

20/21
PRODUCTS

Product Catalogue

Linear Bar Grill

Type (LBG)



Khedr Trust
ALL AIR PRODUCTS

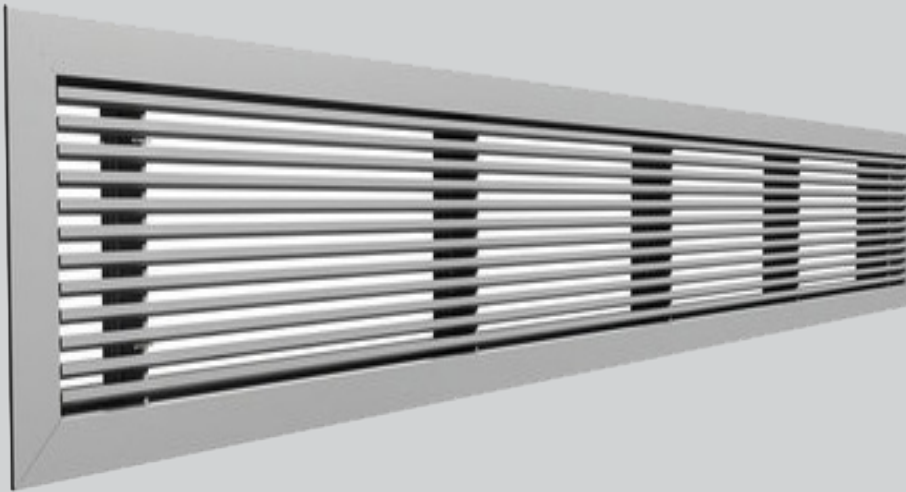
Linear Bar Grill products are
manufactured by



“ Your comfort is
our priority ”

www.khedr-eg.com





Models

- LBG-A "0° Deflection , 1/8" Bar "
- LBG-B "0° Deflection , 1/4" Bar "
- LBG-C "15° Deflection , 1/8" Bar "
- LBG-D "30° Deflection , 1/8" Bar "



Features

- The frame has a typical wall thickness of 1/16".
- The blades are spaced 1/2" on center , with bars thickness 1/8" or 1/4".
- Deflection of bares vary from 0° to 30°
Optional opposed blade damper.



Linear Bar Grill

Model Design

Khedr Model LBG are designed for Ceiling & Sidewall.

Appearance

Khedr Linear Bar Grill (LBG) are known with its good appearance and flexibility.

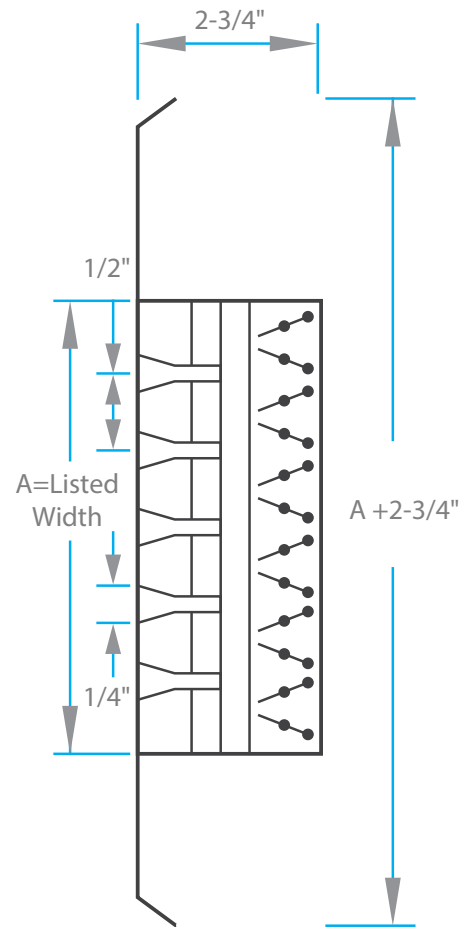
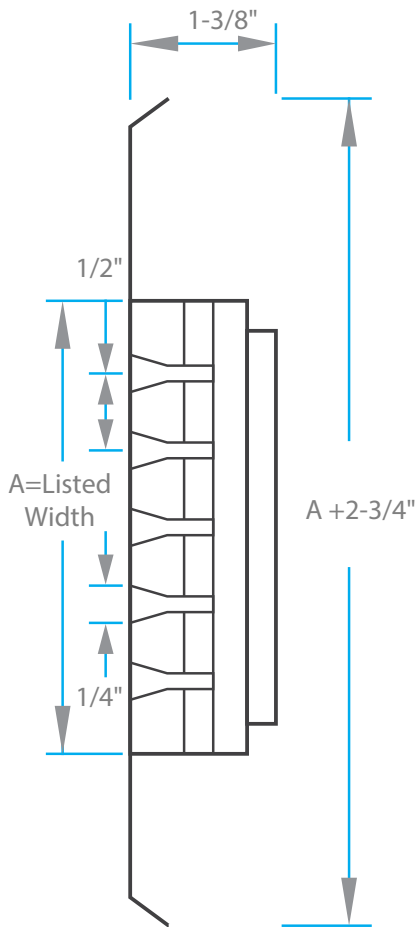
Model Types

Khedr Model LBG are found also mitered and curved section with different bar thickness and spacing also with different deflection angles.

- Dimensions

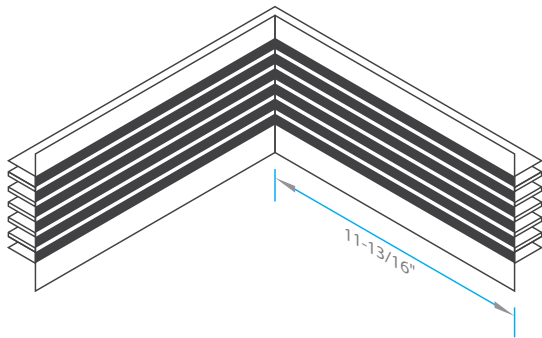
0° LBG with Horizontal Fixed Blades

0° LBG with Horizontal Fixed Blades & Volume Damper

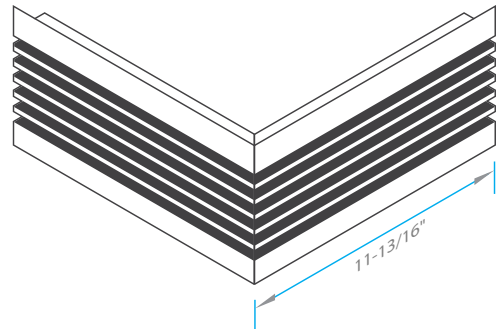


Listed Width "In"	2"	2 1/2"	3"	3 1/2"	4	5	6	8	10
Listed Width "mm"	50.8	63.5	76.2	88.9	101.6	127	152.4	203.2	245

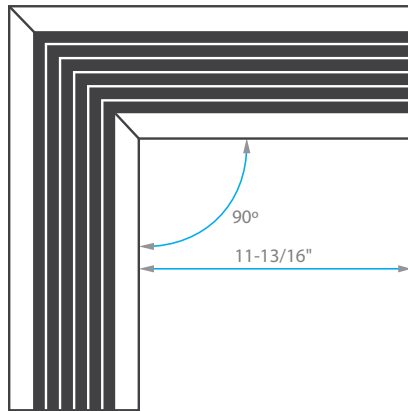
Side Wall—Inside Corner



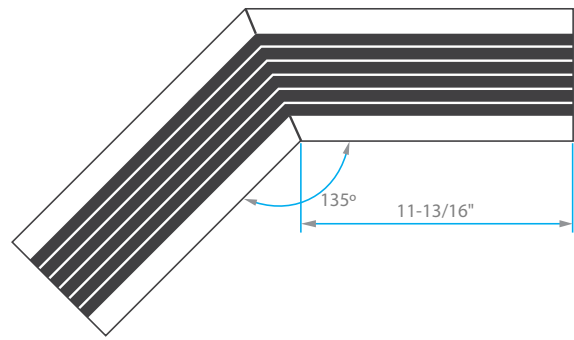
Side Wall—Outside Corner



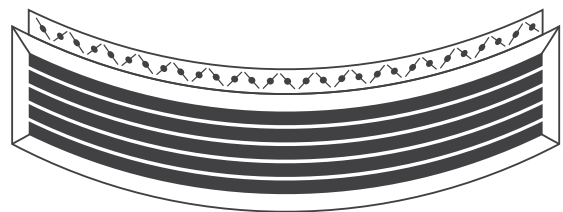
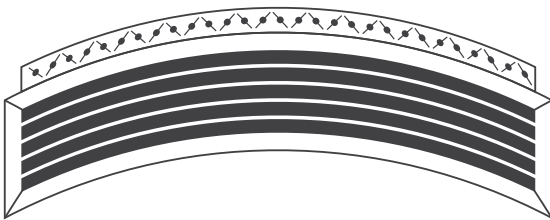
Ceiling Corner - 90°



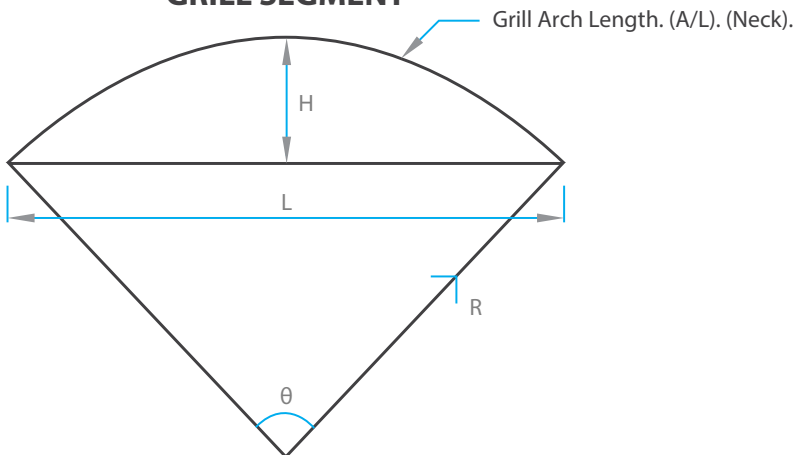
Ceiling Corner - 135°



Curved Sections



GRILL SEGMENT



$$A/L = \theta \times (TI/180) \times R$$

θ - Angle, R - Radius

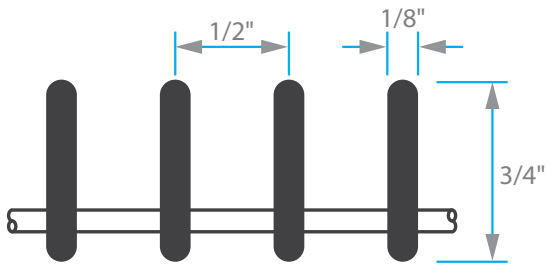
$$H = \text{Segment Height.}$$

$$= 2 \times R \times (\text{SIN } (\theta/2))$$

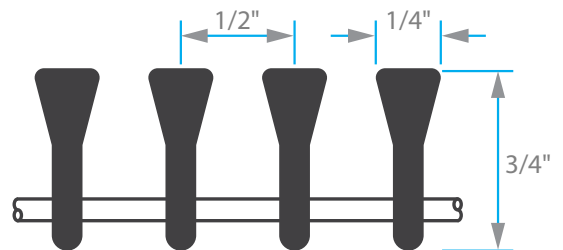
$$L = \text{Segment Length.}$$

$$= 2 \times R \times (\text{SIN } (\theta/2))$$

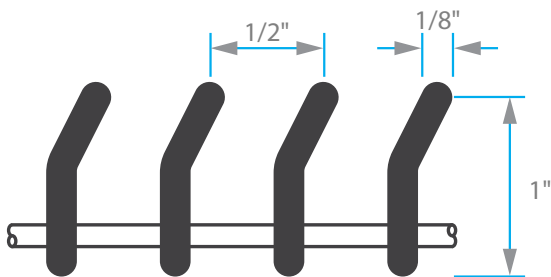
Model - LBG-A "0° Deflection , 1/8" Bar"



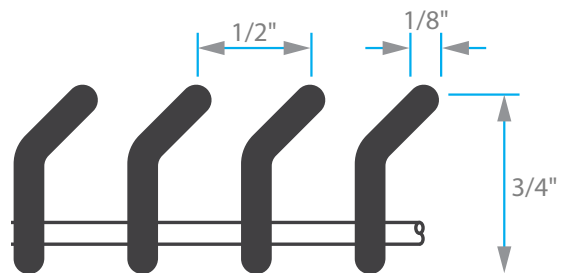
Model - LBG-B "0° Deflection , 1/4" Bar"



Model - LBG-C "15° Deflection , 1/8" Bar"



Model - LBG-D "30° Deflection , 1/8" Bar"



- Performance Data

Model - LBG-A "0° Deflection , 1/8" Bar"

Width "Inch" /Outlet Area "Inch"		V _K Outlet Velocity "FPM"								
		400	600	800	1000	1200	1400	1600	1800	2000
		P _T Total Pressure "Inches water"								
		0.009	0.020	0.036	0.057	0.080	0.109	0.143	0.182	0.225
2	CFM/Ft	22	33	44	55	66	77	88	99	110
	Throw	5-7	8-12	11-16	14-20	17-23	19-26	21-28	23-30	25-33
A _k = 0.055	NC	<20	<20	<20	<20	23	27	31	34	37
2 1/2	CFM/Ft	30	44	59	74	89	104	118	133	148
	Throw	6-8	9-13	13-17	16-21	18-24	21-28	24-31	27-35	31-39
A _k = 0.074	NC	<20	<20	<20	<20	22	26	30	33	36
3	CFM/Ft	38	58	77	96	115	134	154	173	192
	Throw	7-10	10-14	14-19	17-23	20-26	24-30	27-34	30-38	33-41
A _k = 0.096	NC	<20	<20	<20	<20	22	26	30	33	36
3 1/2	CFM/Ft	46	69	93	116	139	162	186	209	232
	Throw	7-10	12-16	16-20	20-25	23-28	26-32	29-36	32-40	36-44
A _k = 0.116	NC	<20	<20	<20	<20	22	26	30	33	36
4	CFM/Ft	56	83	111	139	167	195	222	250	278
	Throw	8-11	13-17	17-21	20-25	25-30	28-34	30-37	35-42	38-45
A _k = 0.139	NC	<20	<20	<20	<20	23	27	31	34	37
5	CFM/Ft	72	107	143	179	215	250	286	322	358
	Throw	10-13	14-18	19-23	22-27	27-32	30-36	33-40	37-44	41-48
A _k = 0.179	NC	<20	<20	<20	<20	23	27	31	34	37
6	CFM/Ft	88	133	177	221	265	310	354	398	442
	Throw	12-15	16-20	20-24	24-29	29-34	33-39	35-41	40-46	44-50
A _k = 0.221	NC	<20	<20	<20	<20	24	28	32	35	38
8	CFM/Ft	109	163	218	272	326	381	435	490	544
	Throw	14-17	17-21	21-25	26-31	31-36	35-41	37-42	42-48	47-52
A _k = 0.272	NC	<20	<20	<20	20	25	29	33	36	39
10	CFM/Ft	134	202	268	336	403	470	536	605	672
	Throw	16-19	18-22	22-26	28-33	33-38	37-44	39-43	44-50	51-45
A _k = 0.336	NC	<20	<20	<20	20	26	30	34	37	40

Linear Bar Grill products are manufactured by Khedr Trust Co.

The minimum T Dimensions in feet is based on a V_T of 100 FPM , The Maximum T Dimension In feet is based on a V_T of 50

V_T Terminal Velocity "FPM" A_k Outlet Area "Feet²" T Throw "Feet"

Model - LBG-B "0° Deflection , 1/4" Bar"

Width "Inch" /Outlet Area "Inch"		V _K Outlet Velocity "FPM"								
		400	600	800	1000	1200	1400	1600	1800	2000
		P _T Total Pressure "Inches water"								
		0.010	0.022	0.040	0.063	0.089	0.121	0.159	0.202	0.250
2	CFM/Ft	18	27	36	45	54	63	72	81	90
	Throw	5-7	8-12	11-16	14-20	17-23	19-26	21-28	23-30	25-33
A _K = 0.054	NC	<20	<20	<20	<20	23	28	32	35	38
2 1/2	CFM/Ft	26	40	53	66	79	92	106	119	132
	Throw	6-9	9-12	12-17	16-22	19-25	21-28	25-32	28-36	30-39
A _K = 0.066	NC	<20	<20	<20	20	25	30	34	37	40
3	CFM/Ft	35	53	70	88	106	123	141	158	176
	Throw	7-10	11-15	14-19	17-23	21-27	24-31	27-34	31-39	34-42
A _K = 0.088	NC	<20	<20	<20	21	26	31	35	38	41
3 1/2	CFM/Ft	44	66	88	110	132	154	176	198	220
	Throw	7-10	12-16	16-20	20-25	23-28	26-32	29-36	32-40	36-44
A _K = 0.110	NC	<20	<20	<20	22	27	32	36	39	42
4	CFM/Ft	53	80	106	133	160	186	213	239	266
	Throw	8-11	13-17	17-21	21-26	25-30	28-34	30-37	35-42	38-45
A _K = 0.133	NC	<20	<20	<20	23	28	33	37	40	43
5	CFM/Ft	71	106	142	177	212	248	283	318	354
	Throw	10-13	14-18	19-23	22-27	27-32	30-36	33-40	37-44	41-48
A _K = 0.177	NC	<20	<20	<20	24	29	34	38	41	44
6	CFM/Ft	89	133	178	222	266	310	355	400	444
	Throw	11-14	16-20	20-26	24-29	29-34	33-39	35-41	40-46	44-50
A _K = 0.222	NC	<20	<20	<20	25	30	35	39	42	45
8	CFM/Ft	110	164	219	274	329	384	438	493	548
	Throw	12-15	17-21	21-25	25-30	30-35	34-40	36-42	41-47	45-51
A _K = 0.274	NC	<20	<20	20	26	31	36	40	43	46
10	CFM/Ft	135	203	270	338	406	473	541	608	676
	Throw	13-16	19-23	22-26	27-32	32-37	36-42	38-43	43-49	48-53
A _K = 0.338	NC	<20	<20	21	27	32	37	41	44	47

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The minimum T Dimensions in feet is based on a V_T of 100 FPM , The Maximum T Dimension In feet is based on a V_T of 50

V_T Terminal Velocity "FPM"
 A_K Outlet Area "Feet"
 T Throw "Feet"

Model – LBG-C “15° Deflection , 1/8” Bar“

Width "Inch" /Outlet Area "Inch"		V _K Outlet Velocity "FPM"								
		400	600	800	1000	1200	1400	1600	1800	2000
		P _T Total Pressure "Inches water"								
		0.009	0.020	0.036	0.057	0.080	0.109	0.143	0.182	0.225
2	CFM/Ft	22	34	45	56	67	78	90	101	112
	Throw	5-7	8-12	11-16	14-20	17-23	18-25	20-27	22-30	26-34
A _k = 0.056	NC	<20	<20	<20	25	30	35	39	43	46
2 1/2	CFM/Ft	30	45	60	75	90	105	120	135	150
	Throw	6-8	9-13	12-17	16-21	19-25	21-27	24-31	27-35	30-38
A _k = 0.075	NC	<20	<20	<20	24	29	34	38	42	45
3	CFM/Ft	37	56	74	93	112	130	149	167	186
	Throw	6-9	10-14	13-18	17-22	20-26	24-30	26-33	30-37	32-40
A _k = 0.093	NC	<20	<20	<20	23	28	33	37	41	44
3 1/2	CFM/Ft	45	68	90	113	136	158	181	203	226
	Throw	7-10	11-15	16-20	18-23	22-27	25-31	28-35	32-39	34-42
A _k = 0.113	NC	<20	<20	<20	23	28	33	37	41	44
4	CFM/Ft	53	80	106	133	160	186	212	239	266
	Throw	8-11	12-16	17-21	19-24	24-29	27-33	30-36	33-40	37-44
A _k = 0.133	NC	<20	<20	<20	24	29	34	38	42	45
5	CFM/Ft	69	104	138	173	208	242	277	312	346
	Throw	10-13	14-18	19-23	21-26	25-31	29-35	33-38	35-42	39-46
A _k = 0.173	NC	<20	<20	<20	24	29	34	38	42	45
6	CFM/Ft	85	127	170	212	254	296	339	382	424
	Throw	11-14	16-20	20-24	24-28	27-32	30-36	33-39	37-43	41-47
A _k = 0.212	NC	<20	<20	<20	24	29	34	38	42	45
8	CFM/Ft	105	157	210	262	314	367	419	472	524
	Throw	12-15	18-22	21-25	27-30	29-33	31-37	34-40	39-44	44-48
A _k = 0.262	NC	<20	<20	20	25	30	35	39	43	46
10	CFM/Ft	129	194	258	323	388	452	517	581	646
	Throw	13-16	20-24	21-25	30-32	31-34	32-38	34-40	40-45	45-50
A _k = 0.323	NC	<20	<20	20	26	30	36	40	44	47

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The minimum T Dimensions in feet is based on a V_T of 100 FPM , The Maximum T Dimension In feet is based on a V_T of 50

V_T Terminal Velocity "FPM"
 A_k Outlet Area "Feet"²
 T Throw "Feet"

Model – LBG-D “30° Deflection , 1/8” Bar”

Width “Inch” /Outlet Area “Inch”		V _K Outlet Velocity “FPM”								
		400	600	800	1000	1200	1400	1600	1800	2000
		P _T Total Pressure “Inches water”								
		0.009	0.020	0.036	0.057	0.080	0.109	0.143	0.182	0.225
2	CFM/Ft	22	34	45	56	67	78	90	101	112
	Throw	5-7	8-12	11-16	14-20	17-23	18-25	20-27	22-30	26-34
A _K = 0.056	NC	<20	<20	<20	25	30	35	39	43	46
2 1/2	CFM/Ft	29	44	58	73	88	102	117	131	146
	Throw	6-8	9-13	12-17	16-21	19-25	21-27	24-31	27-35	30-38
A _K = 0.073	NC	<20	<20	<20	24	29	34	38	42	45
3	CFM/Ft	36	54	72	90	108	126	144	162	180
	Throw	6-9	10-14	13-18	17-22	20-26	24-30	26-33	30-37	32-40
A _K = 0.090	NC	<20	<20	<20	23	28	33	37	41	44
3 1/2	CFM/Ft	44	66	88	110	132	154	176	198	220
	Throw	7-10	11-15	16-20	18-23	22-27	25-31	28-35	32-39	34-42
A _K = 0.110	NC	<20	<20	<20	23	28	33	37	41	44
4	CFM/Ft	51	77	102	128	154	179	205	230	256
	Throw	8-11	12-16	17-21	19-24	24-29	27-33	30-36	33-40	37-44
A _K = 0.128	NC	<20	<20	<20	24	29	34	38	42	45
5	CFM/Ft	67	101	134	168	202	235	269	302	336
	Throw	10-13	14-18	19-23	21-26	25-31	29-35	33-38	35-42	39-46
A _K = 0.168	NC	<20	<20	<20	24	29	34	38	42	45
6	CFM/Ft	79	118	158	197	236	276	315	355	394
	Throw	11-14	16-20	20-24	24-28	27-32	30-36	33-39	37-43	41-47
A _K = 0.197	NC	<20	<20	<20	24	29	34	38	42	45
8	CFM/Ft	96	144	192	240	388	336	384	432	480
	Throw	12-15	18-22	21-25	27-30	29-33	31-37	34-40	39-44	44-48
A _K = 0.240	NC	<20	<20	20	25	30	35	39	43	46
10	CFM/Ft	118	178	237	296	355	414	474	533	592
	Throw	13-16	20-24	21-25	30-32	31-34	32-38	34-40	40-45	45-50
A _K = 0.296	NC	<20	<20	20	26	30	36	40	44	47

Linear Bar Grill products are manufactured by Khedr Trust Co.

The minimum T Dimensions in feet is based on a V_T of 100 FPM , The Maximum T Dimension In feet is based on a V_T of 50

V_T Terminal Velocity “FPM”
 A_K Outlet Area “Feet²”
 T Throw “Feet”

- Selection Procedure

1. Determine the required CFM per each outlet as per cooling Load Calculation.
2. Determine the required Model at page (6).
3. Determine the recommended Outlet Velocity V_K according to application as per following Table.
4. Select width and the length of air outlet that give the required CFM at recommended outlet velocity from performance data tables.

Application	V_K Outlet Velocity "FPM"
Broadcast Studios	300-500
Residences	500-750
Apartments	500-750
Mosques , Churches	500-750
Hotel Bedrooms	500-750
Theaters	500-750
Private Offices, Acoustically Treated	500-750
Private Offices, not Treated	500-800
General Offices	1000-1250
Dept. Stores	1500

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Table (1) – Recommended Outlet Velocity *

* Table 20—Carrier Handbook – Part 2. Air Distribution – Chapter 3. Room Air Distribution—p.72

- Selection Procedure Example

1. Required 300 CFM as per cooling load calculations.
2. Required Model LBG-A "0° Deflection , 1/8" Bar"
3. The recommended outlet velocity ranges from 500 - 750 FPM as per pervious table.
4. Determine the length as per required CFM.
 (Example : 40 cfm/feet x 8 feet outlet length,
 50 cfm/feet x 6 feet outlet length, etc..)
5. Determine the width as per recommended outlet velocity.
 A Width = 2 1/2" & Length = 8 Feet.
 B Width = 3" & Length = 6 Feet.
6. You can select 3-Slot 8 Feet length outlet with $V_k = 575$ FPM,
 or 4-Slot 6 Feet length outlet with $V_k = 555$ FPM

Width "Inch" /Outlet Area "Inch"		V_k Outlet Velocity "FPM"		
		400	600	800
		P_T Total Pressure "Inches water"		
		0.009	0.020	0.036
2	CFM/Ft	22	33	44
	Throw	5-7	8-12	11-16
$A_k = 0.055$	NC	<20	<20	<20
2 1/2	CFM/Ft	30	44	59
	Throw	6-8	9-13	13-17
$A_k = 0.074$	NC	<20	<20	<20
3	CFM/Ft	38	58	77
	Throw	7-10	10-14	14-19
$A_k = 0.096$	NC	<20	<20	<20
3 1/2	CFM/Ft	46	69	93
	Throw	7-10	12-16	16-20
$A_k = 0.116$	NC	<20	<20	<20

Linear Bar Grill products are manufactured by Khedr Trust Co.

- How to order

Type	LBG-A	LBG-A "0° Defection , 1/8" Bar " LBG-B "0° Defection , 1/4" Bar " LBG-C "15° Defection , 1/8" Bar " LBG-D "30° Defection , 1/8" Bar "
Width	6	
Length	8	
Location	E	0 One Piece With Endcap on Both Sides. E End Piece, with One Endcap "ER: Right , EL: Left". I Intermediate Piece, Without Endcap. Co Corner Section Cu Curved Section
Finish	1	0 Aluminum 1 White Color 2 Other Colors
Damper	0	0 Without Damper 1 With Damper in Inlet collar

Linear Bar Grill products are manufactured by Khedr Trust Co.

Other Products are provided by Khedr Trust Co.

Diffusers & Grills

Slot Linear Diffuser
Eye Ball Diffuser
Circular Ceiling Diffuser
Swirl Diffuser
Perforated Ceiling Diffuser
Jet Diffuser
Square Ceiling Diffuser
Disc Valve Diffuser
Linear Bar Grill
Supply / Return Grill
Door Grill

Louvers

Aluminum Louver
Sand Trap Louver

Dampers

Volume Damper
Fire Damper
Smoke Motorized Damper
Shutter Damper
Pressure Relief Damper

Special Parts

Sound Attenuator
Plenum Box

Duct Works

Galvanized Steel Duct
Black Steel Duct
Stainless Steel Duct
Spiral Duct
Flexible Duct
Canvas
Flanges
Flexible Duct Connector



Khedr Trust

ALL AIR PRODUCTS



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