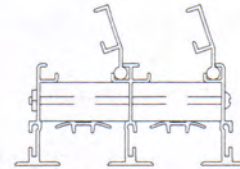
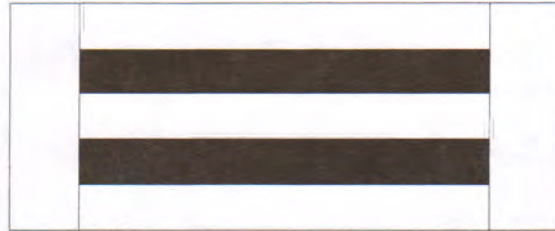


PRODUCT DESCRIPTION

Reliable Slot Diffusers are designed for ceiling, sidewall or sill installation. Direction changes up to 180° are possible by lateral adjustments of the extruded aluminum black-coated pattern controller to meet changing requirements without changing NC level, static pressure resistance (Ps) effective outlet area (Ak) or face appearance of the diffusers. Its reliable performance assures confident use of cooling temperature differentials up to 25° F at predicted low air motion (35 fpm) in the zone of occupancy. Reliable Slot Diffusers perform efficiently with air loadings of 1 to 3 cfm per square foot of floor area or 6 to 18 air changes per hour (based on 10-foot ceiling height) at a sound level range of NC 25 to 35.

**9400 SLOT**

Fabricated of high quality anodized aluminum extrusions, Reliable Linear Slot Diffusers are also available in white baked enamel finish. Structural components are mechanically interlocked and bolted together, with keyway and splines to form continuous lengths. Spring loaded volume dampers are furnished in each slot; accessible through the slot opening, they may be used to adjust and equalize air flow along the diffuser or to internally blank-off dummy sections in continuous lengths. One-piece mitered corner sections are available.

Reliable Slot Diffusers can be specified for surface mounting using face screw mounting holes in the outer frame borders, or by utilizing a concealed mounting system of leveling screws and mounting brackets which fit in a hemmed duct collar or a subframe. When mounting brackets are used, pattern controllers and dampers are shortened to give access to leveling screws through the diffuser face, with adjustable cover strips provided to preserve the one-piece appearance of the pattern controllers. Two auxiliary subframes are available for flush, plaster or tile ceiling applications. The pattern controller and damper are omitted from return air or exhaust diffusers to provide maximum air capacity.

Continuous runs are available in virtually any length; however, the maximum length of an individual unit is limited to 72". Unless otherwise specified, the factory reserves the right to determine individual unit lengths comprising a continuous run installation.

HOW TO MEASURE:

Surface mount (SM) units should be specified by the standard nominal (neck) dimension. For TeeBar Lay-in (TB) or Concealed Spline (CS) applications, specify the ceiling module size. Continuous runs (other than straight lengths) must always include a sketch showing configuration of units, mitered corners with degree of miter, end caps, etc.

TABLE 2 CONTINUOUS DIFFUSER LENGTH FACTORS

Modify Table 1 by factors for diffuser lengths above 4 feet.

Diffuser Length	THROW (T)			NC
	Ceiling Min.-Max.	Sidewall Min.-Max.	Sill Min.-Max.	
4'-6'	No change			+ 0
7'-20'	T x 1.10			+ 5
21'-100'	T x 1.15			+ 10

TABLE 3 SUPPLY AIR TEMPERATURE FACTORS

Multiply Throw in Table 1 (or factor in Table 2 if used) by listed value.

Sidewall Ceiling Sill	@ -20F ΔT	@ -0F ΔT	@ +25F ΔT
		T x 1.0	T x 1.1

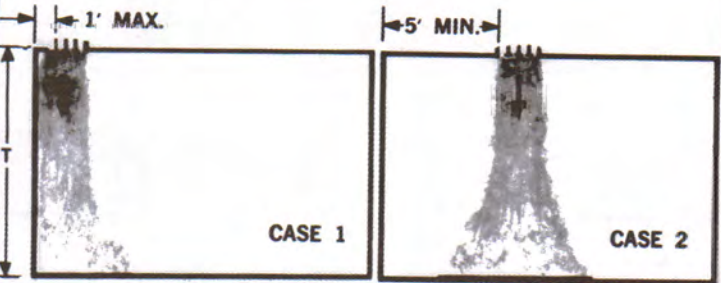
TABLE 4 SUPPLY DIFFUSER AREAS Per Foot of Length

	No. of Slots									
	1	2	3	4	5	6	7	8	9	10
A _k Area	.04	.06	.09	.12	.15	.18	.21	.24	.27	.30
A _N Area	.17	.33	.50	.67	.83	1.00	1.17	1.33	1.50	1.67

A_k constant for horizontal 1-way, 2-way and vertical pattern.

CFM = A_k x length in feet x V_k

TABLE 5 VERTICAL DOWN-THROW and Supply Temperature Factors



Multiply Throw-Sidewall in Table 1 (or factor in Table 2 if used) by listed value.

	@ -20F ΔT Cooling	@ -0F ΔT Ventilating	@ +25F ΔT Heating
Case 1	T x 1.0	T x .90	T x .60
Case 2	T x .70	T x .60	T x .40

SYMBOLS

- V_k Outlet Velocity in FPM
- A_k Outlet Area in Sq. Ft.
- A_N Neck Area in Sq. Ft.
- NC re 10db Room Attenuation
- T Throw in Feet
- ΔT Temperature Differential

TABLE 6 RETURN AIR CFM Per Foot of Length

No. of Slots	A _k Area	NC 20-25 Application Non-Ducted		NC 30 Application Ducted		NC 35-40 Application Ducted	
		- .02" Ps	- .03" Ps	- .08" Ps	- .10" Ps	- .15" Ps	- .20" Ps
		CFM	CFM	CFM	CFM	CFM	CFM
1	.06	35	43	70	80	95	110
2	.11	70	85	140	155	190	220
3	.17	105	130	210	235	285	330
4	.23	140	170	280	310	380	440
5	.28	175	215	350	390	475	550
6	.33	210	255	420	465	570	660
7	.39	245	300	490	545	665	770
8	.44	280	340	560	620	760	880
9	.50	315	385	630	700	855	990
10	.55	350	425	700	775	950	1100

Capacity based on diffuser without pattern controller. When pattern controller is used, cfm capacities are reduced by 65% at listed Ps, NC, and A_k.

NOTES:

- a. Table 1 based on 4-foot diffuser length. For longer lengths, correct throw and NC per Table 2.
- b. For 2-way ceiling throw, proportion cfm and number of slots in each direction of T and select from 1-way data, Table 1.
- c. When using continuous diffuser lengths with alternating active and inactive sections, a reduction in throw can be obtained by omitting the factors contained in Table 2.
- d. Ps constant for horizontal 1-way, 2-way, and vertical pattern adjustment.
- e. Supply air temperature effect on horizontal throw is shown in Table 3. Vertical throw at varying supply air temperatures is shown in Table 5.
- f. Terminal velocities (V_T) at the minimum and maximum throw (T) positions are rated at 150 fpm and 100 fpm respectively with corresponding room velocities (V_R) of 50 fpm and 35 fpm.

TABLE 1 SUPPLY AIR

CFM Per Foot In Direction of T	No. of Slots	Min. Ps In H ₂ O	Outlet Velocity (V _k) FRM	Throw (T) in Feet			Minimum Ceiling Height in Feet		NC		
				Ceiling	Sidewall	Sill	@ -18F T	@ -25F T			
				Min.-Max.	Min.-Max.	Min.-Max.					
20	1	.02	500	6-8	4-7	1-2	8	9	<20		
30	1	.03	750	9-13	7-10	2-3	9	10	<20		
	2	.02	500	7-9	5-7	1-2			<20		
40	1	.06	1000	10-14	9-14	4-6	9	11	20		
	2	.03	670	8-10	6-9	2-3			<20		
50	1	.09	1250	12-15	10-14	3-5	9½	11	25		
	2	.04	835	10-14	8-12	3-4			20		
	3	.02	555	9-11	7-10	2-3			<20		
60	2	.06	1000	18-15	9-13	4-6	9½	12	20		
	3	.03	665	10-13	7-11	2-4			<20		
	4	.02	500	8-11	6-9	2-3			<20		
70	2	.09	1165	13-17	11-15	5-8	10	12	25		
	3	.04	780	11-16	9-14	4-6			20		
	4	.02	585	10-14	7-11	3-4			<20		
80	2	.11	1335	15-19	14-17	6-10	10½	12½	25		
	3	.05	890	12-17	10-14	4-7			20		
	4	.03	665	10-14	8-12	3-5			<20		
	5	.02	533	9-13	7-11	2-4					<20
90	3	.06	1000	14-19	11-17	5-10	11	13	25		
	4	.04	750	13-18	11-15	4-8			20		
	5	.02	600	12-16	10-14	3-7			20		
	6	.02	500	11-15	9-13	3-6			<20		
100	3	.08	1110	16-21	14-20	7-12	11	13	25		
	4	.04	835	15-20	13-18	6-11			25		
	5	.03	665	14-18	12-16	5-9			20		
	6	.02	555	13-17	11-15	4-8			<20		
120	3	.11	1335	18-25	16-22	8-13	11½	13	25		
	4	.06	1000	17-24	15-20	7-13			25		
	5	.04	800	16-23	14-21	6-12			20		
	6	.03	665	15-21	13-19	5-11			20		
	7	.02	570	14-20	12-17	4-10			<20		
140	4	.09	1165	18-25	16-21	8-15	11½	14	25		
	5	.05	935	18-26	16-22	8-14			25		
	6	.04	780	17-25	15-22	7-14			20		
	7	.03	665	16-23	14-20	6-12			20		
	8	.02	585	15-20	13-20	5-10			<20		
160	4	.11	1335	19-27	17-24	10-16	12	15	30		
	5	.07	1065	18-26	16-23	8-15			30		
	6	.05	890	17-25	15-22	7-14			25		
	7	.04	760	16-23	14-20	6-12			25		
	8	.03	665	15-20	13-18	5-10			20		
	9	.02	590	14-19	12-17	4-9			<20		
180	5	.09	1200	20-30	18-27	10-19	12	15	30		
	6	.06	1000	19-28	17-25	9-17			30		
	7	.05	850	18-26	16-23	8-15			25		
	8	.04	750	16-24	14-21	6-13			20		
	9	.03	665	15-21	13-19	5-11			<20		
	10	.02	600	14-19	12-18	4-10			<20		
200	5	.11	1335	23-33	20-30	12-21	12	15	30		
	6	.08	1110	21-32	19-29	10-20			25		
	7	.06	950	20-31	18-27	9-18			25		
	8	.04	835	18-27	16-24	8-16			20		
	10	.03	740	17-26	15-23	6-14			20		
250	6	.12	1390	24-35	21-31	—	13	15	30		
	7	.09	1190	23-34	20-30	—			30		
	8	.07	1040	21-32	19-28	—			25		
	9	.05	925	20-31	18-27	—			25		
	10	.04	833	19-30	17-26	—			20		
300	7	.13	1430	25-40	23-35	—	13	16	30		
	8	.10	1250	24-36	22-32	—			30		
	9	.08	1110	23-34	20-30	—			25		
	10	.06	1000	22-32	19-28	—			25		
350	8	.13	1460	27-47	24-43	—	14	16	35		
	9	.11	1300	26-45	23-41	—			35		
	10	.09	1165	25-42	22-39	—			30		

