - 64	19 - 28 - 56	16 - 24 - 48	15 - 23 - 45	45	50	56	54	49	44		
6" x 18"	200	0.020	150	-	6 - 8 - 17	5 - 7 - 15	4 - 6 - 12	4 - 6 - 12	-	14	20	18	13	-	
	300	0.046	225	19	8 - 12 - 25	7 - 11 - 22	6 - 9 - 19	6 - 9 - 17	20	25	31	29	24	19	
	400	0.081	300	26	11 - 17 - 33	10 - 15 - 29	8 - 12 - 25	8 - 12 - 23	27	32	38	36	31	26	
	500	0.127	375	32	14 - 21 - 42	12 - 18 - 36	10 - 16 - 31	10 - 15 - 29	33	38	44	42	37	32	
	600	0.183	450	37	17 - 25 - 50	15 - 22 - 44	12 - 19 - 37	12 - 17 - 35	38	43	49	47	42	37	
	700	0.249	525	41	19 - 29 - 58	17 - 25 - 51	15 - 22 - 44	14 - 20 - 41	42	47	53	51	46	41	
800	0.325	600	44	22 - 33 - 66	19 - 29 - 58	17 - 25 - 50	15 - 23 - 46	45	50	56	54	49	44		
6" x 20"	200	0.020	167	-	6 - 9 - 17	5 - 7 - 15	4 - 6 - 13	4 - 6 - 12	-	15	21	19	14	-	
	300	0.046	250	19	9 - 13 - 26	7 - 11 - 22	6 - 10 - 19	6 - 9 - 18	20	25	31	29	24	19	
	400	0.081	333	27	11 - 17 - 34	10 - 15 - 30	9 - 13 - 26	8 - 12 - 24	28	33	39	37	32	27	
	500	0.127	417	32	14 - 21 - 43	12 - 19 - 37	11 - 16 - 32	10 - 15 - 30	33	38	44	42	37	32	
	600	0.183	500	37	17 - 26 - 51	15 - 22 - 45	13 - 19 - 38	12 - 18 - 36	38	43	49	47	42	37	
	700	0.249	583	41	20 - 30 - 60	17 - 26 - 52	15 - 22 - 45	14 - 21 - 42	42	47	53	51	46	41	
800	0.325	667	44	23 - 34 - 68	20 - 30 - 60	17 - 26 - 51	16 - 24 - 48	45	50	56	54	49	44		
6" x 24"	200	0.020	183	-	6 - 9 - 18	5 - 8 - 16	4 - 7 - 13	4 - 6 - 13	-	15	21	19	14	-	
	300	0.045	270	20	9 - 13 - 27	8 - 12 - 24	7 - 10 - 20	6 - 9 - 19	21	26	32	30	25	20	
	400	0.080	360	27	12 - 18 - 36	10 - 16 - 31	9 - 13 - 27	8 - 13 - 25	28	33	39	37	32	27	
	500	0.124	450	33	15 - 22 - 45	13 - 20 - 39	11 - 17 - 34	10 - 16 - 31	34	39	45	43	38	33	
	600	0.179	540	37	18 - 27 - 54	16 - 24 - 47	13 - 20 - 40	13 - 19 - 38	38	43	49	47	42	37	
	700	0.244	630	41	21 - 31 - 63	18 - 28 - 55	16 - 24 - 47	15 - 22 - 44	42	47	53	51	46	41	
800	0.319	720	45	24 - 36 - 72	21 - 31 - 63	18 - 27 - 54	17 - 25 - 50	46	51	57	55	50	45		

SUPPLY GRILLES

180 Series | Curved Blade

NOTE: See notes and correction factors on page I1-14.



**180, 5180, 180M, 5180M Performance Data: Horizontal Throw**

RECTANGULAR IP DATA: 180, 5180, 180M, 5180M (WITH OBD/MULTILOUVER)

SUPPLY GRILLES

	Neck Vel	Total Pres	Air Flow	NC	Throw Direction				Octave Band, dB						
					1-Way Throw	2-Way Throw	3-Way Throw	4-Way Throw	2	3	4	5	6	7	
					ft	ft	ft	ft							
6" x 30"	200	0.020	250	-	6 - 10 - 19	6 - 8 - 17	5 - 7 - 14	4 - 7 - 13	11	16	22	20	15	-	
	300	0.044	375	20	10 - 14 - 29	8 - 13 - 25	7 - 11 - 22	7 - 10 - 20	21	26	32	30	25	20	
	400	0.079	500	27	13 - 19 - 38	11 - 17 - 33	10 - 14 - 29	9 - 13 - 27	28	33	39	37	32	27	
	500	0.123	625	33	16 - 24 - 48	14 - 21 - 42	12 - 18 - 36	11 - 17 - 33	34	39	45	43	38	33	
	600	0.177	750	38	19 - 29 - 57	17 - 25 - 50	14 - 22 - 43	13 - 20 - 40	39	44	50	48	43	38	
	700	0.241	875	42	22 - 33 - 67	20 - 29 - 59	17 - 25 - 50	16 - 23 - 47	43	48	54	52	47	42	
	800	0.314	1000	45	25 - 38 - 76	22 - 33 - 67	19 - 29 - 57	18 - 27 - 54	46	51	57	55	50	45	
8" x 10"	200	0.020	111	-	5 - 8 - 15	4 - 7 - 13	4 - 6 - 11	4 - 5 - 11	-	13	19	17	12	-	
	300	0.046	167	18	8 - 11 - 23	7 - 10 - 20	6 - 9 - 17	5 - 8 - 16	19	24	30	28	23	18	
	400	0.081	222	25	10 - 15 - 30	9 - 13 - 27	8 - 11 - 23	7 - 11 - 21	26	31	37	35	30	25	
	500	0.127	278	31	13 - 19 - 38	11 - 17 - 33	9 - 14 - 28	9 - 13 - 27	32	37	43	41	36	31	
	600	0.183	333	36	15 - 23 - 46	13 - 20 - 40	11 - 17 - 34	11 - 16 - 32	37	42	48	46	41	36	
	700	0.249	389	40	18 - 27 - 53	15 - 23 - 46	13 - 20 - 40	12 - 19 - 37	41	46	52	50	45	40	
	800	0.326	444	43	20 - 30 - 60	18 - 27 - 53	15 - 23 - 46	14 - 21 - 42	44	49	55	53	48	43	
8" x 12"	200	0.020	133	-	5 - 8 - 16	5 - 7 - 14	4 - 6 - 12	4 - 6 - 11	-	14	20	18	13	-	
	300	0.045	200	18	8 - 12 - 24	7 - 10 - 21	6 - 9 - 18	6 - 8 - 17	19	24	30	28	23	18	
	400	0.079	267	26	11 - 16 - 32	9 - 14 - 28	8 - 12 - 24	7 - 11 - 22	27	32	38	36	31	26	
	500	0.124	333	31	13 - 20 - 40	12 - 17 - 35	10 - 15 - 30	9 - 14 - 28	32	37	43	41	36	31	
	600	0.178	400	36	16 - 24 - 48	14 - 21 - 42	12 - 18 - 36	11 - 17 - 33	37	42	48	46	41	36	
	700	0.243	467	40	19 - 28 - 56	16 - 24 - 49	14 - 21 - 42	13 - 19 - 39	41	46	52	50	45	40	
	800	0.317	533	44	21 - 32 - 64	19 - 28 - 56	16 - 24 - 48	15 - 22 - 44	45	50	56	54	49	44	
8" x 14"	200	0.019	156	-	6 - 8 - 17	5 - 7 - 14	4 - 6 - 12	4 - 6 - 12	-	14	20	18	13	-	
	300	0.044	233	18	8 - 12 - 25	7 - 11 - 22	6 - 9 - 19	6 - 9 - 17	19	24	30	28	23	18	
	400	0.078	311	26	11 - 17 - 33	10 - 14 - 29	8 - 12 - 25	8 - 12 - 23	27	32	38	36	31	26	
	500	0.122	389	32	14 - 21 - 41	12 - 18 - 36	10 - 15 - 31	10 - 14 - 29	33	38	44	42	37	32	
	600	0.175	467	36	17 - 25 - 50	14 - 22 - 43	12 - 19 - 37	12 - 17 - 35	37	42	48	46	41	36	
	700	0.238	544	40	19 - 29 - 58	17 - 25 - 51	14 - 22 - 43	13 - 20 - 40	41	46	52	50	45	40	
	800	0.311	622	44	22 - 33 - 66	19 - 29 - 58	17 - 25 - 50	15 - 23 - 46	45	50	56	54	49	44	
8" x 16"	200	0.019	178	-	6 - 9 - 17	5 - 7 - 15	4 - 6 - 13	4 - 6 - 12	-	14	20	18	13	-	
	300	0.043	267	19	9 - 13 - 26	7 - 11 - 22	6 - 10 - 19	6 - 9 - 18	20	25	31	29	24	19	
	400	0.077	356	26	11 - 17 - 34	10 - 15 - 30	9 - 13 - 26	8 - 12 - 24	27	32	38	36	31	26	
	500	0.120	444	32	14 - 21 - 43	12 - 19 - 37	11 - 16 - 32	10 - 15 - 30	33	38	44	42	37	32	
	600	0.173	533	37	17 - 26 - 51	15 - 22 - 45	13 - 19 - 39	12 - 18 - 36	38	43	49	47	42	37	
	700	0.235	622	41	20 - 30 - 60	17 - 26 - 52	15 - 22 - 45	14 - 21 - 42	42	47	53	51	46	41	
	800	0.307	711	44	23 - 34 - 68	20 - 30 - 60	17 - 26 - 51	16 - 24 - 48	45	50	56	54	49	44	
8" x 18"	200	0.019	200	-	6 - 9 - 18	5 - 8 - 15	4 - 7 - 13	4 - 6 - 12	-	15	21	19	14	-	
	300	0.043	300	19	9 - 13 - 26	8 - 12 - 23	7 - 10 - 20	6 - 9 - 19	20	25	31	29	24	19	
	400	0.076	400	26	12 - 18 - 35	10 - 15 - 31	9 - 13 - 26	8 - 12 - 25	27	32	38	36	31	26	
	500	0.119	500	32	15 - 22 - 44	13 - 19 - 39	11 - 17 - 33	10 - 15 - 31	33	38	44	42	37	32	
	600	0.171	600	37	18 - 26 - 53	15 - 23 - 46	13 - 20 - 40	12 - 19 - 37	38	43	49	47	42	37	
	700	0.232	700	41	21 - 31 - 62	18 - 27 - 54	15 - 23 - 46	14 - 22 - 43	42	47	53	51	46	41	
	800	0.303	800	44	24 - 35 - 71	21 - 31 - 62	18 - 26 - 53	16 - 25 - 49	45	50	56	54	49	44	
8" x 20"	200	0.019	222	-	6 - 9 - 18	5 - 8 - 16	5 - 7 - 14	4 - 6 - 13	-	15	21	19	14	-	
	300	0.042	333	19	9 - 14 - 27	8 - 12 - 24	7 - 10 - 20	6 - 10 - 19	20	25	31	29	24	19	
	400	0.075	444	27	12 - 18 - 36	11 - 16 - 32	9 - 14 - 27	8 - 13 - 25	28	33	39	37	32	27	
	500	0.118	556	32	15 - 23 - 45	13 - 20 - 40	11 - 17 - 34	11 - 16 - 32	33	38	44	42	37	32	
	600	0.169	667	37	18 - 27 - 55	16 - 24 - 48	14 - 20 - 41	13 - 19 - 38	38	43	49	47	42	37	
	700	0.230	778	41	21 - 32 - 64	19 - 28 - 56	16 - 24 - 48	15 - 22 - 45	42	47	53	51	46	41	
	800	0.301	889	44	24 - 36 - 73	21 - 32 - 64	18 - 27 - 55	17 - 25 - 51	45	50	56	54	49	44	
8" x 30"	200	0.018	333	-	7 - 10 - 20	6 - 9 - 18	5 - 8 - 15	5 - 7 - 14	11	16	22	20	15	-	
	300	0.041	500	20	10 - 15 - 31	9 - 13 - 27	8 - 11 - 23	7 - 11 - 21	21	26	32	30	25	20	
	400	0.073	667	28	14 - 20 - 41	12 - 18 - 36	10 - 15 - 31	9 - 14 - 28	29	34	40	38	33	28	
	500	0.115	833	33	17 - 25 - 51	15 - 22 - 44	13 - 19 - 38	12 - 18 - 36	34	39	45	43	38	33	
	600	0.165	1000	38	20 - 31 - 61	18 - 27 - 53	15 - 23 - 46	14 - 21 - 43	39	44	50	48	43	38	
	700	0.224	1167	42	24 - 36 - 71	21 - 31 - 62	18 - 27 - 53	17 - 25 - 50	43	48	54	52	47	42	
	800	0.293	1333	45	27 - 41 - 81	24 - 36 - 71	20 - 31 - 61	19 - 28 - 57	46	51	57	55	50	45	

NOTE: See notes and correction factors on page I1-14.





**180, 5180, 180M, 5180M Performance Data: Horizontal Throw**

RECTANGULAR IP DATA: 180, 5180, 180M, 5180M (WITH OBD/MULTILOUVER)

	Neck Vel	Total Pres	Air Flow	NC	Throw Direction				Octave Band, dB						
					1-Way Throw	2-Way Throw	3-Way Throw	4-Way Throw	2	3	4	5	6	7	
					ft	ft	ft	ft	FPM	"WG	CFM				
16" x 24"	200	0.017	533	-	9 - 13 - 26	8 - 11 - 23	6 - 10 - 19	6 - 9 - 18	11	16	22	20	15	-	
	300	0.038	800	21	13 - 19 - 39	11 - 17 - 34	10 - 14 - 29	9 - 14 - 27	22	27	33	31	26	21	
	400	0.067	1067	28	17 - 26 - 52	15 - 23 - 45	13 - 19 - 39	12 - 18 - 36	29	34	40	38	33	28	
	500	0.105	1333	34	21 - 32 - 64	19 - 28 - 56	16 - 24 - 48	15 - 23 - 45	35	40	46	44	39	34	
	600	0.151	1600	38	26 - 39 - 77	23 - 34 - 68	19 - 29 - 58	18 - 27 - 54	39	44	50	48	43	38	
	700	0.206	1867	42	30 - 45 - 90	26 - 39 - 79	23 - 34 - 68	21 - 32 - 63	43	48	54	52	47	42	
16" x 30"	200	0.066	667	11	9 - 14 - 28	8 - 12 - 25	6 - 11 - 21	6 - 10 - 20	12	17	23	21	16	11	
	300	0.037	1000	21	14 - 21 - 42	12 - 19 - 37	11 - 16 - 32	10 - 15 - 30	22	27	33	31	26	21	
	400	0.066	1333	29	19 - 28 - 57	17 - 25 - 50	14 - 21 - 42	13 - 20 - 40	30	35	41	39	34	29	
	500	0.104	1667	34	24 - 35 - 71	21 - 31 - 62	18 - 27 - 53	17 - 25 - 50	35	40	46	44	39	34	
	600	0.149	2000	39	28 - 42 - 85	25 - 37 - 74	21 - 32 - 64	20 - 30 - 59	40	45	51	49	44	39	
	700	0.203	2333	43	33 - 50 - 99	29 - 43 - 87	25 - 37 - 74	23 - 35 - 69	44	49	55	53	48	43	
16" x 36"	200	0.016	800	11	9 - 15 - 31	8 - 13 - 27	6 - 11 - 23	6 - 11 - 21	12	17	23	21	16	11	
	300	0.037	1200	22	15 - 23 - 46	13 - 20 - 40	11 - 17 - 34	11 - 16 - 32	23	28	34	32	27	22	
	400	0.066	1600	29	20 - 31 - 61	18 - 27 - 54	15 - 23 - 46	14 - 21 - 43	30	35	41	39	34	29	
	500	0.103	2000	35	26 - 38 - 77	22 - 33 - 67	19 - 29 - 57	18 - 27 - 54	36	41	47	45	40	35	
	600	0.148	2400	39	31 - 46 - 92	27 - 40 - 80	23 - 34 - 69	21 - 32 - 64	40	45	51	49	44	39	
	700	0.201	2800	43	36 - 54 - 107	31 - 47 - 94	27 - 40 - 80	25 - 37 - 75	44	49	55	53	48	43	
18" x 20"	200	0.017	500	-	8 - 13 - 25	7 - 11 - 22	6 - 9 - 19	6 - 9 - 18	11	16	22	20	15	-	
	300	0.038	750	20	13 - 19 - 38	11 - 16 - 33	9 - 14 - 28	9 - 13 - 26	21	26	32	30	25	20	
	400	0.067	1000	28	17 - 25 - 50	15 - 22 - 44	13 - 19 - 38	12 - 18 - 35	29	34	40	38	33	28	
	500	0.105	1250	34	21 - 31 - 63	18 - 27 - 55	16 - 23 - 47	15 - 22 - 44	35	40	46	44	39	34	
	600	0.151	1500	38	25 - 38 - 75	22 - 33 - 66	19 - 28 - 56	18 - 26 - 53	39	44	50	48	43	38	
	700	0.206	1750	42	29 - 44 - 88	26 - 38 - 77	22 - 33 - 66	20 - 31 - 61	43	48	54	52	47	42	
18" x 24"	200	0.017	600	-	9 - 14 - 27	8 - 12 - 24	6 - 10 - 20	6 - 9 - 19	11	16	22	20	15	-	
	300	0.037	900	21	14 - 20 - 41	12 - 18 - 35	10 - 15 - 30	9 - 14 - 28	22	27	33	31	26	21	
	400	0.066	1200	28	18 - 27 - 54	16 - 24 - 47	14 - 20 - 41	13 - 19 - 38	29	34	40	38	33	28	
	500	0.104	1500	34	23 - 34 - 68	20 - 30 - 59	17 - 25 - 51	16 - 24 - 47	35	40	46	44	39	34	
	600	0.149	1800	39	27 - 41 - 81	24 - 35 - 71	20 - 30 - 61	19 - 28 - 57	40	45	51	49	44	39	
	700	0.203	2100	43	32 - 47 - 95	28 - 41 - 83	24 - 35 - 71	22 - 33 - 66	44	49	55	53	48	43	
18" x 36"	200	0.016	900	11	9 - 16 - 32	7 - 14 - 28	6 - 12 - 24	6 - 11 - 22	12	17	23	21	16	11	
	300	0.037	1350	22	16 - 24 - 48	14 - 21 - 42	12 - 18 - 36	11 - 17 - 34	23	28	34	32	27	22	
	400	0.065	1800	29	21 - 32 - 64	19 - 28 - 56	16 - 24 - 48	15 - 22 - 45	30	35	41	39	34	29	
	500	0.102	2250	35	27 - 40 - 80	23 - 35 - 70	20 - 30 - 60	19 - 28 - 56	36	41	47	45	40	35	
	600	0.146	2700	40	32 - 48 - 96	28 - 42 - 84	24 - 36 - 72	22 - 34 - 67	41	46	52	50	45	40	
	700	0.199	3150	44	37 - 56 - 112	33 - 49 - 98	28 - 42 - 84	26 - 39 - 79	45	50	56	54	49	44	
20" x 24"	200	0.016	667	11	9 - 14 - 28	7 - 12 - 25	6 - 11 - 21	6 - 10 - 20	12	17	23	21	16	11	
	300	0.037	1000	21	14 - 21 - 42	12 - 19 - 37	11 - 16 - 32	10 - 15 - 30	22	27	33	31	26	21	
	400	0.066	1333	28	19 - 28 - 57	16 - 25 - 49	14 - 21 - 42	13 - 20 - 40	29	34	40	38	33	28	
	500	0.103	1667	34	24 - 35 - 71	21 - 31 - 62	18 - 26 - 53	16 - 25 - 49	35	40	46	44	39	34	
	600	0.148	2000	39	28 - 42 - 85	25 - 37 - 74	21 - 32 - 64	20 - 30 - 59	40	45	51	49	44	39	
	700	0.202	2333	43	33 - 49 - 99	29 - 43 - 87	25 - 37 - 74	23 - 35 - 69	44	49	55	53	48	43	
20" x 36"	200	0.016	1000	12	9 - 17 - 34	7 - 15 - 29	6 - 13 - 25	6 - 12 - 24	13	18	24	22	17	12	
	300	0.036	1500	22	17 - 25 - 50	15 - 22 - 44	13 - 19 - 38	12 - 18 - 35	23	28	34	32	27	22	
	400	0.064	2000	29	22 - 34 - 67	20 - 29 - 59	17 - 25 - 50	16 - 24 - 47	30	35	41	39	34	29	
	500	0.101	2500	35	28 - 42 - 84	24 - 37 - 73	21 - 31 - 63	20 - 29 - 59	36	41	47	45	40	35	
	600	0.145	3000	40	34 - 50 - 101	29 - 44 - 88	25 - 38 - 76	24 - 35 - 71	41	46	52	50	45	40	
	700	0.197	3500	44	39 - 59 - 118	34 - 51 - 103	29 - 44 - 88	27 - 41 - 82	45	50	56	54	49	44	
800	0.258	4000	47	45 - 67 - 134	39 - 59 - 118	34 - 50 - 101	31 - 47 - 94	48	53	59	57	52	47		

SUPPLY GRILLES

180 - 180M

NOTE: See notes and correction factors on page I1-14.

**180, 5180, 180M, 5180M Performance Data: Horizontal Throw**

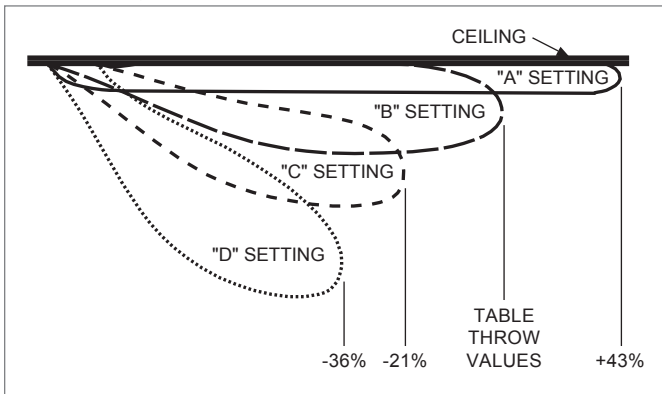
RECTANGULAR IP DATA: 180, 5180, 180M, 5180M (WITH OBD/MULTILOUVER)

	Neck Vel	Total Pres	Air Flow	NC	Throw Direction				Octave Band, dB						
					1-Way Throw	2-Way Throw	3-Way Throw	4-Way Throw	2	3	4	5	6	7	
					FPM	"WG	CFM	ft	ft	ft	ft				
24" x 30"	200	0.016	1000	12	8 - 17 - 34	7 - 15 - 29	6 - 13 - 25	6 - 12 - 23	13	18	24	22	17	12	
	300	0.036	1500	22	17 - 25 - 50	15 - 22 - 44	13 - 19 - 38	12 - 18 - 35	23	28	34	32	27	22	
	400	0.064	2000	29	22 - 34 - 67	20 - 29 - 59	17 - 25 - 50	16 - 23 - 47	30	35	41	39	34	29	
	500	0.100	2500	35	28 - 42 - 84	24 - 37 - 73	21 - 31 - 63	20 - 29 - 59	36	41	47	45	40	35	
	600	0.144	3000	40	34 - 50 - 101	29 - 44 - 88	25 - 38 - 75	23 - 35 - 70	41	46	52	50	45	40	
	700	0.196	3500	44	39 - 59 - 117	34 - 51 - 103	29 - 44 - 88	27 - 41 - 82	45	50	56	54	49	44	
800	0.257	4000	47	45 - 67 - 134	39 - 59 - 117	34 - 50 - 101	31 - 47 - 94	48	53	59	57	52	47		
24" x 36"	200	0.016	1200	12	8 - 18 - 36	7 - 16 - 32	6 - 14 - 27	6 - 13 - 25	13	18	24	22	17	12	
	300	0.036	1800	22	18 - 27 - 54	16 - 24 - 48	14 - 20 - 41	13 - 19 - 38	23	28	34	32	27	22	
	400	0.064	2400	30	24 - 36 - 73	21 - 32 - 63	18 - 27 - 54	17 - 25 - 51	31	36	42	40	35	30	
	500	0.099	3000	36	30 - 45 - 91	26 - 40 - 79	23 - 34 - 68	21 - 32 - 63	37	42	48	46	41	36	
	600	0.143	3600	40	36 - 54 - 109	32 - 48 - 95	27 - 41 - 82	25 - 38 - 76	41	46	52	50	45	40	
	700	0.195	4200	44	42 - 63 - 127	37 - 56 - 111	32 - 48 - 95	30 - 44 - 89	45	50	56	54	49	44	
800	0.254	4800	48	48 - 73 - 145	42 - 63 - 127	36 - 54 - 109	34 - 51 - 102	49	54	60	58	53	48		
30" x 36"	200	0.016	1500	13	8 - 19 - 40	7 - 17 - 35	6 - 14 - 30	6 - 13 - 28	14	19	25	23	18	13	
	300	0.035	2250	23	19 - 30 - 60	17 - 26 - 52	14 - 22 - 45	13 - 21 - 42	24	29	35	33	28	23	
	400	0.063	3000	30	27 - 40 - 80	23 - 35 - 70	20 - 30 - 60	19 - 28 - 56	31	36	42	40	35	30	
	500	0.098	3750	36	33 - 50 - 100	29 - 44 - 87	25 - 37 - 75	23 - 35 - 70	37	42	48	46	41	36	
	600	0.141	4500	41	40 - 60 - 120	35 - 52 - 105	30 - 45 - 90	28 - 42 - 84	42	47	53	51	46	41	
	700	0.192	5250	45	46 - 70 - 139	41 - 61 - 122	35 - 52 - 105	33 - 49 - 98	46	51	57	55	50	45	
800	0.251	6000	48	53 - 80 - 159	46 - 70 - 139	40 - 60 - 120	37 - 56 - 112	49	54	60	58	53	48		

SUPPLY GRILLES

NOTES: Throw values are given for terminal velocities of 150, 100, and 50 FPM. Throw values are given for isothermal conditions. NC values are based on octave band 2 - 7 sound power levels minus a room absorption of 10dB, re 10<sup>-12</sup> Watts. Dash in space denotes a NC or dB value of less than 10. Data was obtained from tests conducted in accordance with ANSI/ASHRAE Standard 70, ISO Standard 5219, and ISO Standard 3741. The throw values given for 1-Way Throw is for [Total CFM] CFM per side. The throw values given for 2-Way Throw is for [Total CFM/2] CFM per side. The throw values given for 3-Way Throw is for [Total CFM/3] CFM per side. The throw values given for 4-Way Throw is for [Total CFM/4] CFM per side. See Krueger's selection software for performance data not shown, including octave band data.

**180 SERIES, BLADE SETTING & THROW DETAIL**



NOTE: Reference page I1-3 for blade setting detail.

Correction Factor (with OBD)			
Blade Setting	Throws (Multiply)	Ps (Multiply)	NC (Add)
A	1.43	1.30	+2
B	1.00	1.00	+0
C	0.79	0.72	-3
D	0.64	0.52	-4

Correction Factor (without OBD)			
Blade Setting	Throws (Multiply)	Ps (Multiply)	NC (Add)
A	1.43	1.20	+0
B	1.00	0.85	-3
C	0.70	0.61	-4
D	0.64	0.33	-6

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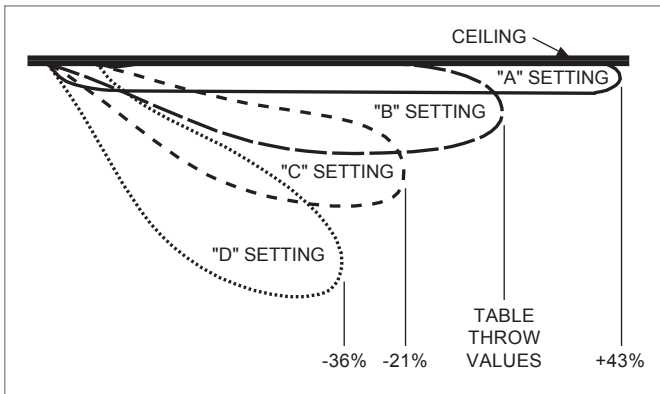
**180, 5180, 180M, 5180M Performance Data: Horizontal Throw**

**SQUARE METRIC DATA: 180, 5180, 180M, 5180M (WITH OBD/MULTILOUVER)**

	Neck Vel	Total Pres	Air Flow	NC	Throw Direction				Octave Band, dB						
					1-Way Throw	2-Way Throw	3-Way Throw	4-Way Throw	2	3	4	5	6	7	
					m	m	m	m							
610 x 610	1.02	4.0	378	-	2.2 - 3.9 - 7.7	1.9 - 3.4 - 6.7	1.6 - 2.9 - 5.8	1.5 - 2.7 - 5.4	-	-	16	14	-	-	
	1.52	9.1	566	17	3.9 - 5.8 - 11.6	3.4 - 5.1 - 10.1	2.9 - 4.3 - 8.7	2.7 - 4.0 - 8.1	16	21	27	25	20	15	
	2.03	16.2	755	24	5.1 - 7.7 - 15.4	4.5 - 6.7 - 13.5	3.9 - 5.8 - 11.6	3.6 - 5.4 - 10.8	23	28	34	32	27	22	
	2.54	25.3	944	30	6.4 - 9.6 - 19.3	5.6 - 8.4 - 16.9	4.8 - 7.2 - 14.5	4.5 - 6.7 - 13.5	29	34	40	38	33	28	
	3.05	36.4	1133	35	7.7 - 11.6 - 23.1	6.7 - 10.1 - 20.2	5.8 - 8.7 - 17.3	5.4 - 8.1 - 16.2	34	39	45	43	38	33	
	3.56	49.5	1321	39	9.0 - 13.5 - 27.0	7.9 - 11.8 - 23.6	6.7 - 10.1 - 20.2	6.3 - 9.4 - 18.9	38	43	49	47	42	37	
4.06	64.7	1510	42	10.3 - 15.4 - 30.8	9.0 - 13.5 - 27.0	7.7 - 11.6 - 23.1	7.2 - 10.8 - 21.6	41	46	52	50	45	40		
762 x 762	1.02	3.9	590	12	2.0 - 4.4 - 8.7	1.8 - 3.8 - 7.6	1.5 - 3.3 - 6.5	1.4 - 3.1 - 6.1	-	-	16	14	-	-	
	1.52	8.9	885	23	4.4 - 6.5 - 13.1	3.8 - 5.7 - 11.5	3.3 - 4.9 - 9.8	3.1 - 4.6 - 9.2	16	21	27	25	20	15	
	2.03	15.8	1180	30	5.8 - 8.7 - 17.5	5.1 - 7.6 - 15.3	4.4 - 6.5 - 13.1	4.1 - 6.1 - 12.2	23	28	34	32	27	22	
	2.54	24.6	1475	36	7.3 - 10.9 - 21.8	6.4 - 9.6 - 19.1	5.5 - 8.2 - 16.4	5.1 - 7.6 - 15.3	29	34	40	38	33	28	
	3.05	35.5	1770	40	8.7 - 13.1 - 26.2	7.6 - 11.5 - 22.9	6.5 - 9.8 - 19.6	6.1 - 9.2 - 18.3	34	39	45	43	38	33	
	3.56	48.3	2065	44	10.2 - 15.3 - 30.6	8.9 - 13.4 - 26.7	7.6 - 11.5 - 22.9	7.1 - 10.7 - 21.4	38	43	49	47	42	37	
4.06	63.1	2360	48	11.6 - 17.5 - 34.9	10.2 - 15.3 - 30.6	8.7 - 13.1 - 26.2	8.2 - 12.2 - 24.5	41	46	52	50	45	40		
914 x 914	1.02	3.9	850	13	1.9 - 4.3 - 9.7	3.6 - 5.5 - 11.0	3.1 - 4.7 - 9.4	2.9 - 4.4 - 8.8	-	11	17	15	-	-	
	1.52	8.7	1274	23	4.3 - 7.3 - 14.5	5.5 - 8.3 - 16.5	4.7 - 7.1 - 14.1	4.4 - 6.6 - 13.2	16	21	27	25	20	15	
	2.03	15.5	1699	31	6.5 - 9.7 - 19.4	7.3 - 11.0 - 22.0	6.3 - 9.4 - 18.9	5.9 - 8.8 - 17.6	23	28	34	32	27	22	
	2.54	24.2	2124	37	8.1 - 12.1 - 24.2	9.2 - 13.8 - 27.5	7.9 - 11.8 - 23.6	7.3 - 11.0 - 22.0	29	34	40	38	33	28	
	3.05	34.9	2549	41	9.7 - 14.5 - 29.1	11.0 - 16.5 - 33.0	9.4 - 14.1 - 28.3	8.8 - 13.2 - 26.4	34	39	45	43	38	33	
	3.56	47.5	2973	45	11.3 - 16.9 - 33.9	12.8 - 19.3 - 38.5	11.0 - 16.5 - 33.0	10.3 - 15.4 - 30.8	38	43	49	47	42	37	
4.06	62.0	3398	49	12.9 - 19.4 - 38.7	14.7 - 22.0 - 44.0	12.6 - 18.9 - 37.7	11.7 - 17.6 - 35.2	41	46	52	50	45	40		

NOTES: Throw values are given for terminal velocities of 0.75, 0.50, and 0.25 m/s. Throw values are given for isothermal conditions. NC values are based on octave band 2 - 7 sound power levels minus a room absorption of 10dB, re 10<sup>-12</sup> Watts. Dash in space denotes a NC or dB value of less than 10. Data was obtained from tests conducted in accordance with ANSI/ASHRAE Standard 70, ISO Standard 5219, and ISO Standard 3741. The throw values given for 1-Way Throw is for [Total L/s] L/s per side. The throw values given for 2-Way Throw is for [(Total L/s)/2] L/s per side. The throw values given for 3-Way Throw is for [(Total L/s)/3] L/s per side. The throw values given for 4-Way Throw is for [(Total L/s)/4] L/s per side. See Krueger's selection software for performance data not shown, including octave band data.

**180 SERIES, BLADE SETTING & THROW DETAIL**



NOTE: Reference page I1-3 for blade setting detail.

Correction Factor (with OBD)			
Blade Setting	Throws (Multiply)	Ps (Multiply)	NC (Add)
A	1.43	1.30	+2
B	1.00	1.00	+0
C	0.79	0.72	-3
D	0.64	0.52	-4

Correction Factor (without OBD)			
Blade Setting	Throws (Multiply)	Ps (Multiply)	NC (Add)
A	1.43	1.20	+0
B	1.00	0.85	-3
C	0.70	0.61	-4
D	0.64	0.33	-6

SUPPLY GRILLES

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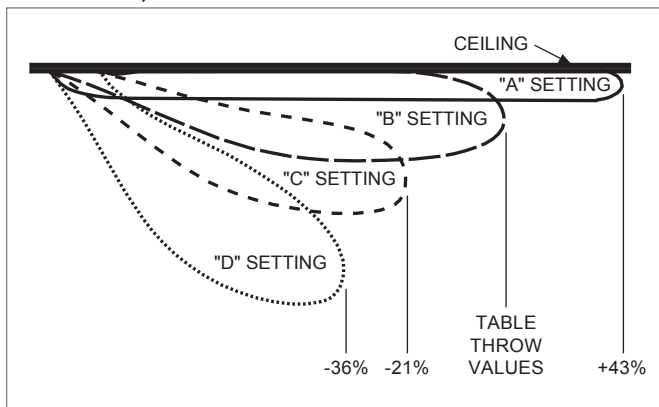


**180, 5180, 180M, 5180M Performance Data: Horizontal Throw**
**RECTANGULAR METRIC DATA: 180, 5180, 180M, 5180M (WITH OBD/MULTILOUVER)**

	Neck Vel	Total Pres	Air Flow	NC	Throw Direction				Octave Band, dB						
					1-Way Throw	2-Way Throw	3-Way Throw	4-Way Throw	2	3	4	5	6	7	
					m	m	m	m							
610 x 762	1.016	4.0	472	12	2.6 - 5.1 - 10.2	2.3 - 4.5 - 8.9	1.9 - 3.8 - 7.6	1.8 - 3.6 - 7.1	13	18	24	22	17	12	
	1.524	9.0	708	22	5.1 - 7.6 - 15.3	4.5 - 6.7 - 13.4	3.8 - 5.7 - 11.5	3.6 - 5.4 - 10.7	23	28	34	32	27	22	
	2.032	16.0	944	29	6.8 - 10.2 - 20.4	5.9 - 8.9 - 17.8	5.1 - 7.6 - 15.3	4.8 - 7.1 - 14.3	30	35	41	39	34	29	
	2.54	25.0	1180	35	8.5 - 12.7 - 25.5	7.4 - 11.2 - 22.3	6.4 - 9.6 - 19.1	5.9 - 8.9 - 17.8	36	41	47	45	40	35	
	3.048	35.9	1416	40	10.2 - 15.3 - 30.6	8.9 - 13.4 - 26.8	7.6 - 11.5 - 22.9	7.1 - 10.7 - 21.4	41	46	52	50	45	40	
	3.556	48.9	1652	44	11.9 - 17.8 - 35.7	10.4 - 15.6 - 31.2	8.9 - 13.4 - 26.8	8.3 - 12.5 - 25.0	45	50	56	54	49	44	
4.064	63.9	1888	47	13.6 - 20.4 - 40.8	11.9 - 17.8 - 35.7	10.2 - 15.3 - 30.6	9.5 - 14.3 - 28.5	48	53	59	57	52	47		
610 x 914	1.016	4.0	566	12	2.6 - 5.5 - 11.0	2.3 - 4.8 - 9.6	1.9 - 4.1 - 8.3	1.8 - 3.9 - 7.7	13	18	24	22	17	12	
	1.524	8.9	850	22	5.5 - 8.3 - 16.5	4.8 - 7.2 - 14.5	4.1 - 6.2 - 12.4	3.9 - 5.8 - 11.6	23	28	34	32	27	22	
	2.032	15.8	1133	30	7.3 - 11.0 - 22.0	6.4 - 9.6 - 19.3	5.5 - 8.3 - 16.5	5.1 - 7.7 - 15.4	31	36	42	40	35	30	
	2.54	24.7	1416	36	9.2 - 13.8 - 27.6	8.0 - 12.1 - 24.1	6.9 - 10.3 - 20.7	6.4 - 9.6 - 19.3	37	42	48	46	41	36	
	3.048	35.6	1699	40	11.0 - 16.5 - 33.1	9.6 - 14.5 - 28.9	8.3 - 12.4 - 24.8	7.7 - 11.6 - 23.1	41	46	52	50	45	40	
	3.556	48.5	1982	44	12.9 - 19.3 - 38.6	11.3 - 16.9 - 33.8	9.6 - 14.5 - 28.9	9.0 - 13.5 - 27.0	45	50	56	54	49	44	
4.064	63.3	2265	48	14.7 - 22.0 - 44.1	12.9 - 19.3 - 38.6	11.0 - 16.5 - 33.1	10.3 - 15.4 - 30.9	49	54	60	58	53	48		
762 x 914	1.016	3.9	708	13	2.6 - 5.8 - 12.1	2.2 - 5.1 - 10.6	1.9 - 4.3 - 9.1	1.8 - 4.0 - 8.5	14	19	25	23	18	13	
	1.524	8.8	1062	23	5.8 - 9.1 - 18.2	5.1 - 8.0 - 15.9	4.3 - 6.8 - 13.6	4.0 - 6.4 - 12.7	24	29	35	33	28	23	
	2.032	15.6	1416	30	8.1 - 12.1 - 24.2	7.1 - 10.6 - 21.2	6.1 - 9.1 - 18.2	5.7 - 8.5 - 17.0	31	36	42	40	35	30	
	2.54	24.4	1770	36	10.1 - 15.1 - 30.3	8.8 - 13.3 - 26.5	7.6 - 11.4 - 22.7	7.1 - 10.6 - 21.2	37	42	48	46	41	36	
	3.048	35.2	2124	41	12.1 - 18.2 - 36.3	10.6 - 15.9 - 31.8	9.1 - 13.6 - 27.3	8.5 - 12.7 - 25.4	42	47	53	51	46	41	
	3.556	47.9	2478	45	14.1 - 21.2 - 42.4	12.4 - 18.6 - 37.1	10.6 - 15.9 - 31.8	9.9 - 14.8 - 29.7	46	51	57	55	50	45	
4.064	62.5	2832	48	16.2 - 24.2 - 48.5	14.1 - 21.2 - 42.4	12.1 - 18.2 - 36.3	11.3 - 17.0 - 33.9	49	54	60	58	53	48		

SUPPLY GRILLES

NOTES: Throw values are given for terminal velocities of 0.75, 0.50, and 0.25 m/s. Throw values are given for isothermal conditions. NC values are based on octave band 2 - 7 sound power levels minus a room absorption of 10dB, re 10<sup>-12</sup> Watts. Dash in space denotes a NC or dB value of less than 10. Data was obtained from tests conducted in accordance with ANSI/ASHRAE Standard 70, ISO Standard 5219, and ISO Standard 3741. The throw values given for 1-Way Throw is for [Total L/s] L/s per side. The throw values given for 2-Way Throw is for [(Total L/s)/2] L/s per side. The throw values given for 3-Way Throw is for [(Total L/s)/3] L/s per side. The throw values given for 4-Way Throw is for [(Total L/s)/4] L/s per side. See Krueger's selection software for performance data not shown, including octave band data.

**180 SERIES, BLADE SETTING & THROW DETAIL**


NOTE: Reference page I1-3 for blade setting detail.

Correction Factor (with OBD)			
Blade Setting	Throws (Multiply)	Ps (Multiply)	NC (Add)
A	1.43	1.30	+2
B	1.00	1.00	+0
C	0.79	0.72	-3
D	0.64	0.52	-4

Correction Factor (without OBD)			
Blade Setting	Throws (Multiply)	Ps (Multiply)	NC (Add)
A	1.43	1.20	+0
B	1.00	0.85	-3
C	0.70	0.61	-4
D	0.64	0.33	-6

**180, 5180, 180M, 5180M Suggested Specification & Configuration**

**180, 5180**

The supply grille shall be a Krueger model 180 (steel) or 5180 (aluminum). This grille must have curved deflectors made of 24 gage steel (180) or .040" aluminum (5180) that are individually adjustable from the face allowing the volume and discharge angle of air to be adjusted. The grille shall be built in 1, 2, 3 and 4-way discharge air patterns. The frame of the grille must be constructed of 20 gage steel (180) or 0.051" aluminum (5180) and countersunk screw holes. This frame must also produce a border of 1 1/4" around all sides of the grille with mitered corners.

An optional opposed blade damper shall be constructed of heavy gage steel (OBD) or aluminum (5OBD) and be attachable to the neck of the grille. Damper must be operable from the face of the grille.

**180M, 5180M (MULTI-LOUVERED ADJUSTABLE)**

The supply grille shall be a Krueger model 180M (steel) or 5180M (aluminum). This grille must have curved deflectors made of 24 gage steel (180M) or .040" aluminum (5180M) that are individually adjustable from the face allowing the volume and discharge angle of air to be adjusted. The supply grille must also have a lever accessible at the face of the grille to adjust a set of rear gang operated blades. The grille shall be built in 1, 2, 3 and 4-way discharge air patterns. The frame of the grille must be constructed of 20 gage steel (180M) or 0.051" aluminum (5180M) and countersunk screw holes. This frame must also produce a border of 1 1/4" around all sides of the grille with mitered corners.

**PERFORMANCE**

The manufacturer shall provide published (printed or electronic) performance data for the diffuser. Performance data shall include 2 - 7 octave band sound power levels. The diffuser shall be tested in accordance to the data standards at the time of product introduction or ANSI/ASHRAE Standard 70.

**FINISH**

The paint finish shall be #44 British White and be an anodic acrylic paint, baked at 315°F for 30 minutes. The paint thickness shall be 0.8 – 1.0 mils, gloss at 60° per ASTM D523-89 of 50 – 85%, pencil hardness per ASTM D3363-92A of HB – H, crosshatch adhesion per ASTM D3359-83 of 4B – 5B, impact per ASTM D2794-93 of direct impact >100 in/lb and reverse impact >80 in/lb, salt spray per ASTM B117-9048 of 96 hours, humidity per ASTM D2247-92 of >500 hours and water soak per ASTM D870-92 of 250 hours.

**1. SERIES: (XXXXX)**

- 180 - Steel Curved Blade Grille
- 5180 - Aluminum Curved Blade Grille
- 180M - Steel Curved Blade Grille with Multi-louver Operator
- 5180M - Aluminum Curved Blade Grille with Multi-louver Operator

**2. PATTERN: (XX)**

- 01 - 1-Way
- 02 - 2-Way
- 03 - 3-Way
- 04 - 4-Way

**3. WIDTH: (XX)**

- 6" - 36" in 2" Increments

**4. HEIGHT: (XX)**

- 4" - 36" in 2" Increments

**5. FRAME: (XXX)**

- F22 - Surface Mount
- F23 - Lay-in T-Bar

**6. PANEL: (XX)x(XX) \***

- NONE
- 24"x24"
- 24"x48"

**7. FASTENING METHOD: (XX)**

- 00 - No Screw Holes
- 01 - Standard Screw Holes
- 02 - Concealed Mounting \*\*

**8. DAMPER: (XX) \*\*\***

- 00 - No Damper
- 01 - Steel Opposed Blade Damper (Model OBD)
- 15 - Aluminum Opposed Blade Damper (Model 5OBD)

**9. ACCESSORIES: (XX)**

- 00 - No Accessories
- 01 - Plaster Frame
- 02 - Square to Round Adapter

**10.FINISH: (XX)**

- 01 - Mill
- 10 - Alumican
- 35 - Black
- 44 - British White

\* Minimum of 4" difference required between neck and panel size.

\*\* Concealed mounting not available with 180M or 5180M or with OBD.

\*\*\* Damper only available for models 180 and 5180.

SUPPLY GRILLES

180 - 180M

**SAMPLE CONFIGURATION: 5180 - 04 - 18x18 - F22 - NONE - 01 - 00 - 00 - 44**