

Linear Slot Diffusers ETL - Intertek Tested
B-20 series

Type: Return Linear Slot Diffusers
Model : RLSD-AB-21-S-x
Slot width (S) : 16 / 20 / 25* mm; No. of Slots (x) : 1 to 8
Construction: Aluminium
Description

Slot diffuser frame and deflection blades are made of extruded aluminium profiles. Air diffusion pattern can be varied for horizontal airflow along the ceiling, vertically downwards flow or intermediate flow.

The defelecting vanes and integral volume damper (hit and miss damper) can be adjusted from the face of the diffuser. Slot diffusers are suitable for installations in ceiling and sill..

Standard Construction
Frame

Extruded Aluminum profile.

Deflection Blades

Extruded Aluminum profile.

Damper

Galvanized steel hit and miss damper with black matte finish.

Slot Width

25 mm.

Number of Slots

1,2,3,4,5,6,7,8.

Finish

Available with RAL powder coating, please specify color.

Optional Fittings
Plenum chamber

Plenum is available with circular, square or rectangular spigots in either top or side entry applications.

Slot width

16 & 20 mm.

Foam Gasket

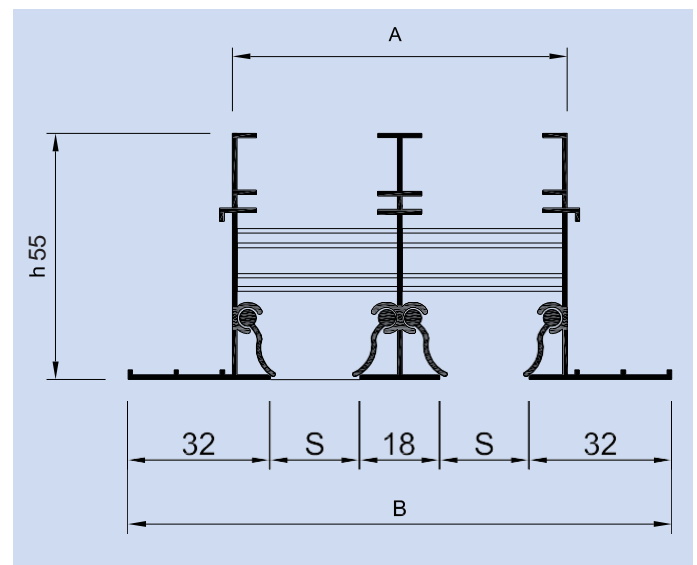
Provided all around the frame, to prevent leakage of air.

Finish

Mill finish or Chrome plating.



RLSD-AB-21-25-4



Standard Sizes of B-20 Series Slot Diffusers			
No. of Slots	In Number of Pieces		
	1 Pc	2 Pcs.	3 Pcs.
1,2& 3 Slots	< 2.4 Mtrs	> 2.4 Mtrs	> 4.8 Mtrs
4 Slots	< 2.4 Mtrs	> 2.4 Mtrs	> 4.8 Mtrs
5 Slots	< 2.4 Mtrs	> 2.4 Mtrs	> 4.8 Mtrs
6 Slots	< 2.4 Mtrs	> 2.4 Mtrs	> 4.8 Mtrs
7 Slots	< 2.4 Mtrs	> 2.4 Mtrs	> 4.8 Mtrs
8 Slots	< 2.4 Mtrs	> 2.4 Mtrs	> 4.8 Mtrs

Dimensions of B-20 Series Linear Slot Diffusers						
No. of Slots	S = Slot width 16 mm		S = Slot width 20 mm		S = Slot width 25 mm	
	A (mm)	B (mm)	A (mm)	B (mm)	A (mm)	B (mm)
1 Slot	40	80	44	84	49	89
2 Slots	74	114	82	122	92	132
3 Slots	108	148	120	160	135	175
4 Slots	142	182	158	198	178	218
5 Slots	176	216	196	236	221	261
6 Slots	210	250	234	274	264	304
7 Slots	244	284	272	312	307	347
8 Slots	278	318	310	350	350	390

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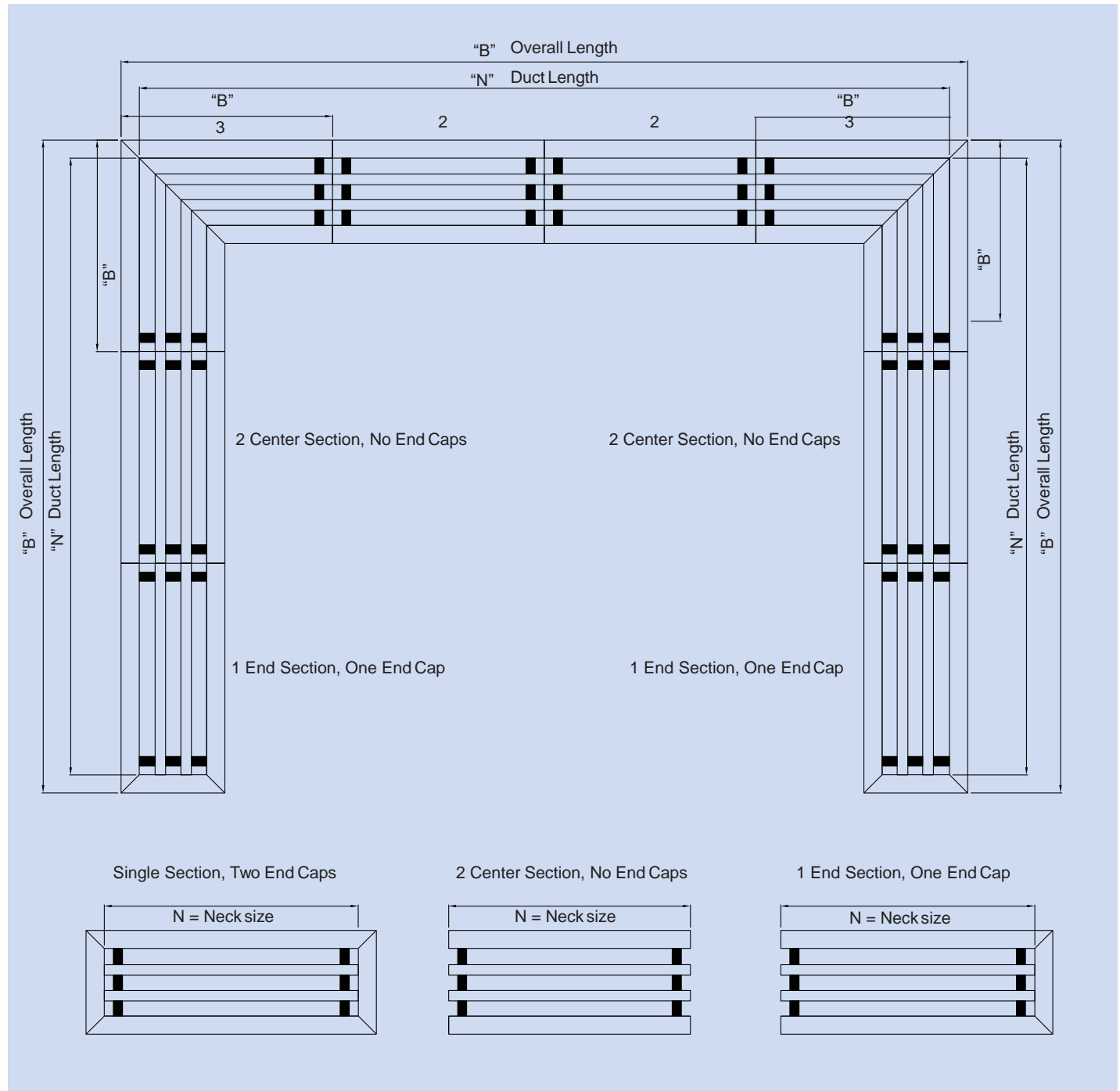
Linear Slot Diffusers ETL - Intertek Tested
B-20 series
Construction Details and Dimensions

Type: Supply Linear Slot Diffusers

Model : SLSD-AB-21-S-x

Slot width (S) : 16 / 20 / 25* mm; No. of Slots (x) : 1 to 8

Construction: Aluminium

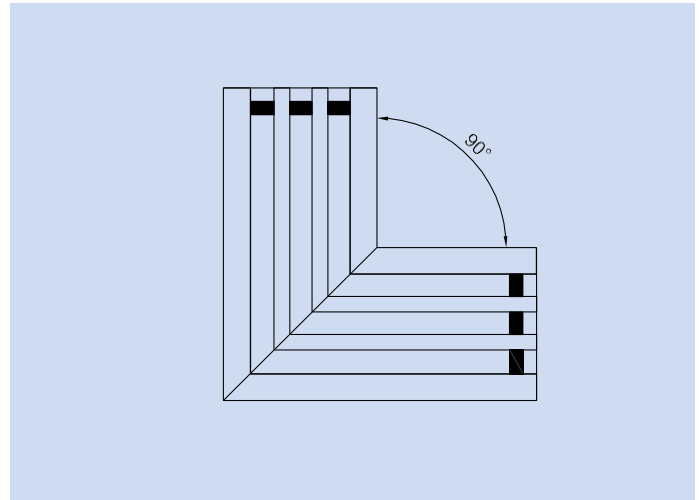
Dimensions for Continuous Section


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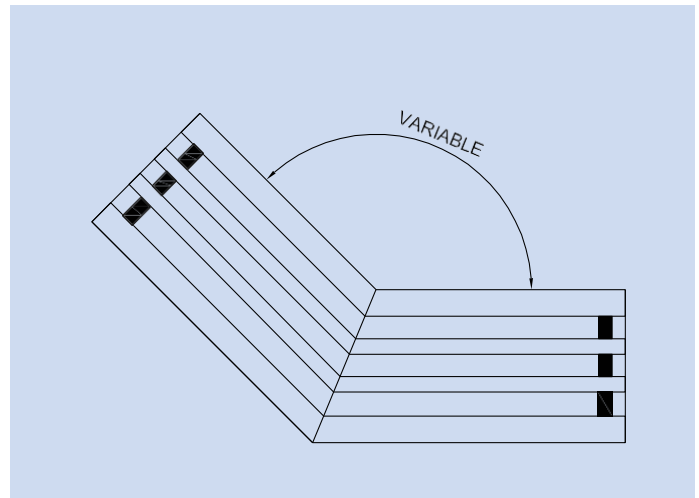


Linear Slot Diffusers ETL - Intertek Tested
B-20 series
Mitered Corners
90° Mitered Corner Section

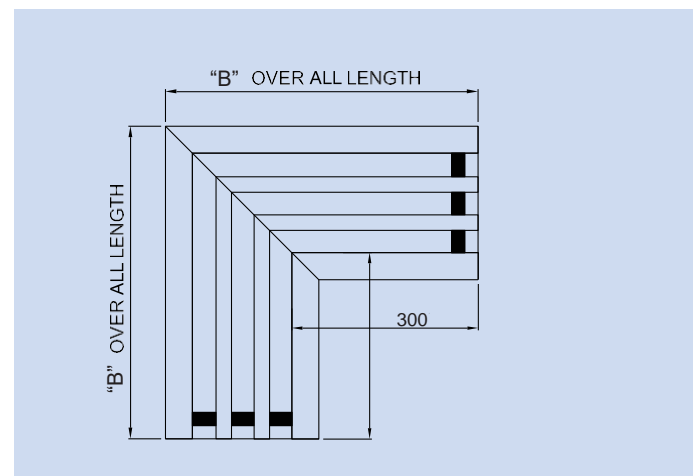
Available for installation in ceiling or sidewall applications, the standard horizontal (flat) mitered corner section includes an angle of 90° and is available for and slot widths of types 25mm Linear Slot Diffusers. The corner section contains 600mm of straight diffuser, 300mm on either side of the miter line. (See across for detail drawings). Normally inactive, corner sections are of one piece welded construction and are supplied with pattern controllers only.


Special Mitered Corners Sections

Available for installation in ceiling or sidewall applications, the special horizontal (flat) mitered corner section includes an angle greater than 90° and less than 180° and is available for of types 25mm Linear Slot Diffusers. Horizontal corner sections are not available for included angles of less than 90°. The corner section contains 300mm of straight diffuser, one foot on either side of the miter line. Normally inactive, corner sections are of one piece welded construction and are supplied with pattern controllers only. These special mitered corner sections are available only for horizontal (flat) installations. The corners are cut to the specified angle and are manufactured within standard industrial tolerances.


90° Mitered Corner Dimensions

No of Slots	16mm	20mm	25mm
1	355	359	364
2	389	397	407
3	423	435	450
4	457	473	493
5	491	511	536
6	525	549	579
7	559	587	622
8	593	625	665



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Linear Slot Diffusers ETL - Intertek Tested
B-20 series
Construction Details and Dimensions
Plenum Box details
Linear Slot Plenums

BETEC CAD's Linear slot plenums are manufactured to suit the full range of linear diffusers from 1 to 8 slots models of **RLSD / SLSD**, for horizontal diffusion of air without change in air volume, pressure or sound level. 100% utilization of diffuser face area, regardless of pattern deflection, gives optimum performance in terms of air handling characteristics. These diffusers have high diffusion induction rates, resulting in rapid temperature and velocity equalization of the mixed air volume, well above the zone of occupancy.

Correct selection and sizing of distribution plenum chambers and neck reducers is critical because terminal air resistance is very low relative to the distribution ductwork resistance. A similar effect results from use of neck reducers with circular duct connections because the reduced duct area will cause generally higher velocities and hence increased risk of noise generation.

Maximum one piece length is 1200mm. Above this length plenums are supplied in multiple sections of even length each provided with an inlet spigot.

Standard Construction
Plenum Chamber

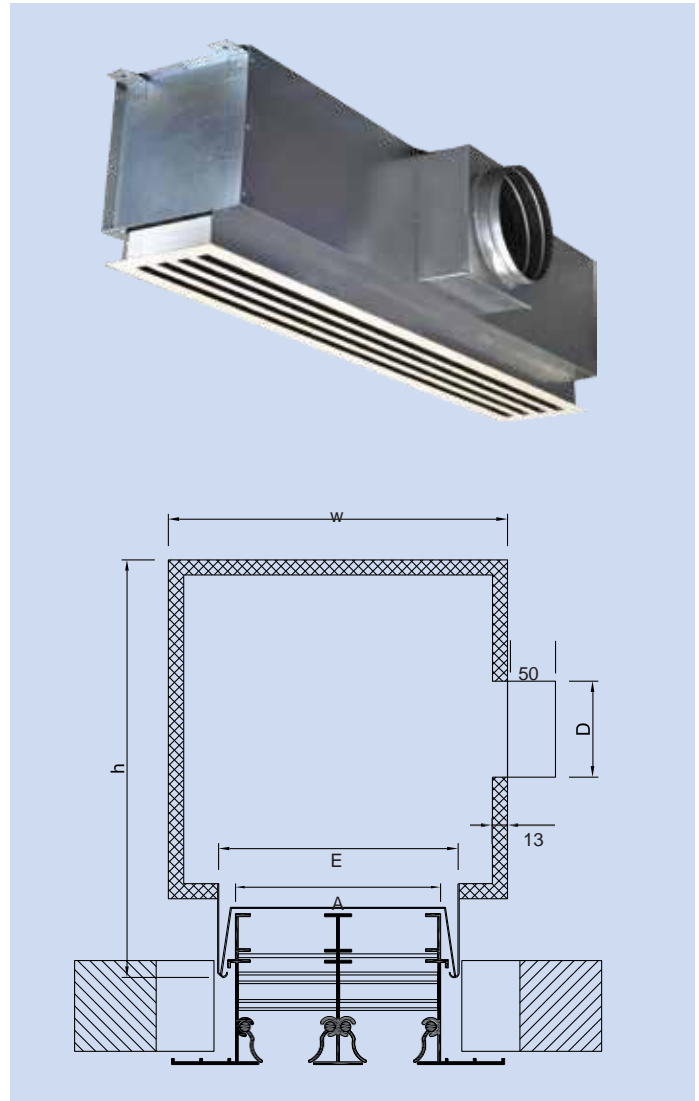
Plenum is available with circular, square or rectangular spigots in either top or side entry applications.

Casing

0.7 mm thick galvanized steel.

Insulation

Acoustic liner of 13 mm thickness, 32 kg/m³ density.


Plenum Box with Insulation

No of Slots	D (mm)	H (mm)	E (mm)	W (mm)
1	150	300	A+10	E+100
2	150	300	A+10	E+100
3	200	350	A+10	E+100
4	250	400	A+10	E+100
5	250	400	A+10	E+100
6	300	450	A+10	E+100
7	300	450	A+10	E+100
8	300	450	A+10	E+100

Note :

A = Slot Diffuser Neck size

Plenum Box without Insulation

No of Slots	D (mm)	H (mm)	E (mm)	W (mm)
1	150	275	A+10	E+50
2	200	275	A+10	E+50
3	200	275	A+10	E+50
4	250	275	A+10	E+50
5	250	275	A+10	E+50
6	315	340	A+10	E+50
7	315	340	A+10	E+50
8	315	340	A+10	E+50

Note :

A = Slot Diffuser Neck size

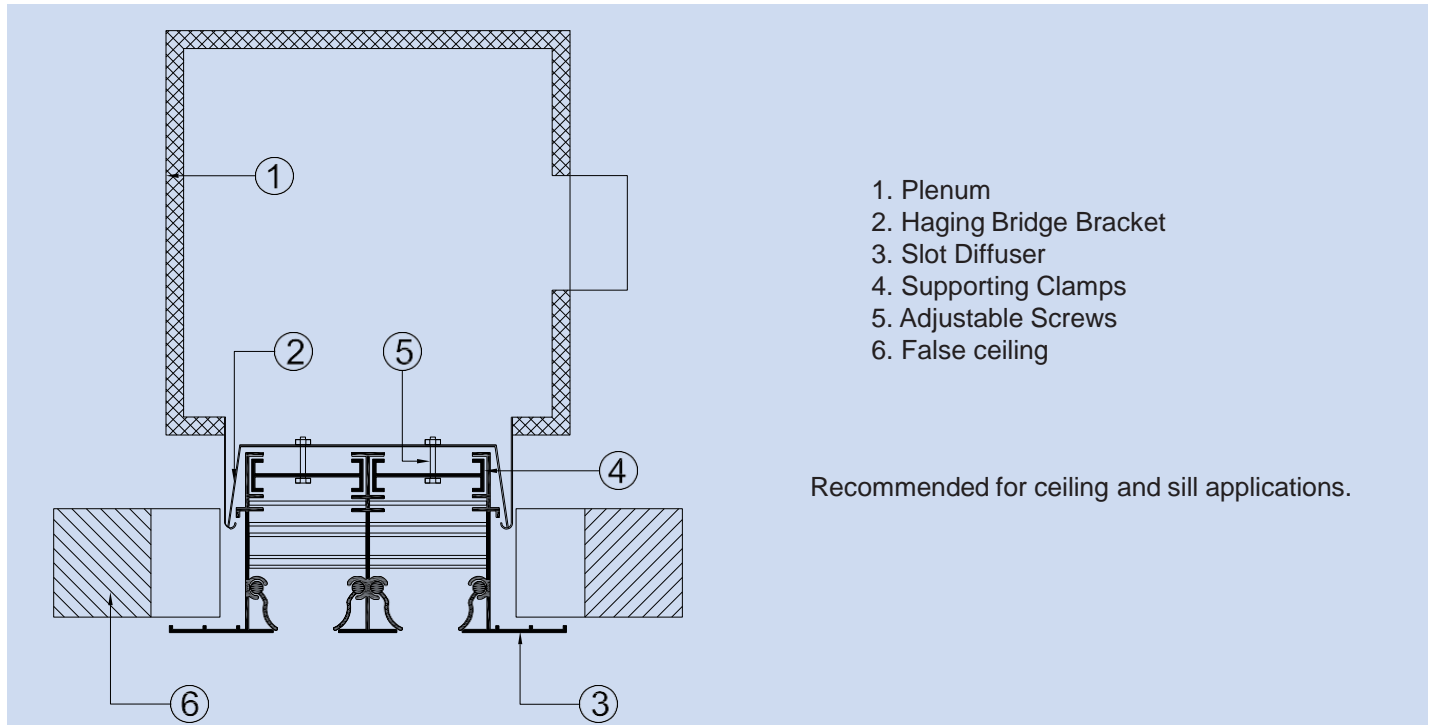
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Linear Slot Diffusers ETL - Intertek Tested

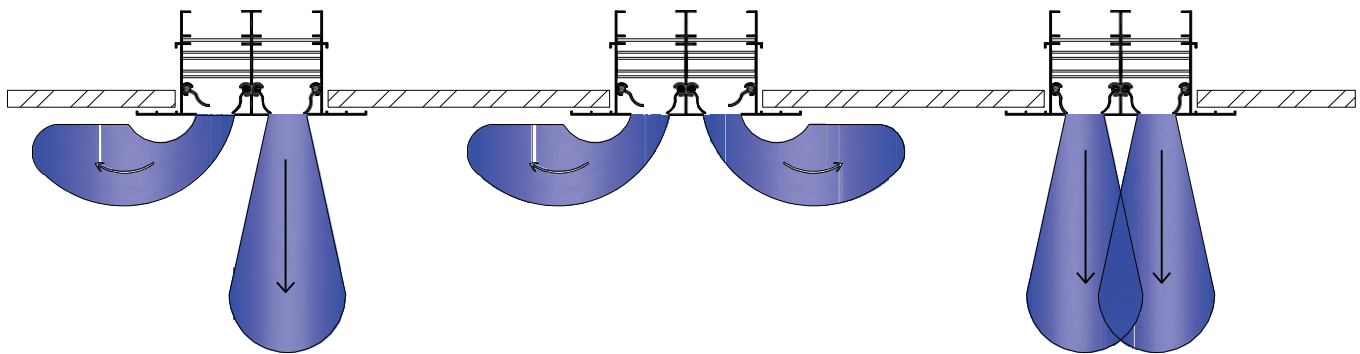
B-20 series

Linear Slot Diffusers Fixing Details



Engineering and performance Data

Possible Combinations of discharging of air by adjusting the deflectors.
 Model : SLSD-AB-21-S-x



50% Horizontal along the ceiling
 50% Vertically downwards

100% Horizontal along the ceiling

100% Vertically downwards

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Linear Slot Diffusers ETL - Intertek Tested
B-20 series
Engineering and performance Data

Supply / Return Linear Slot Diffusers

Supply / Return Linear Slot Diffuser Model: SLSD-AB-20 / RLSD-AB-20												
Neck FPM			250	325	400	475	550	625	700	775	850	925
Slot 1	Ak 0.252	CFM	63	82	101	120	139	158	176	195	214	233
		Ps	0.049	0.083	0.126	0.177	0.237	0.306	0.384	0.471	0.567	0.671
		NC	36	43	49	>50	>50	>50	>50	>50	>50	>50
		Throw	35,<2,<2	34,<2,<2	35,3,<2	36,5,<2	34,4,2	35,6,<2	36,8,2	36,9,7	37,7,5	38,12,9
Slot 2	Ak 0.295	CFM	74	96	118	140	162	184	207	229	251	273
		Ps	0.024	0.041	0.061	0.087	0.116	0.150	0.188	0.231	0.277	0.329
		NC	<15	20	27	32	36	40	44	47	50	>50
		Throw	18,2,<2	22,6,<2	25,9,3	28,12,6	30,14,8	32,16,10	34,17,12	35,19,14	37,20,15	38,22,17
Slot 3	Ak 0.324	CFM	81	105	130	154	178	203	227	251	275	300
		Ps	0.012	0.019	0.029	0.042	0.056	0.072	0.090	0.111	0.133	0.158
		NC	<15	<15	15	20	25	29	32	35	38	40
		Throw	11,3,<2	16,7,2	19,10,4	22,13,7	25,16,9	27,18,12	29,19,14	30,21,15	32,23,17	33,24,18
Slot 4	Ak 0.346	CFM	87	112	138	164	190	216	242	268	294	320
		Ps	0.012	0.020	0.030	0.042	0.056	0.072	0.091	0.111	0.134	0.159
		NC	<15	<15	15	20	24	28	31	34	36	39
		Throw	14,2,<2	16,3,2	17,6,2	18,8,4	19,10,5	20,12,7	21,14,8	21,15,10	22,16,11	22,16,11
Slot 5	Ak 0.365	CFM	91	119	146	173	201	228	256	283	310	338
		Ps	0.024	0.041	0.062	0.087	0.117	0.151	0.190	0.233	0.280	0.331
		NC	<15	21	26	30	34	37	40	43	45	47
		Throw	27,<2,<2	22,<2,<2	19,<2,<2	16,<2,<2	12,<2,<2	11,<2,<2	10,2,<2	8,<2,<2	7,<2,<2	8,4,<2
Slot 6	Ak 0.384	CFM	93	123	153	183	213	243	273	303	330	364
		Ps	0.024	0.041	0.061	0.087	0.116	0.15	0.188	0.231	0.272	0.299
		NC	<15	18	21	25	27	30	33	36	40	44
		Throw	24,<2,<2	22,<2,<2	19,<2,<2	18,8,4	12,<2,<2	11,<2,<2	10,2,<2	8,<2,<2	7,<2,<2	8,4,<2
Slot 7	Ak 0.402	CFM	95	127	159	191	223	255	287	319	351	383
		Ps	0.024	0.041	0.061	0.087	0.116	0.15	0.188	0.231	0.277	0.299
		NC	<15	19	22	26	29	32	36	39	42	46
		Throw	20,<2,<2	21,<2,<2	22,13,7	25,16,9	27,18,12	29,19,14	30,21,15	32,23,17	33,24,18	34,24,19
Slot 8	Ak 0.424	CFM	97	132	167	202	237	272	307	342	377	412
		Ps	0.012	0.02	0.03	0.042	0.056	0.072	0.091	0.111	0.134	0.148
		NC	45	20	23	27	30	33	36	39	42	47
		Throw	25,<2,<2	27,<2,<2	30,14,8	32,16,10	34,17,12	35,19,14	37,20,15	38,22,17	40,22,18	41,22,19

NC adjustment for various diffuser lengths, meters.

Length	0.5	1.0	1.5	2.0	3.0
NC	-3	0	+2	+3	+5

Note :

1. Airflow is measured in cubic feet/ minute (CFM).
2. Static Pressure (Ps) is measured in inch water guage (in. w.g).
3. Noise criteria (NC) is measured in decibals (dB).
4. Neck velocity is measured in feet/minute (fpm).
5. Throw is measured in feet (Ft).
6. Area factor (Ak) is measured in square meter (m²).

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