LINEAR BAR GRILLE DIFFUSERS

LBD Series

APPLICATION

KBE extruded aluminum linear bar diffusers meet architectural demands for a versatile supply and return air duct that blends with accents linear design concepts. Linear Bar Diffusers can be used on the supply or return positions of heating, cooling or ventilating system. Linear bar diffusers are made of high grade aluminum extrusions for maximum strength and corrosion resistance. Ideal for sidewall, sill or ceiling installation.

FEATURED STANDARD CONSTRUCTION

•FRAME:

- Constructed of extruded aluminum.
- Interlocked into heavy gauge cross bars to produce straight rigid core sections.

•BLADES:

- Constructed of extruded aluminum.
- Multiple angles of deflection.(0º, 15º and 30º) placed on either 1/4" (6.35mm) & 1/2" (12.5mm) centers.

•SIZES:

- Minimum length of 8" and 2" height.
- Length up to 114" full section for openings between 2" and 8". Multi-sections are joined with alignment strips for continuous appearance.
- Length up to 96" full section for 9" openings. Multi-sections are joined with alignment strips for continuous appearance.
- Length up to 80" full section for openings between 10" and 12". Multi-section are joined with alignment strips for continuous appearance.

•FINISH:

- Standard finish is white color (RAL 9010).

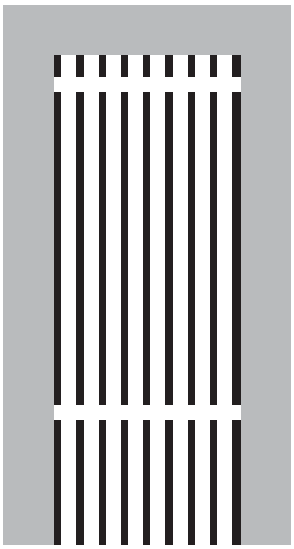
OPTIONS

• 2cm frame, 3cm frame, removable core, frameless.
• Mitered corner for ceiling & wall application (90° angle or any special angle).
• Curved for ceiling and wall applications.
• Other colors available upon request.
• Plenum box - insulated or non-insulated.
• With S-spring clips (except for frameless & removable core models).
• With foam gasket (except for frameless & removable core models).
• With opposed blade damper (for a minimum height of 3"& a minimum length of 8").
• Equalizing grid.
• BO metal blank-off black color (Ral 9005).
• LS light shield black color (Ral 9005).
• Insect screen.

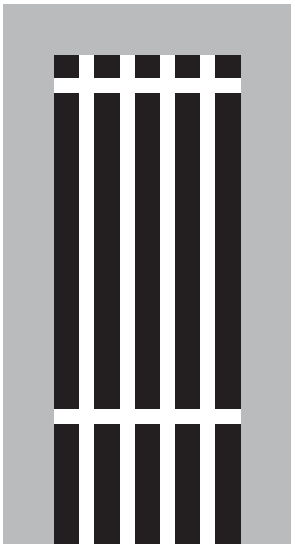
N.B: A 0.5 cm clearance is deducted from your order neck size .
- For corner edge (wall) a drawing showing the airflow should be provided.

DIMENSIONS & ILLUSTRATIONS

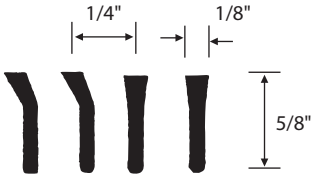
STANDARD MODEL



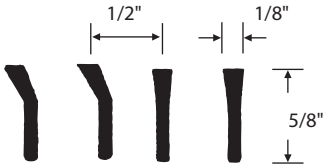
1/4" Spacing



1/2" Spacing



0°,15° & 30° Deflection;
1/8" bar spaced on 1/4"



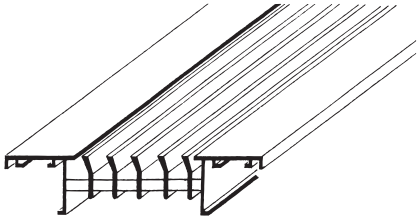
0°,15° & 30° Deflection;
1/8" bar spaced on 1/2"

DIMENSIONS

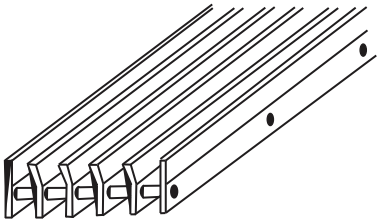
Order neck size	Sizes with 3cm Frame		Sizes with 2cm Frame	
	Face size	Actual neck size	Face size	Actual neck size
2"	9.7 cm	4.5 cm	7.36 cm	4.5 cm
2 1/2"	10.95 cm	5.75 cm	8.61 cm	5.75 cm
3"	12.2 cm	7 cm	9.86 cm	7 cm
3 1/2"	13.45 cm	8.25 cm	11.11 cm	8.25 cm
4"	14.7 cm	9.5 cm	12.36 cm	9.5 cm
5"	17.2 cm	12 cm	14.86 cm	12 cm
6"	19.7 cm	14.5 cm	17.36 cm	14.5 cm
7"	22.2 cm	17 cm	19.86 cm	17 cm
8"	24.7 cm	19.5 cm	22.36 cm	19.5 cm

N.B: A 0.5 cm clearance is deducted from your order neck size.

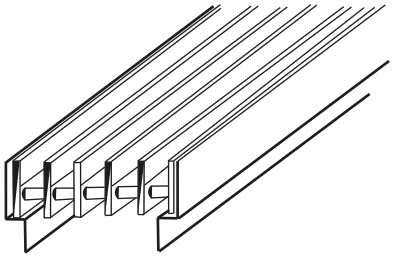
BORDERS TYPE



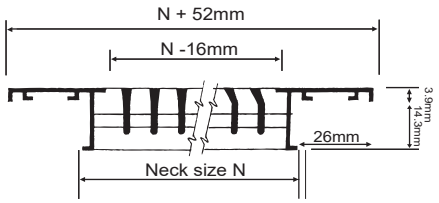
Core with frame



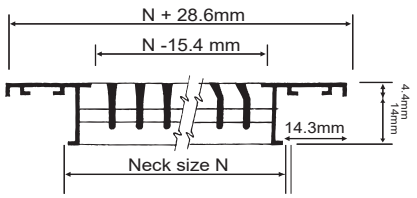
Frameless core



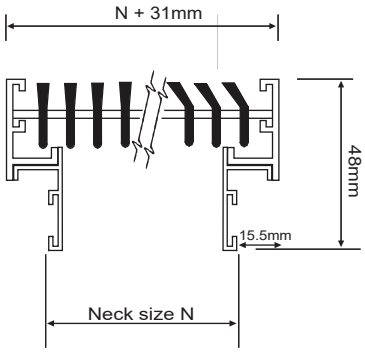
Removable core
(not applicable for curved model)



3cm frame

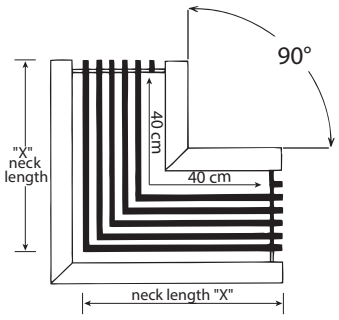


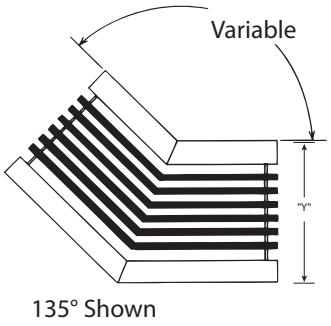
2cm frame



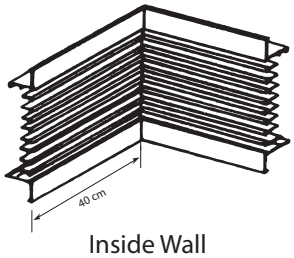
Removable core

N.B: These drawings shown are actual neck sizes
where a 0.5cm clearance was deducted from order neck sizes.

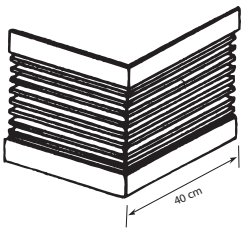




135° Shown



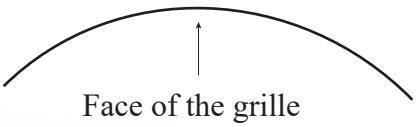
Inside Wall



Outside Wall

- Mitered corner section is available for ceiling, floor, sill or sidewall installations with standard angle of 90°.
- Mitered corners are available in 0°, 15° and 30° deflection. Corner section is 40cm x 40cm as shown in figure above.
- Mitered corners are available as "Horizontal Flat" for ceiling , floor & sill or "Vertical" for sidewall installation.
- Special mitered corners for various angle sizes are available too.
- For corner edge (wall) a drawing showing the airflow should be provided.

neck size	outer neck length (X)	neck size	outer neck length (X)
2"	44.5 cm	6 1/2"	55.75 cm
2 1/2"	45.75 cm	7"	57 cm
3"	47 cm	7 1/2"	58.25 cm
3 1/2"	48.25 cm	8"	59.5 cm
4"	49.5 cm	9"	62 cm
5"	52 cm	10"	64.5 cm
6"	54.5 cm	12"	69.5 cm



Curved concave

Factory curved linear bar grille diffuser manufactured as arc or full circle for various radius.

- Gasket is applicable.
- S-spring clip is not applicable.
- Only 0 deg angle of deflection & 1/2" spacing is applicable.

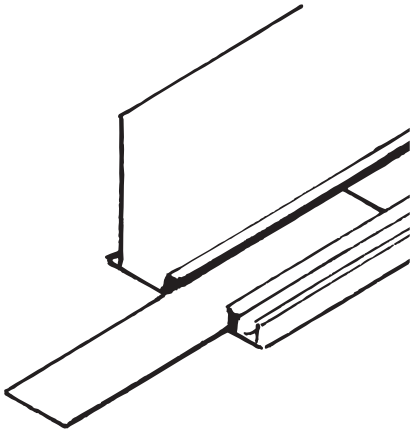
-Opposed blade damper not applicable.

N.B: minimum length size 40"

Curved convex

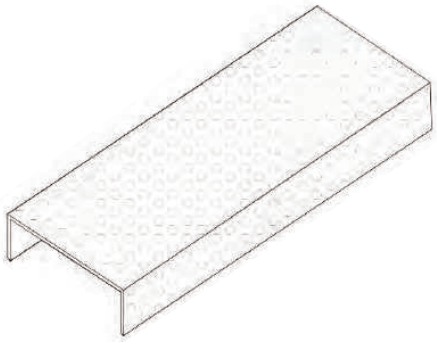
ACCESSORIES

ALIGNMENT STRIPS



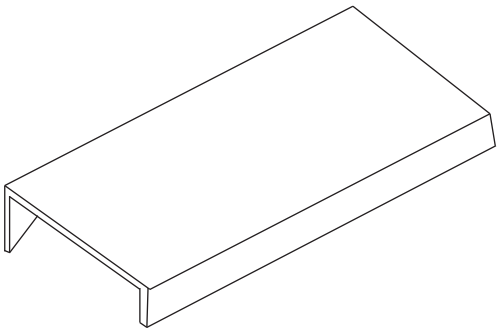
Join strips are provided on multisections with no extra cost.
Providing linear alignment of continuous linear bar diffuser, the joiner strip slides into the inside channel of the diffuser frame.
Typical for all frame types.

LIGHT SHIELD



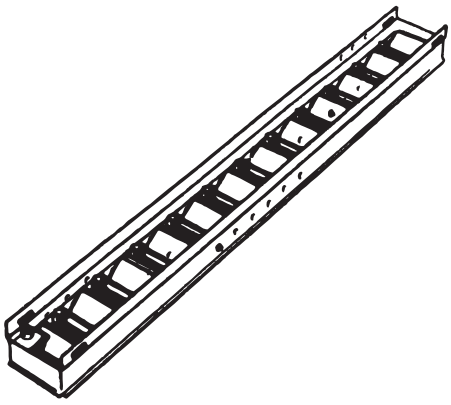
Light shield is used to cover non plenum sections of the linear bar grille diffuser from light reflection. It is factory installed.
A drawing specifying the area of concern should be provided.

BO METAL BLANK-OFF



Blank-offs are used to cover inactive sections of the linear bar grille diffuser.
A drawing specifying the area of concern should be provided.
It is factory installed.

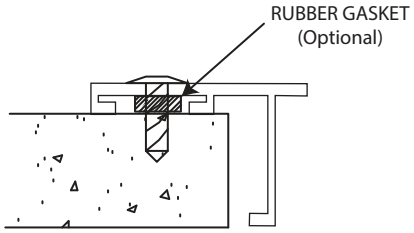
OPPOSED BLADE DAMPER OR EQUALIZING GRID



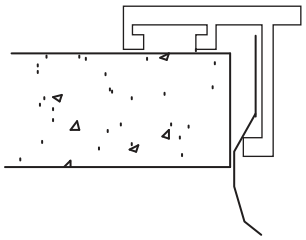
2" deep extruded aluminum opposed blade damper used for airflow regulation.
And/or equalizing grid used to deflect the air to one side of the grille.
Both are factory installed.

INSTALLATION DETAILS

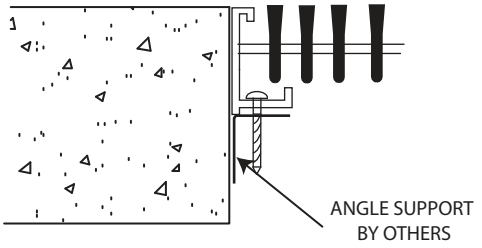
SCREW HOLES
FOR GRILLE WITH FRAME



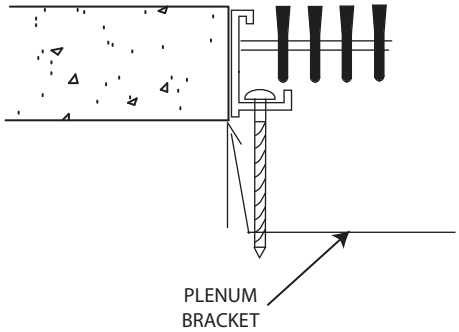
S-SPRING CLIPS FOR
GRILLE WITH FRAME



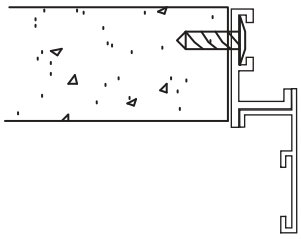
CONCEALED SCREW
FASTENING FOR FRAMELESS CORE



CONCEALED SCREW
FASTENING FOR FRAMELESS CORE



CONCEALED SCREW
FASTENING FOR REMOVABLE FRAME



LINEAR BAR GRILLE DIFFUSERS

LBD Series

PERFORMANCE DATA FOR SERIES WITH 1/2" BLADE SPACING & 0° DEFLECTION

SIZE (H)	AREA FACTOR AK (Ft²) per M of Length	FACE VELOCITY (FPM)	300	400	500	600	700	800	900	1000	1100
2"	AK= 0.246 FT²	AIRFLOW (CFM/M)	74	98	123	148	172	197	221	246	271
		SP (Inch. Wg)	0.013	0.023	0.036	0.052	0.071	0.092	0.117	0.144	0.174
		NC	<15	<15	<15	<15	<15	20	22	25	28
		Throw(Ft)@50,100,150Fpm	13,6,4	15,8,5	16,9,5	18,11,7	20,13,8	22,15,10	23,16,11	24,17,12	24,18,13
2.5"	AK= 0.338 FT²	AIRFLOW (CFM/M)	101	135	169	202	237	270	304	338	372
		SP (Inch. Wg)	0.012	0.021	0.033	0.047	0.064	0.084	0.106	0.131	0.158
		NC	<15	<15	<15	17	20	22	26	29	31
		Throw(Ft)@50,100,150Fpm	13,6,2	16,10,6	19,12,8	20,14,9	21,16,11	22,17,12	23,18,13	24,19,14	26,20,16
3"	AK= 0.387 FT²	AIRFLOW (CFM/M)	116	155	194	232	271	310	348	387	426
		SP (Inch. Wg)	0.007	0.012	0.018	0.026	0.036	0.047	0.060	0.073	0.089
		NC	<15	<15	<15	<15	<15	<15	17	20	23
		Throw(Ft)@50,100,150Fpm	13,5,2	26,15,9	36,22,14	45,27,20	52,32,23	58,35,27	63,40,30	68,42,32	72,46,35
4"	AK= 0.522 FT²	AIRFLOW (CFM/M)	157	209	261	313	365	418	470	522	574
		SP (Inch. Wg)	0.009	0.015	0.024	0.034	0.046	0.061	0.077	0.095	0.114
		NC	<15	<15	<15	<15	15	18	22	25	27
		Throw(Ft)@50,100,150Fpm	13,6,2	23,13,8	31,18,12	38,22,16	43,26,19	48,29,22	52,32,24	56,34,26	59,37,28
5"	AK= 0.658 FT²	AIRFLOW (CFM/M)	197	263	329	395	461	526	592	658	724
		SP (Inch. Wg)	0.011	0.020	0.031	0.044	0.061	0.079	0.100	0.123	0.149
		NC	<15	<15	<15	15	20	23	26	29	32
		Throw (Ft)	14,7,2	21,12,7	27,16,10	33,19,13	36,22,16	40,24,18	44,26,20	47,28,21	49,30,23
6"	AK= 0.795 FT²	AIRFLOW (CFM/M)	239	318	398	477	557	636	716	795	875
		SP (Inch. Wg)	0.014	0.026	0.040	0.058	0.078	0.102	0.130	0.160	0.194
		NC	<15	<15	15	20	24	28	31	34	36
		Throw (Ft)	14,7,3	21,11,7	25,14,9	29,16,11	32,19,13	35,21,15	38,23,16	40,24,18	42,25,19
7"	AK= 0.933 FT²	AIRFLOW (CFM/M)	280	373	467	560	653	746	840	933	1026
		SP (Inch. Wg)	0.018	0.033	0.051	0.074	0.100	0.131	0.166	0.205	0.247
		NC	<15	<15	19	24	28	32	35	38	40
		Throw (Ft)	16,8,3	21,11,7	24,14,9	28,16,10	30,18,12	32,20,13	35,21,15	37,22,16	38,23,17
8"	AK= 1.071 FT²	AIRFLOW (CFM/M)	321	428	536	643	750	857	964	1071	1178
		SP (Inch. Wg)	0.023	0.041	0.064	0.092	0.126	0.164	0.208	0.257	0.311
		NC	<15	17	23	28	32	36	39	42	45
		Throw (Ft)	17,9,4	22,12,7	25,14,9	28,16,9	30,18,12	32,20,13	34,21,14	36,22,15	37,23,16

PERFORMANCE DATA FOR SERIES WITH 1/2" BLADE SPACING & 0° DEFLECTION

SIZE (H)	AREA FACTOR AK (Ft^2) per M of Length	FACE VELOCITY (FPM)	300	400	500	600	700	800	900	1000	1100
9"	AK= 1.211 FT^2	**AIRFLOW (CFM/M)**	**363**	**484**	**606**	**727**	**848**	**969**	**1090**	**1211**	**1332**
		SP (Inch. Wg)	0.028	0.051	0.079	0.114	0.155	0.203	0.256	0.317	0.383
		NC	<15	19	26	31	35	39	43	46	48
		Throw (Ft)	19,10,5	24,13,8	27,16,10	30,18,11	32,20,13	34,22,14	36,23,15	38,24,16	39,25,17
10"	AK= 1.35 FT^2	**AIRFLOW (CFM/M)**	**405**	**540**	**675**	**810**	**945**	**1080**	**1215**	**1350**	**1485**
		SP (Inch. Wg)	0.035	0.061	0.096	0.138	0.188	0.246	0.311	0.384	0.465
		NC	<15	21	28	33	38	42	46	49	>50
		Throw (Ft)	21,11,6	27,15,9	31,18,11	34,21,13	37,23,15	39,25,16	41,27,17	43,28,18	45,30,19
11"	AK= 1.491 FT^2	**AIRFLOW (CFM/M)**	**447**	**596**	**746**	**895**	**1044**	**1193**	**1342**	**1491**	**1640**
		SP (Inch. Wg)	0.041	0.074	0.115	0.166	0.225	0.294	0.372	0.460	0.556
		NC	<15	22	29	35	41	45	49	>50	>50
		Throw (Ft)	24,12,7	31,17,11	36,22,13	40,26,16	44,28,18	46,30,19	49,33,21	51,34,22	54,37,23
12"	AK= 1.631 FT^2	**AIRFLOW (CFM/M)**	**489**	**652**	**816**	**979**	**1142**	**1305**	**1468**	**1631**	**1794**
		SP (Inch. Wg)	0.049	0.087	0.136	0.195	0.266	0.347	0.440	0.543	0.657
		NC	<15	22	30	37	43	47	>50	>50	>50
		Throw (Ft)	26,13,9	36,20,13	43,26,15	47,31,20	53,34,22	56,36,24	59,41,25	61,42,27	66,46,28

NOTES:

1- Performance Data is Based on ASHREA 70-06
2- CFM: Standard air density and ISOTHERMAL conditions.
3- AIRFLOW: based on CFM per Linear Meter of Grille
4- static pressure (SP): Inches of Water Gauge
5- Face Velocity: Face discharge velocity in feet per minute (fpm)
6- Noise Criteria: NC Level is based on room attenutaion of 10db (sound power level Re: 10-12Watts)
7- Throw: Projection distance in FEET from diffuser discharge at which the maximum velocity has been reduced to specifyied terminal velocity (Vt). Data show are for 50,100,150 Terminal velocity (fpm)
8- Throw are for Horizontal (wall mounted) based on Isothermal conditions.

LINEAR BAR GRILLE DIFFUSERS

LBD Series

PERFORMANCE DATA FOR SERIES WITH 1/2" BLADE SPACING & 15° DEFLECTION

SIZE (H)	AREA FACTOR AK (Ft^2) per M of Length	FACE VELOCITY (FPM)	300	400	500	600	700	800	900	1000	1100
2"	AK= 0.223 FT^2	**AIRFLOW (CFM/M)**	**67**	**89**	**117**	**140**	**163**	**186**	**210**	**233**	**256**
		SP (Inch. Wg)	0.011	0.019	0.030	0.043	0.058	0.076	0.096	0.118	0.143
		NC	<15	<15	<15	<15	<15	17	21	24	27
		Throw(Ft)@50,100,150Fpm	14,8,5	15,9,6	16,10,7	17,11,8	19,13,9	20,14,10	21,15,11	22,16,12	23,17,13
2.5"	AK= 0.312 FT^2	**AIRFLOW (CFM/M)**	**94**	**125**	**156**	**187**	**218**	**250**	**281**	**312**	**343**
		SP (Inch. Wg)	0.010	0.018	0.028	0.041	0.055	0.072	0.091	0.113	0.136
		NC	<15	<15	<15	<15	<15	18	21	24	27
		Throw (Ft)	15,7,4	20,11,7	23,14,10	27,15,12	29,18,14	30,20,17	31,21,18	32,24,19	35,25,21
3"	AK= 0.391 FT^2	**AIRFLOW (CFM/M)**	**117**	**156**	**196**	**235**	**274**	**313**	**352**	**391**	**430**
		SP (Inch. Wg)	0.009	0.015	0.024	0.035	0.047	0.062	0.078	0.096	0.117
		NC	<15	<15	<15	<15	<15	18	21	24	27
		Throw(Ft)@50,100,150Fpm	17,7,3	24,13,8	29,17,13	36,20,16	40,23,19	44,26,23	46,29,24	49,31,26	51,33,29
4"	AK= 0.508 FT^2	**AIRFLOW (CFM/M)**	**152**	**203**	**254**	**305**	**356**	**406**	**457**	**508**	**559**
		SP (Inch. Wg)	0.009	0.017	0.026	0.038	0.051	0.067	0.085	0.105	0.127
		NC	<15	<15	<15	<15	17	21	24	27	30
		Throw(Ft)@50,100,150Fpm	18,7,3	26,13,8	32,17,13	38,20,16	42,23,19	46,26,22	49,28,24	52,30,26	54,32,28
5"	AK= 0.623FT^2	**AIRFLOW (CFM/M)**	**187**	**249**	**312**	**374**	**436**	**498**	**561**	**623**	**685**
		SP (Inch. Wg)	0.011	0.019	0.030	0.043	0.058	0.076	0.097	0.119	0.144
		NC	<15	<15	<15	16	20	24	27	30	33
		Throw(Ft)@50,100,150Fpm	19,7,3	28,13,8	34,17,13	40,20,16	44,23,19	48,26,21	52,28,24	54,30,26	57,32,27
6"	AK= 0.735 FT^2	**AIRFLOW (CFM/M)**	**221**	**294**	**368**	**441**	**515**	**588**	**662**	**735**	**809**
		SP (Inch. Wg)	0.013	0.022	0.035	0.051	0.069	0.090	0.114	0.140	0.170
		NC	<15	<15	<15	18	23	27	30	33	36
		Throw(Ft)@50,100,150Fpm	20,7,3	29,13,8	36,17,13	41,20,16	46,23,19	50,26,21	54,28,24	56,30,26	59,32,27
7"	AK= 0.846 FT^2	**AIRFLOW (CFM/M)**	**254**	**338**	**423**	**508**	**592**	**677**	**761**	**846**	**931**
		SP (Inch. Wg)	0.015	0.027	0.042	0.060	0.082	0.107	0.136	0.168	0.203
		NC	<15	<15	16	21	26	30	33	36	39
		Throw(Ft)@50,100,150Fpm	21,7,3	30,14,8	37,17,13	42,20,16	47,23,19	51,26,21	55,28,24	58,30,26	61,32,27
8"	AK= 0.955 FT^2	**AIRFLOW (CFM/M)**	**287**	**382**	**478**	**573**	**669**	**764**	**860**	**955**	**1051**
		SP (Inch. Wg)	0.018	0.032	0.050	0.073	0.099	0.129	0.163	0.201	0.244
		NC	<15	<15	19	24	29	32	36	39	41
		Throw(Ft)@50,100,150Fpm	22,8,3	31,14,8	38,18,13	43,21,16	48,24,19	52,27,21	56,29,24	59,31,26	62,33,27

LINEAR BAR GRILLE DIFFUSERS

LBD Series

PERFORMANCE DATA FOR SERIES WITH 1/2" BLADE SPACING & 15° DEFLECTION

SIZE (H)	AREA FACTOR AK (Ft^2) per M of Length	FACE VELOCITY (FPM)	300	400	500	600	700	800	900	1000	1100
9"	AK= 1.063 FT^2	**AIRFLOW (CFM/M)**	**319**	**425**	**532**	**638**	**744**	**850**	**957**	**1063**	**1169**
		SP (Inch. Wg)	0.022	0.039	0.060	0.087	0.118	0.155	0.196	0.242	0.292
		NC	<15	16	22	27	32	35	39	42	44
		Throw(Ft)@50,100,150Fpm	23,9,3	31,14,8	38,19,13	44,22,16	49,25,19	53,28,21	56,30,24	60,32,26	63,34,27
10"	AK= 1.17 FT^2	**AIRFLOW (CFM/M)**	**351**	**468**	**585**	**702**	**819**	**936**	**1053**	**1170**	**1287**
		SP (Inch. Wg)	0.026	0.046	0.072	0.104	0.141	0.164	0.233	0.288	0.349
		NC	<15	19	25	30	35	38	41	44	47
		Throw (Ft)	23,10,4	31,15,9	38,20,13	44,23,17	49,26,20	53,29,22	56,32,25	60,34,27	63,36,28
11"	AK= 1.277 FT^2	**AIRFLOW (CFM/M)**	**383**	**511**	**639**	**766**	**894**	**1022**	**1149**	**1277**	**1405**
		SP (Inch. Wg)	0.031	0.055	0.085	0.123	0.167	0.218	0.276	0.341	0.412
		NC	15	23	29	33	38	41	44	47	50
		Throw(Ft)@50,100,150Fpm	23,11,5	30,16,10	37,21,13	44,24,18	49,27,21	53,30,23	55,34,26	60,36,28	63,38,29
12"	AK= 1.382 FT^2	**AIRFLOW (CFM/M)**	**415**	**553**	**691**	**829**	**967**	**1106**	**1244**	**1382**	**1520**
		SP (Inch. Wg)	0.036	0.064	0.100	0.144	0.196	0.256	0.324	0.400	0.484
		NC	19	26	32	37	41	44	47	50	>50
		Throw(Ft)@50,100,150Fpm	23,13,6	29,16,11	36,23,13	44,26,19	49,29,22	53,32,24	54,37,27	59,39,29	62,41,30

NOTES:

1- Performance Data is Based on ASHREA 70-06
2- CFM: Standard air density and ISOTHERMAL conditions.
3- AIRFLOW: based on CFM per Linear Meter of Grille
4- static pressure (SP): Inches of Water Gauge
5- Face Velocity: Face discharge velocity in feet per minute (fpm)
6- Noise Criteria: NC Level is based on room attenutaion of 10db (sound power level Re: 10-12Watts)
7- Throw: Projection distance in FEET from diffuser discharge at which the maximum velocity has been reduced to specifyied terminal velocity (Vt). Data show are for 50,100,150 Terminal velocity (fpm)
8- Throw are for Horizontal (wall mounted) based on Isothermal conditions.

PERFORMANCE DATA FOR SERIES WITH 1/4" BLADE SPACING & 0° DEFLECTION

SIZE (H)	AREA FACTOR AK (Ft^2) per M of Length	FACE VELOCITY (FPM)	400	500	600	700	800	900	1000	1200	1400
1.5"	AK= 0.107 FT^2	AIRFLOW (CFM/M)	43	54	64	75	86	96	107	128	150
		SP (Inch. Wg)	0.010	0.016	0.023	0.032	0.042	0.053	0.065	0.094	0.127
		NC	<15	<15	<15	<15	<15	<15	16	19	22
		Throw(Ft)@50,100,150Fpm	14,8,6	15,10,7	16,11,8	17,12,8	18,13,9	19,13,9	20,14,10	22,16,12	24,17,13
2"	AK= 0.197 FT^2	AIRFLOW (CFM/M)	79	99	118	138	158	177	197	236	276
		SP (Inch. Wg)	0.011	0.017	0.024	0.033	0.044	0.055	0.068	0.098	0.133
		NC	<15	<15	<15	<15	<15	<15	17	20	24
		Throw(Ft)@50,100,150Fpm	12,9,4	14,10,5	16,11,6	18,12,8	20,13,9	21,14,10	22,15,11	24,18,13	26,20,15
2.5"	AK= 0.287 FT^2	AIRFLOW (CFM/M)	115	144	172	201	230	258	287	344	402
		SP (Inch. Wg)	0.014	0.022	0.032	0.044	0.058	0.073	0.090	0.129	0.176
		NC	<15	<15	<15	<15	18	20	22	26	29
		Throw(Ft)@50,100,150Fpm	16,10,6	19,12,8	20,14,9	21,15,10	22,17,12	23,18,13	25,20,14	28,22,17	31,24,20
3"	AK= 0.377 FT^2	AIRFLOW (CFM/M)	151	189	226	264	302	339	377	452	528
		SP (Inch. Wg)	0.015	0.023	0.033	0.045	0.058	0.074	0.091	0.132	0.179
		NC	<15	<15	<15	17	21	25	28	34	39
		Throw(Ft)@50,100,150Fpm	16,10,9	20,14,10	21,17,12	22,18,13	23,19,14	25,20,16	28,23,18	35,27,22	39,30,25
3.5"	AK= 0.459 FT^2	AIRFLOW (CFM/M)	184	230	275	321	367	413	459	551	643
		SP (Inch. Wg)	0.012	0.019	0.028	0.038	0.050	0.063	0.078	0.112	0.152
		NC	<15	<15	15	19	22	25	29	35	39
		Throw(Ft)@50,100,150Fpm	17,11,7	20,15,10	22,17,13	24,19,15	27,22,17	30,24,19	32,26,21	36,28,23	40,31,26
4"	AK= 0.549 FT^2	AIRFLOW (CFM/M)	220	275	329	384	439	494	549	659	769
		SP (Inch. Wg)	0.010	0.015	0.022	0.030	0.040	0.050	0.062	0.089	0.121
		NC	<15	<15	17	20	23	26	30	36	40
		Throw(Ft)@50,100,150Fpm	18,13,8	21,16,12	23,17,14	27,21,17	29,23,19	32,25,21	35,28,22	38,30,24	41,32,27
5"	AK= 0.730 FT^2	AIRFLOW (CFM/M)	292	365	438	511	584	657	730	876	1022
		SP (Inch. Wg)	0.015	0.023	0.033	0.045	0.059	0.075	0.093	0.133	0.181
		NC	<15	<15	19	22	26	29	32	38	43
		Throw(Ft)@50,100,150Fpm	20,15,10	25,19,16	28,21,18	31,24,20	34,26,21	37,28,22	40,30,24	46,34,27	51,38,30
6"	AK= 0.918 FT^2	AIRFLOW (CFM/M)	367	459	551	643	734	826	918	1102	1285
		SP (Inch. Wg)	0.011	0.018	0.026	0.035	0.046	0.058	0.072	0.103	0.140
		NC	<15	17	21	25	28	31	34	40	44
		Throw(Ft)@50,100,150Fpm	20,15,11	23,18,13	28,22,16	31,24,18	34,26,20	37,28,22	40,30,24	46,34,27	51,38,30

NOTES:

1- Performance Data is Based on ASHREA 70-92
2- CFM: Standard air density and ISOTHERMAL conditions.
3- AIRFLOW: based on CFM per Linear Meter of Grille
4- static pressure (SP): Inches of Water Gauge
5- Face Velocity: Face discharge velocity in feet per minute (fpm)
6- Noise Criteria: NC Level is based on room attenutaion of 10db (sound power level Re: 10-12Watts)
7- Throw: Projection distance in FEET from diffuser discharge at which the maximum velocity has been reduced to specifyied terminal velocity (Vt). Data show are for 50,100,150 Terminal velocity (fpm)

LINEAR BAR GRILLE DIFFUSERS

LBD Series

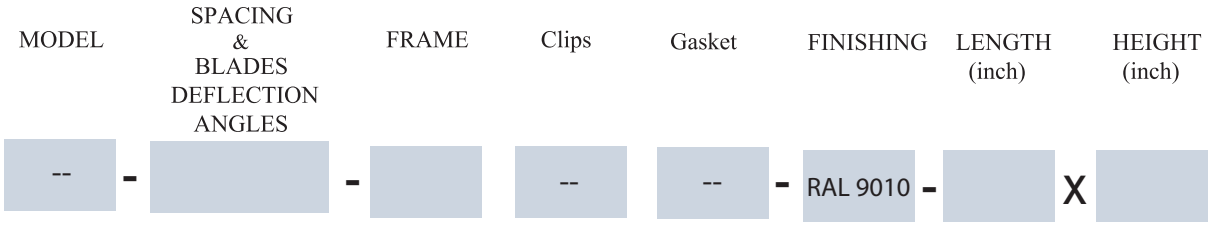
PERFORMANCE DATA FOR SERIES WITH 1/4" BLADE SPACING & 15° DEFLECTION

SIZE (H)	AREA FACTOR AK (Ft²) per M of Length	FACE VELOCITY (FPM)	400	500	600	700	800	900	1000	1200	1400
1 1/2"	AK= 0.09 FT²	**AIRFLOW (CFM/M)**	**36**	**45**	**54**	**63**	**72**	**81**	**90**	**108**	**126**
		SP (Inch. Wg)	0.015	0.023	0.033	0.044	0.058	0.074	0.091	0.131	0.178
		NC	<15	<15	<15	<15	<15	16	18	21	24
		Throw(Ft)@50,100,150Fpm	10,5,3	11,6,4	12,7,5	13,8,6	14,9,7	15,10,8	16,11,9	17,12,10	18,13,11
2"	AK= 0.172 FT²	**AIRFLOW (CFM/M)**	**69**	**86**	**103**	**120**	**138**	**155**	**172**	**206**	**241**
		SP (Inch. Wg)	0.013	0.021	0.030	0.041	0.053	0.067	0.083	0.120	0.163
		NC	<15	<15	<15	<15	<15	16	19	23	31
		Throw(Ft)@50,100,150Fpm	12,6,4	13,7,5	14,8,6	15,10,7	16,10,7	17,11,8	18,11,8	20,13,10	22,15,12
2.5"	AK= 0.258 FT²	**AIRFLOW (CFM/M)**	**103**	**129**	**155**	**181**	**206**	**232**	**258**	**310**	**361**
		SP (Inch. Wg)	0.013	0.021	0.030	0.041	0.054	0.068	0.084	0.121	0.165
		NC	<15	<15	<15	17	19	22	26	32	36
		Throw(Ft)@50,100,150Fpm	12,7,4	14,8,5	16,9,6	17,10,7	18,11,8	19,12,9	20,14,10	22,16,11	24,17,11
3"	AK= 0.338 FT²	**AIRFLOW (CFM/M)**	**135**	**169**	**203**	**237**	**270**	**304**	**338**	**406**	**473**
		SP (Inch. Wg)	0.013	0.020	0.029	0.040	0.052	0.066	0.081	0.117	0.159
		NC	<15	<15	15	19	23	26	28	34	37
		Throw(Ft)@50,100,150Fpm	13,7,4	15,8,5	16,9,6	17,11,7	18,12,8	20,13,9	22,14,10	25,16,12	28,18,14
3 1/2"	AK= 0.433 FT²	**AIRFLOW (CFM/M)**	**173**	**216**	**260**	**303**	**346**	**390**	**433**	**519**	**606**
		SP (Inch. Wg)	0.014	0.021	0.031	0.042	0.055	0.069	0.085	0.123	0.167
		NC	<15	<15	19	22	26	29	33	38	43
		Throw(Ft)@50,100,150Fpm	14,7,4	16,9,5	17,11,7	18,12,8	20,13,9	22,15,10	24,17,11	28,21,14	32,26,17
4"	AK= 0.532 FT²	**AIRFLOW (CFM/M)**	**213**	**266**	**319**	**372**	**426**	**479**	**532**	**638**	**745**
		SP (Inch. Wg)	0.016	0.025	0.036	0.050	0.065	0.082	0.101	0.146	0.198
		NC	<15	17	23	27	31	36	38	42	46
		Throw(Ft)@50,100,150Fpm	16,10,5	18,11,7	20,12,8	21,14, 9	23,17,11	25,20,13	27,23,15	34,27,18	41,31,21
5"	AK= 0.717 FT²	**AIRFLOW (CFM/M)**	**287**	**359**	**430**	**502**	**574**	**645**	**717**	**860**	**1004**
		SP (Inch. Wg)	0.020	0.032	0.046	0.063	0.082	0.104	0.128	0.184	0.251
		NC	15	23	29	34	40	43	46	50	>50
		Throw(Ft)@50,100,150Fpm	18,11,6	20,14,9	21,16,11	23,19,13	29,23,16	33,27,18	36,30,20	42,34,24	47,38,27
6"	AK= 0.902 FT²	**AIRFLOW (CFM/M)**	**361**	**451**	**541**	**631**	**722**	**812**	**902**	**1082**	**1263**
		SP (Inch. Wg)	0.031	0.048	0.069	0.094	0.122	0.155	0.191	0.275	0.375
		NC	21	26	30	35	42	45	48	>50	>50
		Throw(Ft)@50,100,150Fpm	20,13,9	23,17,11	27,21,14	32,26,17	35,29,20	39,33,23	44,37,26	50,41,30	53,45,33

NOTES:

1- Performance Data is Based on ASHREA 70-92
2- CFM: Standard air density and ISOTHERMAL conditions.
3- AIRFLOW: based on CFM per Linear Meter of Grille
4- static pressure (SP): Inches of Water Gauge
5- Face Velocity: Face discharge velocity in feet per minute (fpm)
6- Noise Criteria: NC Level is based on room attenutaion of 10db (sound power level Re: 10-12Watts)
7- Throw: Projection distance in FEET from diffuser discharge at which the maximum velocity has been reduced to specifyied terminal velocity (Vt). Data show are for 50,100,150 Terminal velocity (fpm)

ORDERING INFORMATION



-- : Standard
CU-CE : Curved Ceiling
CU-CVE : Curved Concave
CU : Curved Convex
CE : Corner Edge (wall)
C : Corner Ceiling

LBD1400 : 1/4"Spacing;0°
LBD1415 : 1/4"Spacing;15°
LBD1430 : 1/4"Spacing;30°
LBD1200 : 1/2" Spacing;0°
LBD1215 : 1/2" Spacing;15°
LBD1230 : 1/2" Spacing;30°

F0 : Frameless
F2 : Frame 2cm
F3 : Frame 3cm
F0-RM : Removable core (Not applicable for Curved model)

-- : w/o s-spring clips
C : with s-spring clips

-- : w/o foam gasket
G : with foam gasket

RAL 9010: (std)
RAL"num":Other Ral color

•For corner :
- 40x40-2 (40CM X 40CM - 2'' height)
- 40x40-3 (40CM X 40CM - 3'' height)
- 40x40-4 (40CM X 40CM - 4'' height)

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- 40x40-12 (40CM X 40CM - 12'' height)

Example: **STD :** LBD1230-F3CG-RAL9010-40X8
CURVED CONCAVE : CU-CVE-LBD1200-F3G-RAL9010-40X4
CORNER EDGE : CE-LBD1215-F3-RAL9010-40X40-6

N.B: *- Standard sizes: minimum length 8" and 2" height.*
- Curved sizes: minimum length 40" and 2" height.
- Corner sizes: length 40x40 cm and minimum 2" height
- For more information, please check the submittal sheet.
- For special design, a drawing should be provided.
- Foam gasket not applicable for frameless nor removable core models.
- S-spring clips not applicable for frameless nor removable core models.
-For corner edge (wall) a drawing showing the airflow should be provided.

N.B: A 0.5 cm clearance is deducted from your order neck size.