

Contents: *(click on page links below)*

General Data	1
Performance Data	3
Suggested Spec	10
Accessories	11



AUCKLAND
ph 09 279 5250
fax 09 275 5637
sales@temperzone.co.nz

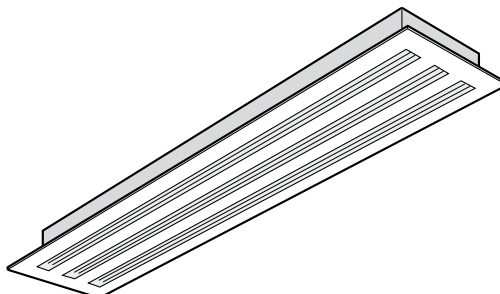
WELLINGTON
ph 04 569 3262
fax 04 566 6249
wgtn@temperzone.co.nz

CHRISTCHURCH
ph 03 379 3216
fax 03 379 5956
chch@temperzone.co.nz

HEAD OFFICE (Auckland)
38 Tidal Road, Mangere, Auckland 2022, NZ
Private Bag 93303, Otahuhu, Auckland 1640, NZ

LINEAR SLOT DIFFUSER

Series 1900-75B, 1900-100B



General

Fully adjustable linear slot supply/return air diffuser, suitable for sidewall or ceiling mounting. Available with 1 to 8 slots and a choice of two slot widths. Standard manufacture is continuous (butt-jointed), or closed end (end cap) sections. Mitred corners are available for special installations.

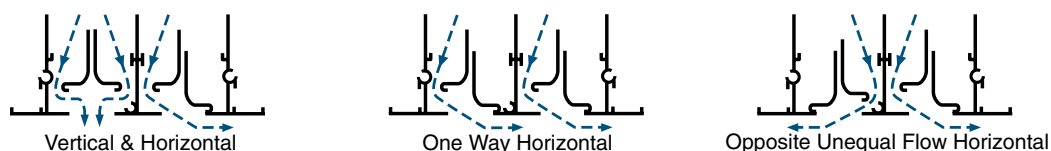
Design

The deflection vanes are designed to provide the dual functions of air pattern and air volume control. Air can be deflected horizontally along the ceiling, vertically down, or at any intermediate setting. Combinations of horizontal, vertical, left or right air patterns can be achieved with multi-slot diffusers. Air volume is controlled without the use of additional dampers, and without changing the air pattern.

The frame profiles have a maximum thickness of 2.5 mm, providing matching appearance to most suspended ceiling systems, and minimum projection below solid panel ceilings. Continuous diffusers are butt-jointed on site with non-visible alignment bars and/or pins provided.

Series 1900-75B has 19 mm slot openings; Series 1900-100B has 25 mm slot openings.

Air pattern / air volume adjustments are made by simple up or down movement of the deflecting vanes, allowing air volume to be controlled without disturbing the air pattern. Typical two slot vane settings are shown below.



Sizes

Available from 1 to 8 slots wide, 19 mm or 25 mm slot widths.

Maximum single piece length 2.4 metre. Longer diffusers are butt-jointed.

Finishes

Standard finish is gloss powder coat. Deflection vanes and internal parts are usually black powder coated. Alternative colours and finishes are available.

Construction

Frame and vanes are of corrosion resistant aluminium construction.

Accessories

Optional diffuser plenums (boots) are available:

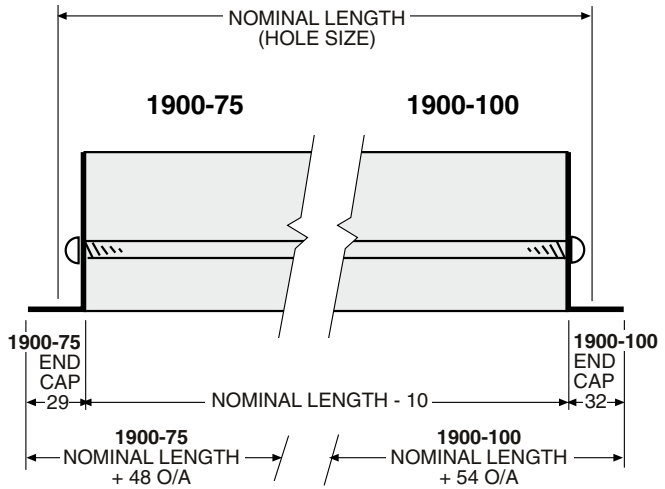
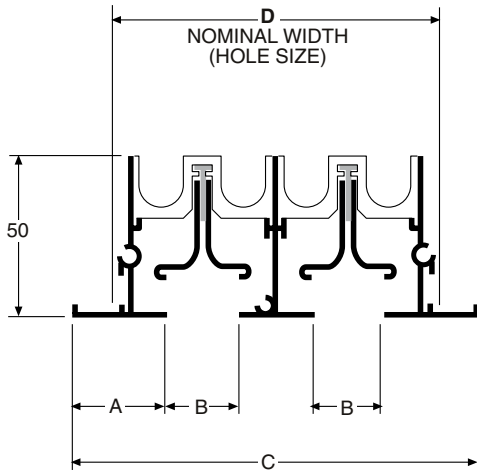
TBSI = internal 13 mm thick insulation (foam or fibreglass).

TBS = uninsulated

Dimensions (mm)

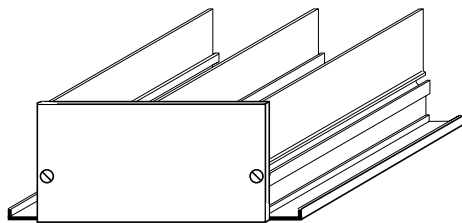
LINEAR SLOT DIFFUSER

Series 1900

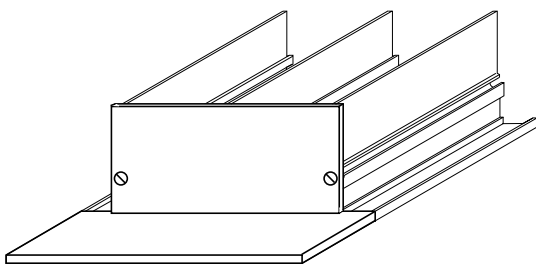


Model	No. Slots	1900-75				1900-100			
		A	B	C	D	A	B	C	D
1901	1	29	19	76	50	32	25	90	64
1902	2	29	19	114	88	32	25	140	114
1903	3	29	19	153	127	32	25	191	165
1904	4	29	19	191	165	32	25	242	216
1905	5	29	19	229	203	32	25	292	266
1906	6	29	19	267	241	32	25	343	317
1907	7	29	19	305	279	32	25	394	368
1908	8	29	19	343	317	32	25	445	419

End Caps

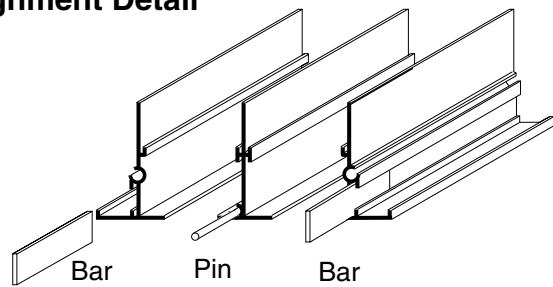


ECO - End Cap without flange

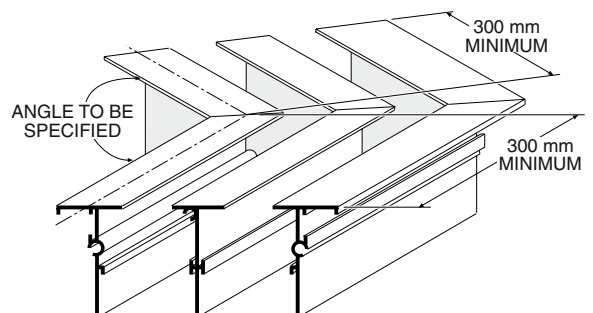


EC - End Cap with flange

Alignment Detail



Mitred Corners for Ceiling Applications



LINEAR SLOT DIFFUSER

Series 1900 Performance Data

General

All Series 1900 performance data is presented for diffusers with deflection vanes fitted.

Pressure Values

Pressure values are positive for Supply Air duty and negative for Return Air duty. The tabulated values are diffuser static pressure values only and do not include an allowance for plenum static pressure.

An approximation of the total Static Pressure required for an active diffuser section with plenum can be calculated by the addition of the diffuser Static Pressure and the calculated Velocity Pressure through the plenum inlet duct.

Example:

Air Volume: 100 l/s
 Diffuser 1902-100: 1 m length, horizontal air pattern
 Horizontal Static Pressure: 26 Pa by interpolation from data table
 Plenum Inlet Duct: 200 mm diameter
 To calculate the inlet duct Velocity Pressure, determine the inlet velocity from a duct sizing chart.
 In this example: velocity through 200 dia. duct = 3.3 m/s

$$\text{Velocity Pressure, } P_v = \left[\frac{v}{1.286} \right]^2 = \left[\frac{3.3}{1.286} \right]^2 = 2.6^2 \approx 7 \text{ Pa}$$

$$\begin{aligned} \text{Total Static Pressure required} &\approx \text{Static Pressure} + \text{Inlet Velocity Pressure} \\ &\approx 26 \text{ Pa} + 7 \text{ Pa} = 33 \text{ Pa} \end{aligned}$$

Sound Levels

Sound levels given are NC, based on a room attenuation of 10 dB (SWL re 10^{-12} watts).

Add the correction factors below to determine sound levels for the following lengths:

Active Length (m)	0.6	0.9	1.2	1.5	1.8	2.1	2.4
NC Correction	-3.0	-1.5	0	+1.0	+1.5	+2.5	+3.0

It is recommended that the inlet duct velocity be limited to a maximum of 4.0 m/s to avoid the possibility of sound regeneration within the plenum.

Throw

Throw data is presented with all slots supplying air in the same direction.

Throw values are at terminal velocities of 0.50 m/s (minimum) and 0.25 m/s (maximum).

Horizontal (H) air projection data is for diffusers installed in a ceiling.

Vertical (V) air projection data is for diffusers installed in a: (i) ceiling, or (ii) sidewall with horizontal projection.

Opposite two-way throw may be determined by using tabled **throw data x 0.8** for the design quantity of air from the number of slots in each direction.

Multiply by the correction factors below to determine throws for various section lengths.

Active Length (m)	0.3	0.6	1.2	2.4	3.6
Throw Correction	0.6	0.8	1.0	1.4	1.8

Example:

Determine throw for a 2.4 m long **1903-100** diffuser, for a total supply air volume of 500 l/s, split 380 l/s and 120 l/s in opposite horizontal directions.

Throw for 2 slots @ 380 l/s

Air volume in l/s/m = l/s ÷ 2.4 m:

Tabled throw range (by interpolation):

Throws for 2 way air pattern (factor 0.8):

Throws for 2.4 m length (factor 1.4):

Throw for 1 slot @ 120 l/s

158 l/s/m

8.8 m - 12.6 m

7.0 m - 10.0 m

9.8 m - 14.0 m

50 l/s/m

4.8 m - 6.9 m

3.8 m - 5.5 m

5.3 m - 7.7 m

Performance Data

LINEAR SLOT DIFFUSER

Series 1900-75 : Supply Air

No. of Slots	Horiz. Static Press. Pa	3	10	20	30	40	50	60	80	100	125
	Vertical Static Press. Pa	1.25	5	9	13	18	22	27	36	43	54

1	Volume l/s per m.		12	22	30	36	42	47	51	59	65	73
	H	Throw m	1.5 - 3.0	1.2 - 2.8	3.7 - 5.5	4.3 - 5.8	4.6 - 6.4	4.9 - 6.7	4.9 - 7.0	5.2 - 7.6	5.5 - 7.9	5.8 - 8.2
		N.C.	< 20	< 20	< 20	24	27	30	33	37	40	44
	V	Throw m	0.3 - 1.8	1.5 - 4.6	2.7 - 6.4	3.7 - 7.3	4.3 - 7.9	4.9 - 8.5	5.5 - 8.9	6.1 - 9.5	6.7 - 9.8	7.3 - 10.4
N.C.		< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	20	23	
2	Volume l/s per m.		23	42	59	73	84	93	100	120	130	145
	H	Throw m	2.1 - 4.3	3.7 - 6.4	5.2 - 7.6	5.8 - 8.2	6.4 - 8.8	6.7 - 9.5	7.0 - 9.8	7.6 - 10.7	7.9 - 11.3	8.5 - 11.9
		N.C.	< 20	< 20	22	27	30	33	36	40	43	47
	V	Throw m	0.6 - 2.1	1.8 - 6.1	3.7 - 8.9	5.5 - 10.4	6.4 - 11.3	7.0 - 11.9	7.6 - 12.5	8.9 - 13.4	9.8 - 14	10.7 - 15.0
N.C.		< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	20	23	26
3	Volume l/s per m.		34	62	88	110	125	140	150	175	190	220
	H	Throw m	2.4 - 4.9	4.5 - 7.6	6.4 - 9.1	7.3 - 10.0	7.6 - 11.0	8.2 - 11.6	8.5 - 12.2	9.1 - 13.1	9.5 - 13.4	10.4 - 14.6
		N.C.	< 20	< 20	24	29	32	35	37	42	45	48
	V	Throw m	0.6 - 2.7	2.1 - 7.6	4.6 - 10.7	6.7 - 12.8	7.6 - 13.7	8.5 - 14.6	9.1 - 15.3	10.7 - 16.5	11.6 - 16.8	13. - 18.3
N.C.		< 20	< 20	< 20	< 20	< 20	< 20	< 20	22	24	28	
4	Volume l/s per m.		46	82	120	145	165	185	205	235	265	295
	H	Throw m	2.7 - 5.8	5.2 - 8.9	7.6 - 10.7	8.2 - 11.9	8.9 - 12.8	9.5 - 13.4	9.8 - 14.0	10.7 - 15.0	11.3-15.9	11.9 - 16.8
		N.C.	< 20	< 20	26	30	33	36	39	43	46	50
	V	Throw m	0.9 - 3.0	2.7 - 8.9	5.5 - 12.5	7.6 - 14.6	8.9 - 15.9	9.8 - 16.8	10.7 - 17.4	12.5 - 18.9	14.0 - 19.8	15 - 21
N.C.		< 20	< 20	< 20	< 20	< 20	< 20	< 20	20	24	27	30
5	Volume l/s per m.		57	105	145	180	210	230	255	295	240	365
	H	Throw m	3.0 - 6.4	5.8 - 10.0	8.2 - 11.9	9.1 - 13.1	10.0 - 14.3	10.7 - 15.0	11.0 - 15.6	11.9 - 16.8	12.5 - 17.7	13.4 - 18.9
		N.C.	< 20	< 20	26	31	34	37	40	44	47	51
	V	Throw m	0.9 - 3.4	3.0 - 9.8	5.8 - 13.7	8.5 - 16.5	9.8 - 17.7	11 - 18.6	11.9 - 19.5	14 - 21	15.6 - 22.2	16.8 - 23.5
N.C.		< 20	< 20	< 20	< 20	< 20	< 20	< 20	21	25	28	31
6	Volume l/s per m.		69	125	175	215	250	280	305	350	395	440
	H	Throw m	3.4 - 7.0	6.4 - 11.0	9.1 - 13.1	10.0 - 14.3	11.0 - 15.6	11.6 - 16.5	12.2 - 17.0	13.1 - 18.3	13.7 - 19.5	14.6 - 20.4
		N.C.	< 20	< 20	27	32	35	38	41	45	48	51
	V	Throw m	0.9 - 4	3 - 10.7	6.4 - 15.3	9.2 - 18	10.7 - 19.5	11.9 - 20.4	13.1 - 21.4	15.3 - 23.2	17.1 - 24.4	18.3 - 25.6
N.C.		< 20	< 20	< 20	< 20	< 20	< 20	< 20	22	25	29	31

Note: Data based on 1.2 m long active section

Performance Data

LINEAR SLOT DIFFUSER

Series 1900-75 : Supply Air (cont'd)

No. of Slots	Horiz. Static Press. Pa	3	10	20	30	40	50	60	80	100	125
	Vertical Static Press. Pa	1.25	5	9	13	18	22	27	36	43	54

7	Volume l/s per m.		81	145	210	255	295	325	360	410	460	515
	H	Throw m	3.7 - 7.6	6.7 - 11.9	9.8 - 14.0	11.0 - 15.6	11.9 - 16.8	12.5 - 17.7	13.1 - 18.6	14.0 - 19.8	15.0 - 21.0	15.6 - 22.3
N.C.		< 20	< 20	28	32	36	39	41	45	49	52	
V	Throw m	0.9 - 4.3	3.4 - 11.6	7.0 - 16.5	10.0 - 19.5	11.6 - 21	12.8 - 22.3	14.3 - 23.2	16.5 - 25	18.3 - 26.2	19.5 - 27.8	
	N.C.	< 20	< 20	< 20	< 20	< 20	20	23	26	29	32	

8	Volume l/s per m		89	170	235	290	335	370	405	470	530	585
	H	Throw m	3.7 - 7.9	7.6 - 12.8	10.4 - 15.0	11.6 - 16.5	12.8 - 18.0	13.4 - 18.9	14.0 - 19.8	15.0 - 21.4	15.9 - 22.6	16.8 - 23.8
N.C.		< 20	21	28	33	36	39	42	46	49	53	
V	Throw m	0.9 - 4.3	3.7 - 12.5	7.3 - 17.7	10.7 - 20.7	12.5 - 22.6	13.7 - 23.8	15.3 - 24.7	17.4 - 26.5	19.5 - 28	21 - 30	
	N.C.	< 20	< 20	< 20	< 20	< 20	21	23	27	30	33	

H = Horizontal air projection

Note: Data based on 1.2 m long active section

V = Vertical air projection

N.C. = Noise Criteria level

Series 1900-75 : Return Air

No. of Slots	Return Static Press. Pa	- 3	- 10	-20	-30	- 40	- 50	- 60	- 80	- 100	- 125
1	Volume l/s per m.	18	31	45	54	63	70	78	89	100	110
	N.C.	< 20	< 20	< 20	20	24	28	31	35	39	42
2	Volume l/s per m.	35	62	89	110	125	140	155	180	200	225
	N.C.	< 20	< 20	< 20	23	27	30	34	38	41	45
3	Volume l/s per m.	52	96	135	165	190	215	230	265	300	335
	N.C.	< 20	< 20	< 20	24	29	33	36	40	43	47
4	Volume l/s per m.	70	125	180	215	250	280	310	355	395	450
	N.C.	< 20	< 20	20	26	30	34	37	41	44	48
5	Volume l/s per m.	87	160	225	275	315	350	385	450	495	555
	N.C.	< 20	< 20	21	27	31	34	37	48	45	49
6	Volume l/s per m.	105	195	270	330	380	425	465	535	600	665
	N.C.	< 20	< 20	22	28	32	36	39	43	46	50
7	Volume l/s per m.	120	225	310	380	440	465	540	620	700	780
	N.C.	< 20	< 20	22	28	33	36	39	43	47	50
8	Volume l/s per m.	140	250	355	435	505	560	615	710	795	890
	N.C.	< 20	< 20	22	29	33	37	40	44	47	51

Performance Data

LINEAR SLOT DIFFUSER

Series 1900-100 : Supply Air

No. of Slots	Horiz. Static Press. Pa	3	10	20	30	40	50	60	80	100	125
	Vertical Static Press. Pa	2	7	15	25	30	33	45	60	75	90

1	Volume l/s per m.		17	31	44	54	62	70	76	88	98	110
	H	Throw m	1.2 - 3.0	3.0 - 5.5	4.3 - 6.4	5.2 - 7.3	5.5 - 7.7	5.8 - 8.2	6.1 - 8.5	6.4 - 9.1	6.7 - 9.8	7.3 - 10.4
		N.C.	< 20	< 20	23	29	33	37	39	44	47	50
	V	Throw m	1.5 - 3.7	3.7 - 6.8	5.3 - 7.9	6.5 - 9.0	6.8 - 9.4	7.2 - 10.2	7.6 - 10.5	7.9 - 11.3	8.3 - 12.2	9 - 12.9
N.C.		< 20	< 20	< 20	< 20	< 20	< 20	< 20	21	25	27	32
2	Volume l/s per m.		34	62	87	110	125	140	150	175	195	220
	H	Throw m	2.1 - 4.6	4.3 - 7.6	6.1 - 9.1	7.3 - 10.0	7.6 - 11.0	8.2 - 11.6	8.5 - 11.9	9.1 - 13.1	9.8 - 13.7	10.4 - 14.6
		N.C.	< 20	< 20	26	32	36	40	42	47	50	53
	V	Throw m	2.6 - 5.7	5.3 - 9.4	7.6 - 11.3	9 - 12.4	9.4 - 13.6	10.2 - 14.4	10.5 - 14.8	11.3 - 16.2	12.2 - 17	12.9 - 18.1
N.C.		< 20	< 20	< 20	< 20	< 20	< 20	< 20	22	27	30	32
3	Volume l/s per m.		50	93	130	165	185	210	230	265	295	330
	H	Throw m	2.4 - 5.8	5.2 - 9.5	7.6 - 11.3	8.8 - 12.5	9.5 - 13.4	10.0 - 14.0	10.4 - 15	11.3 - 15.9	11.9 - 16.8	12.5 - 17.7
		N.C.	< 20	< 20	28	34	38	41	44	48	52	55
	V	Throw m	3.0 - 7.2	6.5 - 11.8	9.4 - 14.0	10.9 - 15.5	11.8 - 16.6	12.4 - 17.4	12.9 - 18.6	14.0 - 19.7	14.8 - 20.8	15.5 - 22
N.C.		< 20	< 20	< 20	< 20	< 20	< 20	< 20	22	28	32	35
4	Volume l/s per m.		68	125	175	215	250	275	305	350	395	440
	H	Throw m	3.0 - 6.7	6.1 - 11	8.5 - 12.8	10.0 - 14.3	11.0 - 15.6	11.6 - 16.2	12.2 - 17	13.1 - 18.3	13.7 - 19.5	14.6 - 20.4
		N.C.	< 20	20	29	35	39	42	45	50	53	56
	V	Throw m	3.7 - 8.3	7.6 - 13.6	10.6 - 15.9	12.4 - 17.7	13.6 - 19.3	14.4 - 20.0	15.1 - 21.0	16.2 - 22.7	17.0 - 24.2	18.1 - 25.3
N.C.		< 20	< 20	< 20	< 20	< 20	< 20	22	25	30	33	36
5	Volume l/s per m.		85	155	220	270	310	350	380	440	490	550
	H	Throw m	3.3 - 7.3	6.7 - 12.2	9.8 - 14.7	11.3 - 16.2	12.2 - 17.4	12.8 - 18.3	13.4 - 19.2	14.6 - 20.4	15.3 - 21.7	16.2 - 22.9
		N.C.	< 20	21	30	36	40	44	46	50	54	57
	V	Throw m	4.0 - 9.0	8.3 - 15.1	12.1 - 18.2	14.0 - 20.0	15.1 - 21.6	15.9 - 22.7	16.6 - 23.1	18.1 - 25.3	19.0 - 26.9	20.0 - 28.4
N.C.		< 20	< 20	< 20	< 20	< 20	< 20	24	26	30	34	37
6	Volume l/s per m.		105	185	260	320	370	420	455	525	590	660
	H	Throw m	3.7 - 8.2	7.3 - 13.4	10.4 - 15.9	12.5 - 17.7	13.4 - 18.9	14.0 - 20.1	14.6 - 21.0	15.9 - 22.6	16.8 - 23.8	17.7 - 25
		N.C.	< 20	22	31	37	41	44	47	51	55	58
	V	Throw m	4.6 - 10.1	9 - 16.6	12.9 - 19.7	15.5 - 21.9	16.6 - 23.4	17.4 - 29	18.1 - 26	19.7 - 28	20.8 - 29.5	22 - 31
N.C.		< 20	< 20	< 20	< 20	< 20	< 20	24	27	31	35	38

Note: Data based on 1.2 m long active section

Performance Data

LINEAR SLOT DIFFUSER

Series 1900-100 : Supply Air (cont'd)

No. of Slots	Horiz. Static Press. Pa	3	10	20	30	40	50	60	80	100	125
	Vertical Static Press. Pa	2	7	15	25	30	33	45	60	75	90

7	Volume l/s per m.	120	220	310	380	435	485	535	615	685	765
	H	Throw m	4 - 8.9	8.2 - 14.7	11.6 - 17.3	13.4 - 18.9	14.3 - 20.4	15.3 - 21.7	15.9 - 22.6	17.1 - 24.4	18.3 - 25.6
N.C.		< 20	23	32	38	42	45	48	52	55	58
V	Throw m	5.0 - 11.0	10.2 - 18.2	14.4 - 21.5	16.6 - 23.4	17.7 - 25.3	19.0 - 26.9	19.7 - 28	21.2 - 30.2	22.7 - 31.7	23.8 - 33.6
	N.C.	< 20	< 20	< 20	< 20	22	25	30	32	35	38
8	Volume l/s per m	135	250	350	435	495	555	610	705	785	880
	Throw m	4.3 - 9.5	8.9 - 15.6	12.2 - 18.3	14.3 - 20.4	15.6 - 22	16.2 - 23.2	17.1 - 24.1	18.6 - 26.5	19.5 - 27.5	20.4 - 29.0
H	N.C.	< 20	24	32	38	42	45	48	52	56	59
	Throw m	5.3 - 11.8	11.0 - 19.3	15.1 - 22.7	17.7 - 25.3	19.3 - 27.3	20.0 - 28.8	21.2 - 29.9	23.0 - 32.9	24.2 - 34.1	25.3 - 36.0
V	N.C.	< 20	< 20	< 20	21	22	26	30	32	36	39

H = Horizontal air projection

Note: Data based on 1.2 m long active section

V = Vertical air projection

N.C. = Noise Criteria level

Series 1900-100 : Return Air

No. of Slots	Return Static Press. Pa	- 3	- 10	-20	-30	- 40	- 50	- 60	- 80	- 100	- 125
1	Volume l/s per m.	20	37	52	64	73	85	89	105	115	130
	N.C.	< 20	< 20	< 20	< 20	21	26	27	32	36	39
2	Volume l/s per m.	41	72	89	125	145	170	180	205	230	260
	N.C.	< 20	< 20	< 20	20	24	29	30	35	38	42
3	Volume l/s per m.	60	110	155	200	220	245	270	310	350	385
	N.C.	< 20	< 20	< 20	22	26	30	32	37	40	44
4	Volume l/s per m.	81	145	210	250	290	330	370	415	460	515
	N.C.	< 20	< 20	< 20	23	27	31	34	38	41	45
5	Volume l/s per m.	100	185	255	320	365	405	445	515	575	645
	N.C.	< 20	< 20	< 20	24	28	32	34	39	42	46
6	Volume l/s per m.	120	220	315	380	440	495	535	620	695	775
	N.C.	< 20	< 20	< 20	25	29	33	35	40	43	47
7	Volume l/s per m.	145	250	365	440	510	575	630	725	815	905
	N.C.	< 20	< 20	20	25	30	33	36	41	44	47
8	Volume l/s per m.	165	290	410	505	580	660	715	820	930	1 030
	N.C.	< 20	< 20	20	26	30	34	37	41	45	48

PERFORMANCE DATA

The data in the Performance Tables was obtained from tests conducted in accordance with ISO Standard 5219, ISO Standard 3741 and ADC Test Code 1062 GRD84.

Additional performance details are included, where applicable, within each product section.

For performance data beyond the tables' range, consult your nearest temperzone sales office.

Definitions:

Core Area (m²)

The total plane area within the frame opening through which air passes.

Isothermal Air

Air with a nil temperature difference between primary (supply) air and secondary (room) air.

Neck Velocity (m/s)

Neck Velocity = Volume (flow rate) ÷ Neck Core Area.

Measured in metres per second at the neck - the point where the grille/diffuser attaches to the duct.

Noise Criteria (NC)

The Noise Criteria (NC) system curves define the limits which the octave band spectrum of a continuous noise source must not exceed to achieve compliance with the design goal and a level of occupant acceptance.

Standard (Dry) Air

Density of 1.2 kg/m³ at 21°C and 760 mm Hg (barometric pressure).

Static Pressure (Pa)

The Static pressure (of an air stream) is the force per unit area exerted in all directions, irrespective of the air flow direction. Can be positive or negative. Measured in pascals, perpendicular to the air flow direction.

Terminal Velocity (m/s)

The specific velocity in metres per second used to define the throw distance.

Throw (m)

The horizontal or vertical distance, in metres, that the air stream travels from the outlet face to where the specific terminal velocity occurs. Each Performance Data Chart states throw values in metres at the terminal velocities noted. Throw distances are based on isothermal air, for grilles/diffusers flush mounted in a wall, sill or ceiling. For grilles/diffusers, mounted on exposed ductwork, throws will be approximately 70% of performance data values.

Total Pressure (Pa)

The Total Pressure (of an air stream) equals the sum of its Static Pressure and its Velocity Pressure. Measured in pascals, parallel and counter to the air flow direction. Tabled values do not include allowance for Opposed Blade Dampers (OBDs), except Series 5180.

Velocity (Dynamic) Pressure (Pa)

The Velocity pressure (of an air stream) is the force per unit area equivalent to the transformation of the kinetic energy into pressure energy. Always positive. Obtained from the difference between Total and Static pressure.

Volume (l/s)

Volume of air per unit of time (flow rate) entering or leaving the grille or diffuser. Measured in litres per second.

Noise Criteria (Sound)

The information presented below is included to assist in the design and/or selection of air distribution equipment for the intended end-use environment. 'NC' curves are shown, together with the suggested design goal NC range table.

The NC levels in the performance data tables are for the grille/diffuser alone, and assume a room attenuation of 10 dB across the octave band spectrum with a single outlet operating. Upstream duct-generated noise is not considered in the data. By selecting grille/diffuser sizes in accordance with the performance data tables and at the appropriate NC level, there will be no significant contribution to the overall system sound levels by the grille/diffuser. All data presented is in accordance with international standards, i.e. SWL re: 10^{-12} watts.

Sound level measurements, taken in a calibrated reverberant room, can be read directly as Sound Power Levels (SWL) in decibels (dB) whereas measurements taken in the installed environment are Sound Pressure Levels (SPL) in decibels (dB) which can be plotted on the NC curves.

By utilising the NC curves and NC range table, compliance with the design goal can be confirmed by:

- (i) predicting the Sound Pressure Levels (SPL) which can be calculated from published Sound Power Level (SWL) data and specified room characteristics,
- (ii) measuring Sound Pressure Levels (SPL) directly in an existing installation - preferably using an octave band sound pressure level meter.

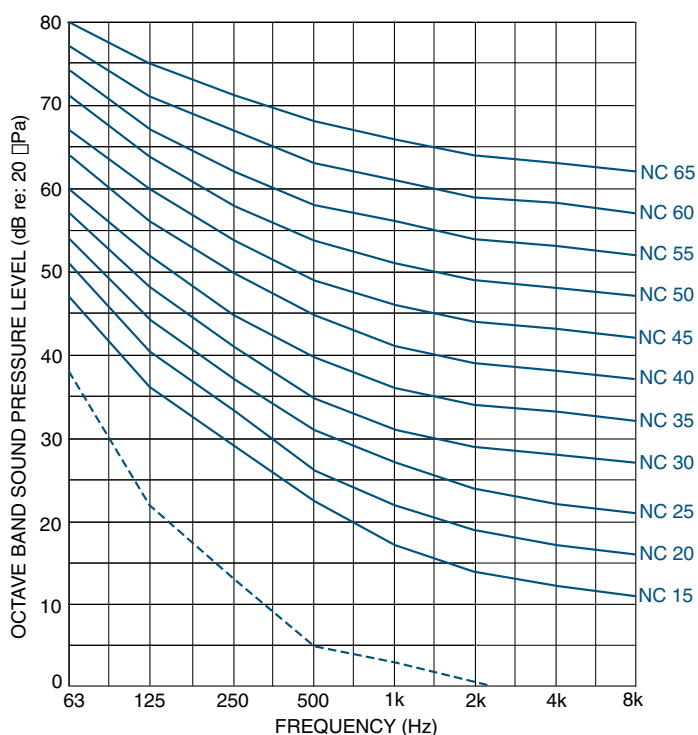
Where measurements cannot be carried out with an octave-band sound level meter, an approximation of an NC level can be calculated from an 'A' scale sound level meter reading, as follows:

$$\text{NC Level} = \text{'A' scale reading in dB} - 6 \pm 2$$

Guide for Environmental Sound Level Design

<i>Environment</i>	<i>Suggested NC Range</i>
Broadcast, Recording Studios	15 - 20
Concert / Opera Halls	20 - 25
Residences, Bedrooms	25 - 35
Hospitals	25 - 35
Theatres, Halls, Churches	25 - 30
Cinemas	30 - 35
Private Offices, Libraries	30 - 35
Restaurants, Bars	35 - 45
Retail Stores & Shops	35 - 45
General Offices, Schools	35 - 45
Swimming Centres, Gymnasiums	35 - 50
Kitchens	40 - 50
Factories	
- Light Engineering	45 - 65
- Heavy Engineering	55 - 75

NC Curves



For more specific information on allowable noise levels, consult the latest issue of 'ASHRAE Guide and Data Book - Fundamentals and Equipment'.

SUGGESTED SPECIFICATIONS

Linear Slot Diffuser - Series 1900

All slot diffusers shall have fully adjustable air pattern and flow control vanes capable of deflecting the air pattern from horizontal along the ceiling, to vertical or to any intermediate setting, and of controlling the air volume without changing the air pattern, all as manufactured by **temperzone** Limited. All frames, vanes and supports shall be of aluminium alloy sections. Outer and intermediate frames shall have the colour finish specified. Internal components shall have a black finish. All finishes shall be commercial grade powder or stoving enamel coating. For continuous length diffusers, each section shall be butt-jointed using non-visible alignment bars and pins located in each frame.

Dimensions (mm)

LINEAR SLOT DIFFUSER

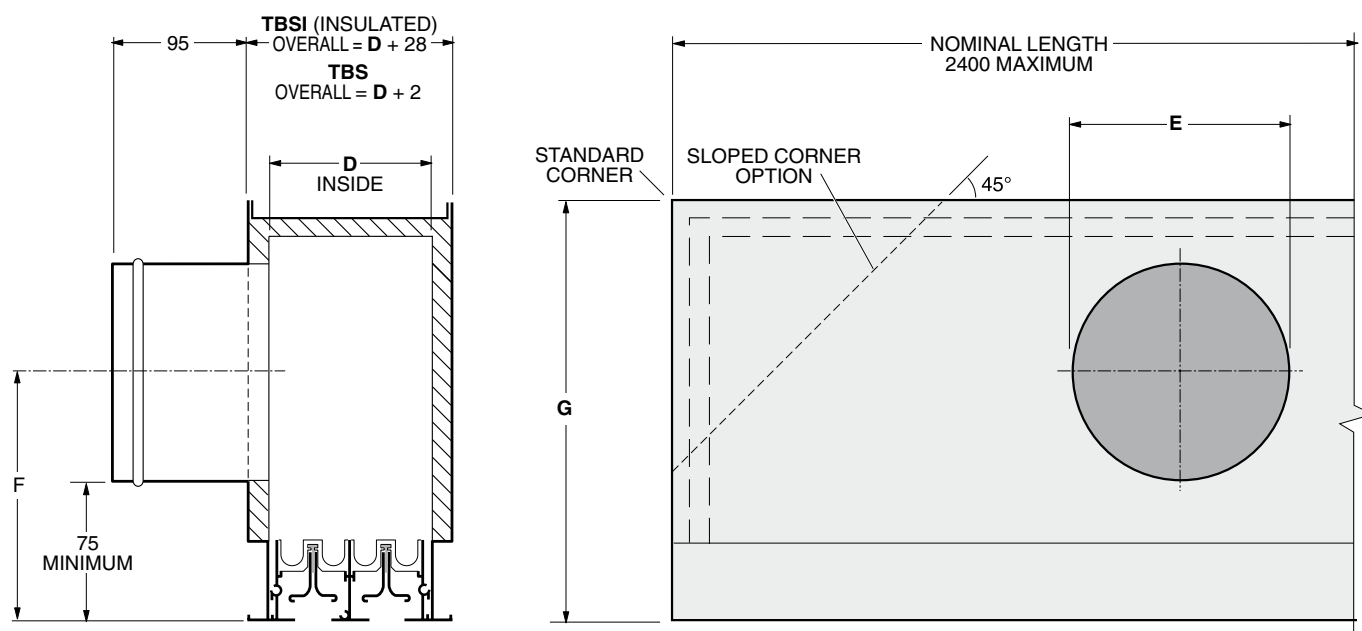
Series 1900 Side Entry Plenum (Boot)

TBSI = internal 13 mm thick insulation (foam or fibreglass).

TBS = uninsulated

Construction is galvanised steel.

Plenum shown here is fitted to a model **1902** diffuser.



Series	DIMENSION 'D'							
	No. Slots							
	1	2	3	4	5	6	7	8
1900-75	50	88	127	165	203	241	279	317
1900-100	64	114	165	216	266	317	368	419

SPIGOT DIA. E	DIMENSION	
	F	G
up to 200	160	290
225,250	185	340
300	210	390

Note: Overall height 'G' can be custom made. For restricted height applications, plenums can be manufactured with flat oval spigots.