

RIGID

LINEAR SOLT DIFFUSERS



SALIENT FEATURES OF RIGID LINEAR SLOT DIFFUSERS

Material and construction:

Outer frame and inner frame are extruded aluminium sections(6063 alloy-T6 temper)cut to length and joined.

Slot blades are made of extruded aluminium section(6063 alloy-T6 temper)

They are suitable for supply and return air distribution in all air handling applications.

They are suitable for false ceiling

RIGID brand Linear slot diffusers are available in 1 to 6 slots and in slot widths of 16mm, 20mm and 25mm.

These slot diffusers are generally used in room with heights approximately 2.5m to 4.0m for supply or return air.

This slot diffuser provides a stable discharge and can be used for constant or variable volume air flows.

Air flow rate control is provided by an integral flow straightener and hit and miss damper adjustable from diffuser face.

Slot arrangement will provide 180 deg adjustable air diffusing patterns.

The table below give the dimensions of slot diffusers with reference to no of slots and slot width

No of Slots	16 mm slot width		20 mm slot width		25 mm slot width	
	Neck Dn mm	Frame Do mm	Neck Dn mm	Frame Do mm	Neck Dn mm	Frame Do mm
1	40	80	44	84	49	89
2	74	114	82	122	92	132
3	108	148	120	160	135	175
4	142	182	158	198	178	218
5	176	216	196	236	221	261
6	210	250	234	274	264	304

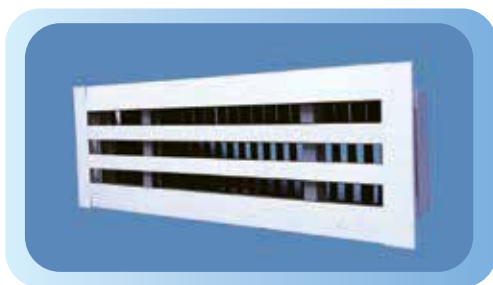


fig 11-1

Construction Details

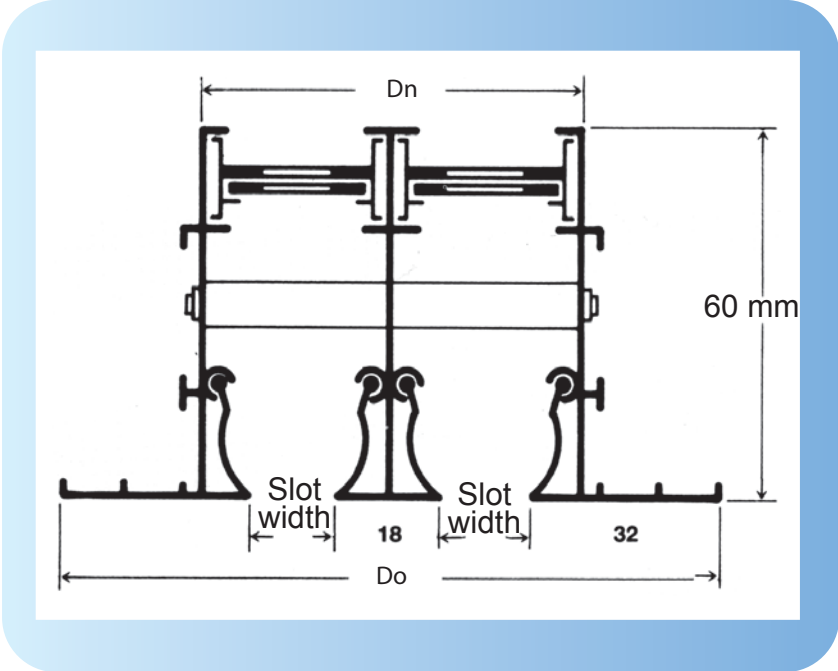


fig 11-2

CORNERS FOR USE WITH LINEAR SLOT DIFFUSER

Ceiling mounted corners available in 90 deg and 135 deg as shown in fig. 11.3 & 11.4

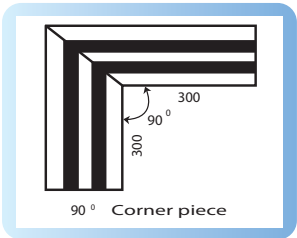


fig 11-3

90 deg corner ceiling mounted

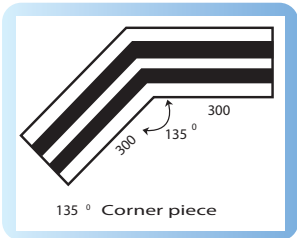


fig 11-4

135 deg corner ceiling mounted

CURVED SLOT DIFFUSER

RIGID brand curved slot diffusers are available, to fix on false ceilings (Horizontal Plane)
 These slot diffusers are not suitable for wall mounting
 Minimum radius of curvature is 1000mm. Curved diffusers are fabricated as per the customer specification.



fig 11-5

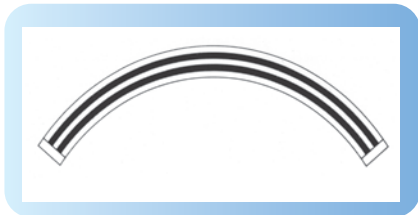


fig 11-6



fig 11.7

TABLE RIGID 6a SELECTION TABLES FOR LINEAR SLOT DIFFUSER

SLOT WIDTH = 16mm									
NO OF SLOTS	Effective area	Air volume		Total pressure		Throw at terminal velocity of			Noise criteria
						0.75 m/s	0.5 m/s	0.25 m/s	
	m2	LPS/m	CFM/ft	Pascals	mm of water	m	m	m	
1	0.0056	30	19	20.0	2.0	3.6	5.4	7.8	21
		40	26	36.0	3.7	5.4	6.0	9.6	26
		50	32	56.0	5.7	6.0	7.2	11.4	33
		75	48	127.0	13.0	7.2	9.0	14.4	46
2	0.0112	40	26	10.0	1.0	3.6	4.8	8.4	<20
		50	32	16.0	1.6	4.8	6.6	10.2	21
		75	48	35.0	3.6	6.6	8.4	13.2	33
		100	65	62.0	6.3	7.8	10.2	15.6	42
3	0.0168	50	32	7.0	0.7	3.6	6.0	8.4	<20
		75	48	16.0	1.6	5.4	8.4	12.0	22
		100	65	29.0	3.0	7.2	9.6	15.0	30
		125	81	44.0	4.5	9.0	11.4	16.8	37
		150	97	62.0	6.3	10.2	12.6	19.2	43
4	0.0224	75	48	10.0	1.0	4.2	7.2	12.0	<20
		100	65	15.0	1.5	6.6	9.0	14.4	23
		125	81	27.0	2.8	7.8	11.4	16.2	31
		150	97	40.0	4.1	9.6	12.0	18.0	38
		200	129	70.0	7.1	12.0	14.4	20.4	44
5	0.028	100	65	11.0	1.1	4.8	7.2	13.8	<20
		125	81	19.0	1.9	6.6	10.8	16.2	23
		150	97	26.0	2.7	8.4	12.0	17.4	32
		200	129	46.0	4.7	11.4	14.4	20.4	39
		250	162	72.0	7.3	13.2	16.8	25.2	44
6	0.0336	125	81	12.0	1.2	5.4	9.6	16.2	<20
		150	97	19.0	1.9	7.8	11.4	17.4	25
		200	129	32.0	3.3	10.8	14.4	20.4	34
		250	162	51.0	5.2	12.6	16.2	24.0	41
		300	194	72.0	7.3	14.4	17.4	26.4	46

Conditions: Noise criteria is based on 10dB room attenuation Data basis is 1000mm length of linear slot diffuser

TABLE RIGID 6b SELECTION TABLES FOR LINEAR SLOT DIFFUSER

SLOT WIDTH = 20mm									
NO OF SLOTS	Effective area	Air volume		Total pressure		Throw at terminal velocity of			Noise criteria
						0.75 m/s	0.5 m/s	0.25 m/s	
	m ²	LPS/m	CFM/ft	Pascals	mm of water	m	m	m	
1	0.007	30	19	16.0	1.6	3.0	4.5	6.5	17
		40	26	29.0	3.0	4.5	5.8	8.0	22
		50	32	45.0	4.6	5.0	6.0	9.5	29
		75	48	102.0	10.4	6.0	7.5	12.0	42
2	0.014	40	26	8.0	0.8	3.0	4.0	7.0	<15
		50	32	13.0	1.3	4.0	5.5	8.5	17
		75	48	28.0	2.9	5.5	7.0	11.0	29
		100	65	50.0	5.1	6.5	8.5	13.0	38
3	0.021	50	32	6.0	0.6	3.0	5.0	7.0	<15
		75	48	13.0	1.3	4.5	7.0	10.0	18
		100	65	23.0	2.3	6.0	8.0	12.5	26
		125	81	35.0	3.6	7.5	9.5	14.0	33
		150	97	50.0	5.1	8.5	10.5	16.0	39
4	0.029	75	48	8.0	0.8	3.5	6.0	10.0	<15
		100	65	14.0	1.4	5.5	7.5	12.0	19
		125	81	22.0	2.2	6.5	9.5	13.5	27
		150	97	32.0	3.3	8.0	10.0	15.0	39
		200	129	56.0	5.7	10.0	12.0	17.0	40
5	0.036	100	65	9.0	0.9	4.0	6.0	12.0	<15
		125	81	15.0	1.5	5.5	9.0	13.5	19
		150	97	21.0	2.1	7.0	10.0	14.5	28
		200	129	37.0	3.8	9.5	12.0	17.0	35
		250	162	58.0	5.9	11.0	14.0	21.0	40
6	0.042	125	81	10.0	1.0	4.5	8.0	13.5	<15
		150	97	15.0	1.5	6.5	9.5	14.5	21
		200	129	26.0	2.7	9.0	12.0	17.0	30
		250	162	41.0	4.2	10.5	13.5	20.0	37
		300	194	58.0	5.9	12.0	14.5	22.0	42

Conditions: Noise criteria is based on 10dB room attenuation Data basis is 1000mm length of linear slot diffuser

TABLE RIGID 6c SELECTION TABLES FOR LINEAR SLOT DIFFUSER

SLOT WIDTH = 25mm									
NO OF SLOTS	Effective area	Air volume		Total pressure		Throw at terminal velocity of			Noise criteria
						0.75 m/s	0.5 m/s	0.25 m/s	
	m ²	LPS/m	CFM/ft	Pascals	mm of water	m	m	m	
1	0.009	30	19	13.0	1.3	2.4	3.6	5.2	<15
		40	26	23.0	2.3	3.6	4.0	6.4	19
		50	32	36.0	3.7	4.0	4.8	7.6	26
		75	48	82.0	8.4	4.0	6.0	9.6	39
2	0.018	40	26	6.0	0.6	2.4	3.2	5.6	<15
		50	32	10.0	1.0	3.2	4.4	6.8	<15
		75	48	22.0	2.2	4.4	5.6	8.8	26
		100	65	40.0	4.1	5.2	6.8	10.4	35
3	0.027	50	32	5.0	0.5	2.4	4.0	5.6	<15
		75	48	10.0	1.0	3.6	5.6	8.0	15
		100	65	18.0	1.8	4.8	6.4	10.0	23
		125	81	28.0	2.9	6.0	7.6	11.2	30
		150	97	40.0	4.1	6.8	8.4	12.8	36
4	0.036	75	48	6.0	0.6	2.8	4.8	8.0	<15
		100	65	11.0	1.1	4.4	6.0	9.6	16
		125	81	18.0	1.8	5.2	7.6	10.8	24
		150	97	26.0	2.7	6.4	8.0	12.0	31
		200	129	45.0	4.6	8.0	9.6	13.6	37
5	0.045	100	65	7.0	0.7	3.2	4.8	9.6	<15
		125	81	12.0	1.2	4.4	7.2	10.8	16
		150	97	17.0	1.7	5.6	8.0	11.6	25
		200	129	30.0	3.1	7.6	9.6	13.6	32
		250	162	47.0	4.8	8.8	11.2	16.8	37
6	0.054	125	81	8.0	0.8	3.6	6.4	10.8	<15
		150	97	12.0	1.2	5.2	7.6	11.6	18
		200	129	21.0	2.1	7.2	9.6	13.6	27
		250	162	33.0	3.4	8.4	14.3	16.0	34
		300	194	46.0	4.7	9.6	11.6	17.6	39

Conditions: Noise criteria is based on 10dB room attenuation Data basis is 1000mm length of linear slot diffuser