

LINEAR BAR GRILLE DIFFUSERS WITH REAR BLADE LBD-R Series

APPLICATION

KBE extruded aluminum linear bar diffusers with rear blade meet architectural demands for a versatile supply and return air duct that blends with accents linear design concepts and it provides more comfort and more control on airflow direction in each grille section. Rear blades are individually adjustable. LBD-R 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.

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.
- Horizontal front blades: Multiple angles of deflection (0°, 15° and 30°) placed on either 1/4"(6.35mm) & 1/2" (12.5mm) centers.
- Vertical rear airfoil adjustable blades spaced 3/4" (19mm).

•SIZES:

- Minimum length of 8" and 3" height.
- Multisection are joined with alignment strips.

•FINISH:

- Standard finish is white color (Ral 9010).

OPTIONS

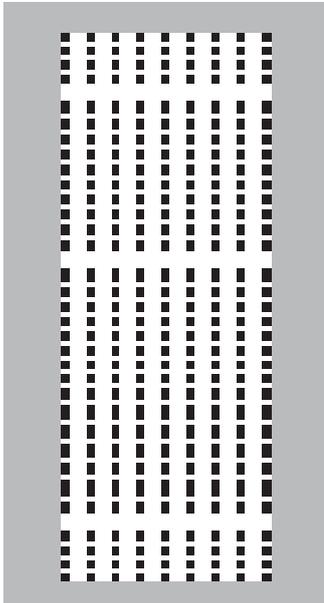
- 2cm frame & 3cm frame.
- Mitered corner for ceiling & wall application (90° angle or any special angle).
- Other colors available upon request.
- Plenum box: insulated or non-insulated.
- With concealed clips or screw or concealed screw fastening ([Check Page 6](#)).
- With foam gasket.
- With opposed 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 1 cm clearance is deducted from your order neck size.

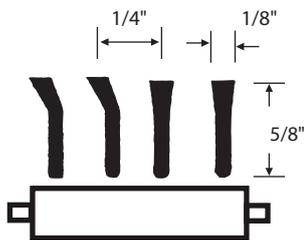
- For corner edge (wall) a drawing showing the airflow should be provided.

DIMENSIONS & ILLUSTRATIONS

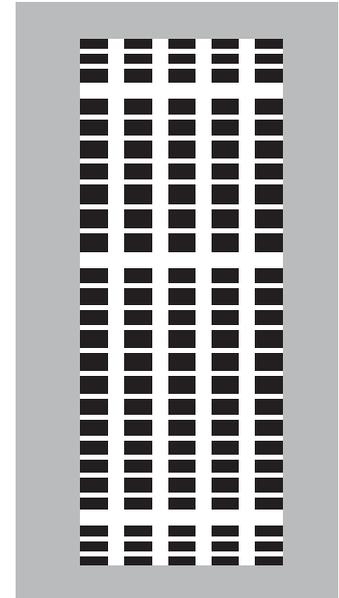
Standard model



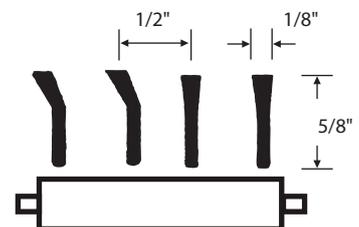
1/4" Spacing



0°, 15° & 30° Deflection;
1/8" Bar Spaced on 1/4"
with Rear Blade.



1/2" Spacing



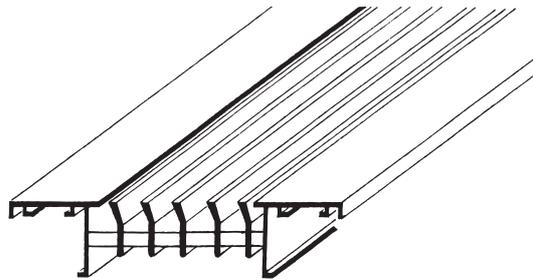
0°, 15° & 30° Deflection;
1/8" Bar Spaced on 1/2"
with Rear Blade.

DIMENSIONS

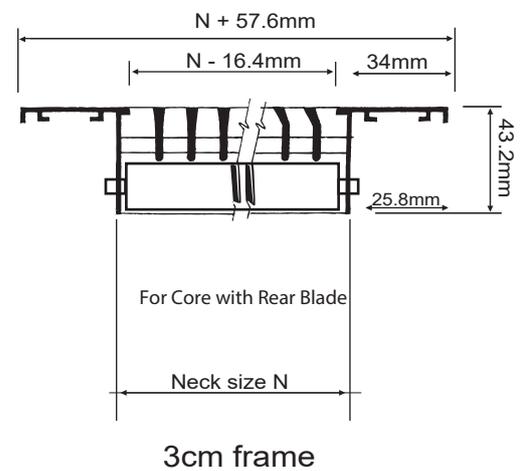
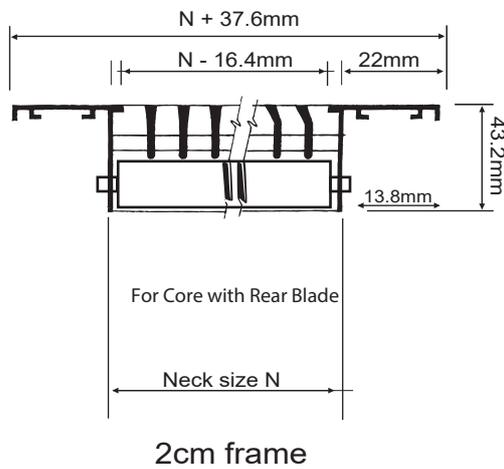
Order neck size	Sizes with 2cm Frame		Sizes with 3cm Frame	
	Face size	Actual neck size(N)	Face size	Actual neck size (N)
3"	10.26 cm	6.5 cm	12.26 cm	6.5 cm
3 1/2"	11.51 cm	7.75 cm	13.51 cm	7.75 cm
4"	12.76 cm	9 cm	14.76 cm	9 cm
5"	15.26 cm	11.5 cm	17.26 cm	11.5 cm
6"	17.76 cm	14 cm	19.76 cm	14 cm
7"	20.26 cm	16.5 cm	22.26 cm	16.5 cm
8"	22.76 cm	19 cm	24.76 cm	19 cm

N.B: A 1 cm clearance is deducted from your order neck size .

BORDER TYPE

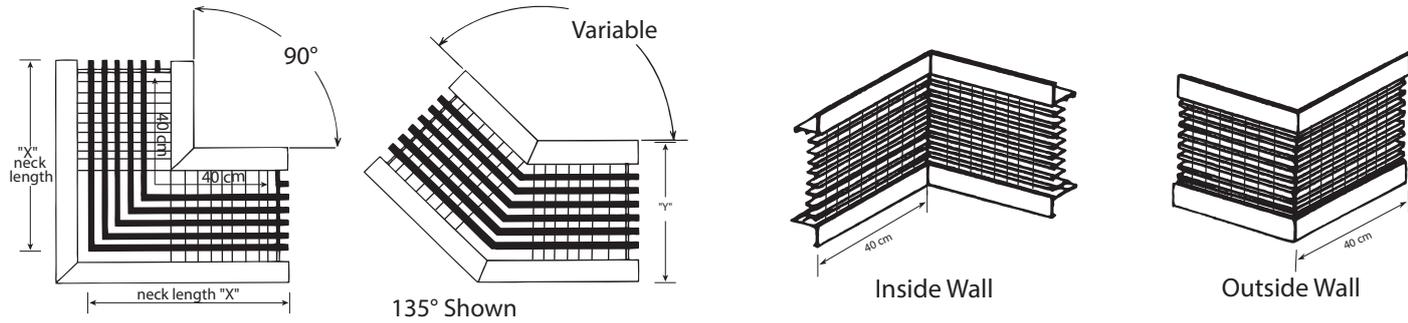


Core with frame



N.B: This drawing shows the actual neck size where a 1cm clearance was deducted from order neck size

MITERED CORNER ILLUSTRATIONS & DIMENSIONS



- 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.

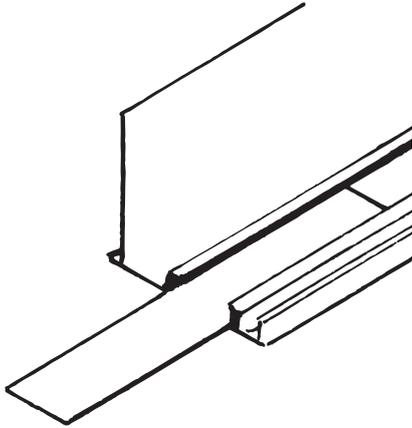
neck width	actual outer neck length (X)	neck width	actual outer neck length (X)
3"	46.5 cm	7 1/2"	57.75 cm
3 1/2"	47.75 cm	8"	59 cm
4"	49 cm	9"	61.5 cm
5"	51.5 cm	10"	64 cm
6"	54 cm	12"	69 cm

N.B: A 1 cm clearance is deducted from your order neck size .

LINEAR BAR GRILLE DIFFUSERS WITH REAR BLADE LBD-R Series

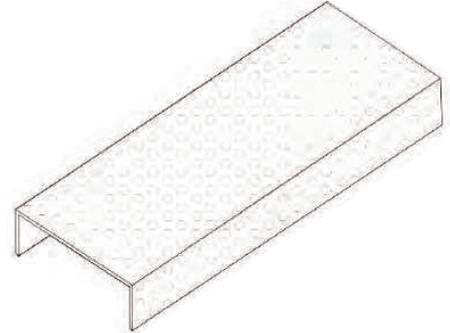
ACCESSORIES

ALIGNMENT STRIPS



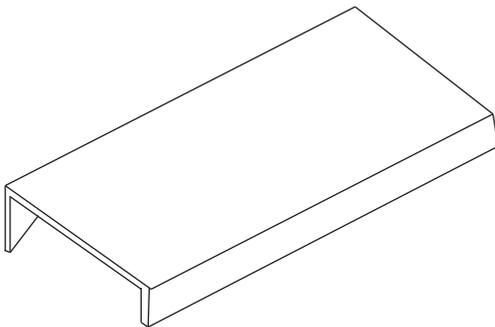
Join strips are provided on multisections with no extra cost. Providing linear alignment of continuous linear bar diffuser, the joiner strip slides into the inside channel of the diffuser frame. Typical for all frame types.

LIGHT SHIELD



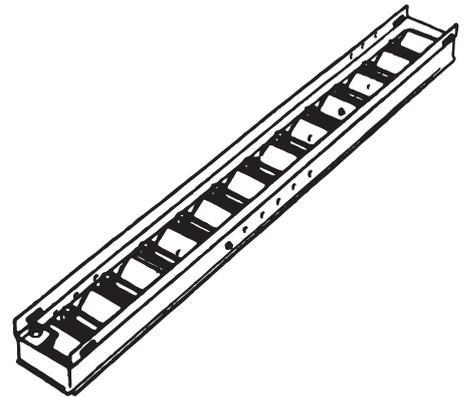
Light shield is used to cover non plenum sections of the linear bar grille diffuser from light reflection. It is factory installed. A drawing specifying the area of concern should be provided.

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

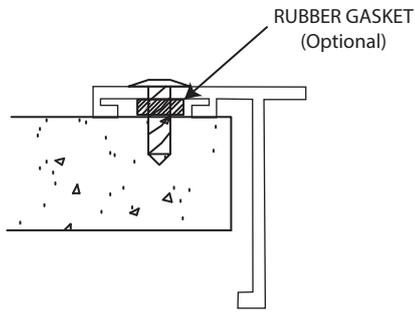


2" deep extruded aluminum opposed blade damper used for airflow regulation. And/or equalizing grid used to deflect the air to one side of the grille. Both are factory installed.

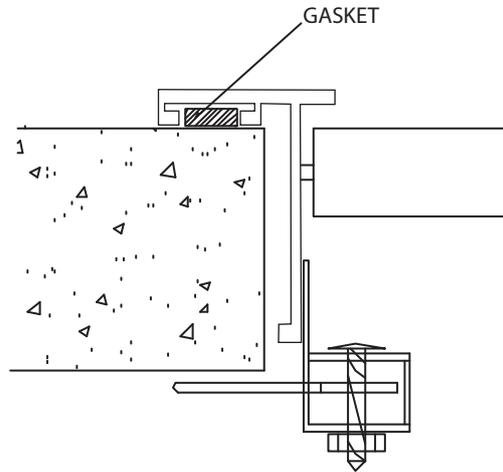
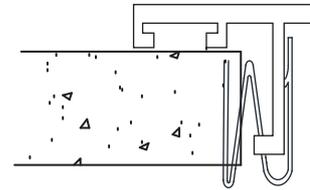
LINEAR BAR GRILLE DIFFUSERS WITH REAR BLADE LBD-R Series

INSTALLATION DETAILS

SCREW HOLES
FOR GRILLE WITH FRAME



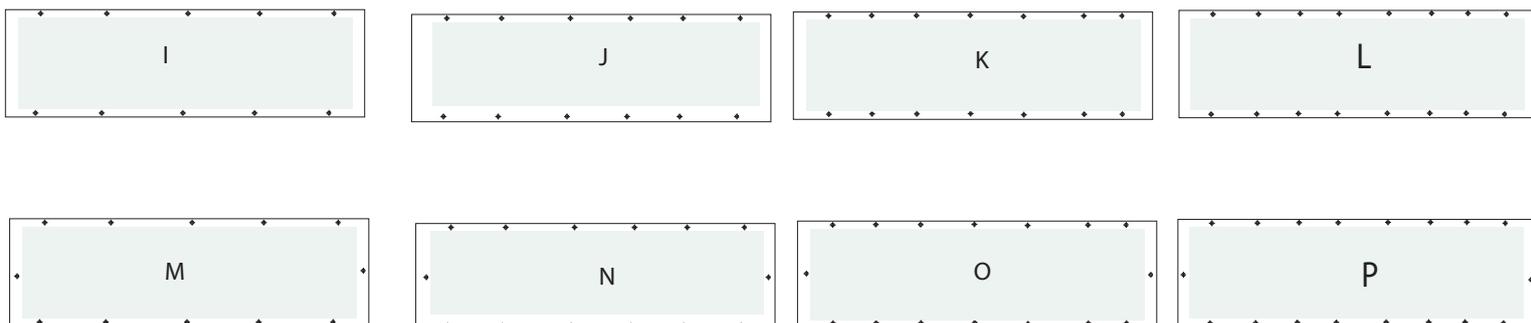
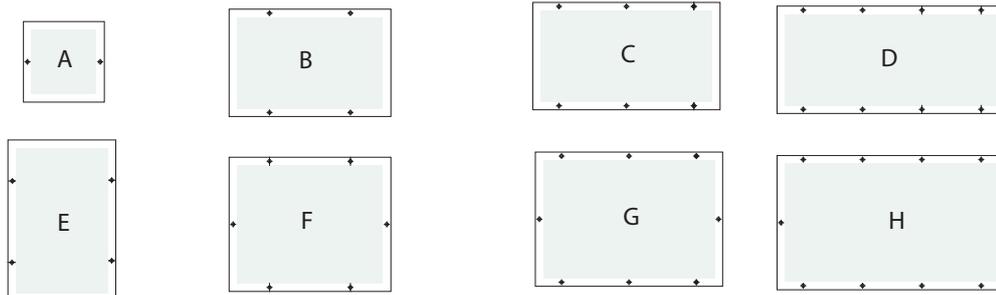
CONCEALED CLIPS FOR
GRILLE WITH FRAME



CONCEALED SCREW
FASTENING

INSTALLATION DETAILS Screw hole Position

	4" (10)	14" (35)	16" (40)	22" (55)	24" (60)	36" (90)	38" (95)	54" (135)	56" (140)	78" (195)	80" (200)	102" (255)	104" (260)	126" (315)	128" (320)	144" (360)
4" (10)																
		A	B			C	D			I	J			K		L
22" (55)																
24" (60)																
		E	F			G	H			M	N			O		P
60" (150)																





LINEAR BAR GRILLE DIFFUSERS WITH REAR BLADE LBD-R Series

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
2"	AK= 0.246 FT ²	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 FT ²	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 FT ²	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 FT ²	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 FT ²	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)@50,100,150Fpm	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 FT ²	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)@50,100,150Fpm	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 FT ²	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)@50,100,150Fpm	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 FT ²	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)@50,100,150Fpm	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



LINEAR BAR GRILLE DIFFUSERS WITH REAR BLADE LBD-R 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
9"	AK= 1.211 FT²	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 FT²	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 FT²	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 FT²	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 attenuaion 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 speciyied 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 WITH REAR BLADE LBD-R 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 WITH REAR BLADE LBD-R 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 attenuation 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 specified 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 WITH REAR BLADE LBD-R Series

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 attenuaion 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 specified terminal velocity (Vt). Data show are for 50,100,150 Terminal velocity (fpm)



LINEAR BAR GRILLE DIFFUSERS WITH REAR BLADE LBD-R Series

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

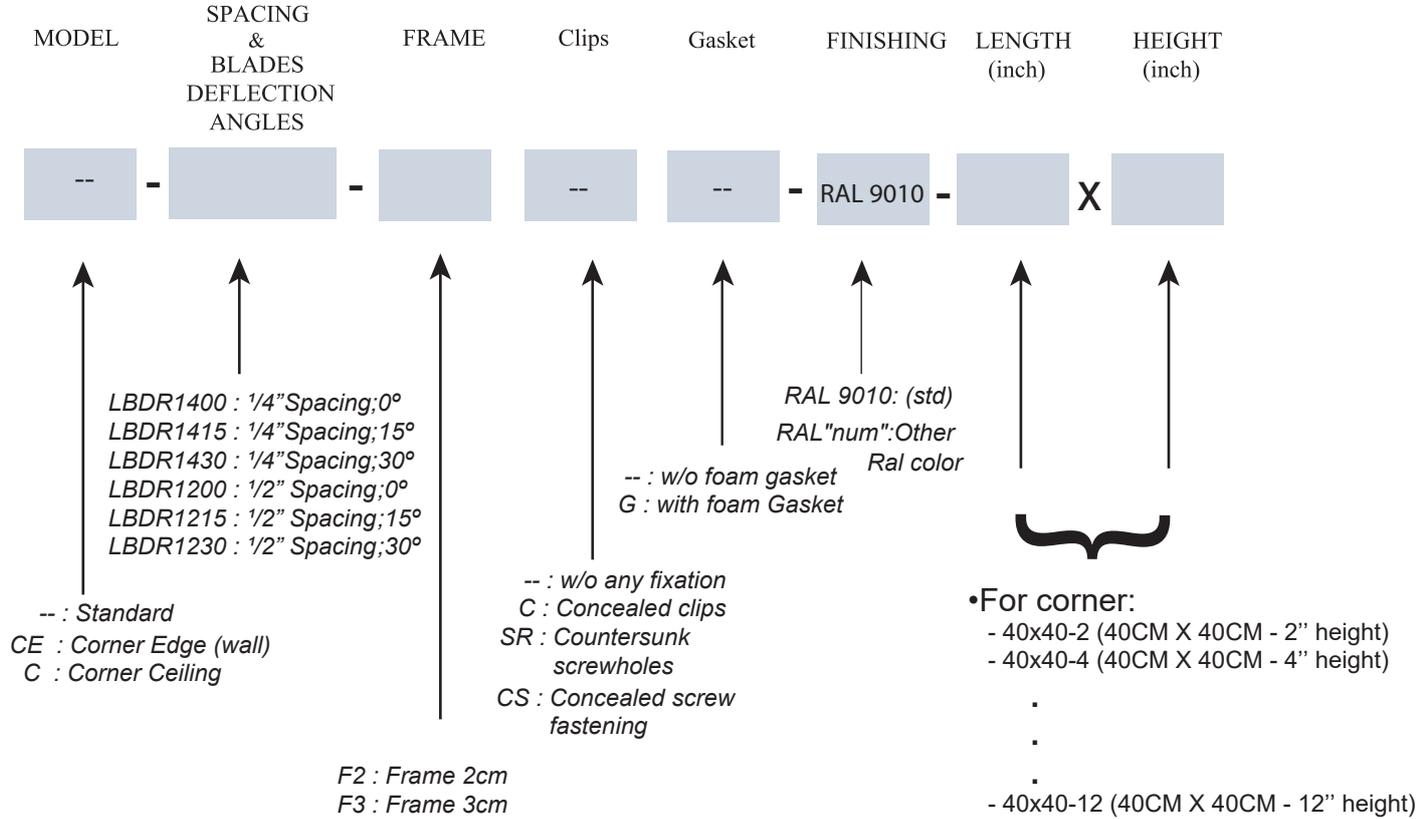
SIZE (H)	AREA FACTOR AK (Ft ²) per M of Length	FACE VELOCITY (FPM)	400	500	600	700	800	900	1000	1200	1400
1 1/2"	AK= 0.09 FT ²	AIRFLOW (CFM/M)	36	45	54	63	72	81	90	108	126
		SP (Inch. Wg)	0.015	0.023	0.033	0.044	0.058	0.074	0.091	0.131	0.178
		NC	<15	<15	<15	<15	<15	16	18	21	24
		Throw(Ft)@50,100,150Fpm	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 FT ²	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 FT ²	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 FT ²	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 FT ²	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 FT ²	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 FT ²	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 FT ²	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 attenuaion 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 speciyied terminal velocity (Vt). Data show are for 50,100,150 Terminal velocity (fpm)

LINEAR BAR GRILLE DIFFUSERS WITH REAR BLADE LBD-R Series

ORDERING INFORMATION



Example: STD : LBDR1230-F3CG-RAL9010-40X8
 CORNER EDGE : CE-LBDR1215-F3-RAL9010-40X40-6

- N.B:** - Standard sizes: minimum length 8" and 3" height.
 - Corner sizes: length 40x40 cm and minimum 3" height
 - For more information, please check the submittal sheet.
 - For special design, a drawing should be provided.
 - For corner edge (wall) a drawing showing the airflow should be provided.

N.B: A 1 cm clearance is deducted from your order neck size.