



PLBG

- > Linear Bar Grilles
- > Fixed Deflection
- > Pencil/Heel Proof

DESCRIPTION

Our series of Linear Bar Grilles (PLBG) are designed for heating and cooling applications, supply and return. They provide the precision quality required for architectural excellence, with crisply sculptured styling and mitred corners to maximise quality.

Fixing:

Screw, spring clip, concealed mounting or none.

CONSTRUCTION

Aluminium, extruded aluminium.

Finish:

- White RAL 9010 semi-gloss (W)
- Aluminium (AL) • Mill (MI)
- Special (SP)

ACCESSORIES

- BO: Blank-Offs
- AD: Access Door
- HC: Heavy Duty Core
- DV: Deflector Vanes

MODELS

Bar spacing: 13 mm or 6 mm

Bar width: 6 mm or 3 mm

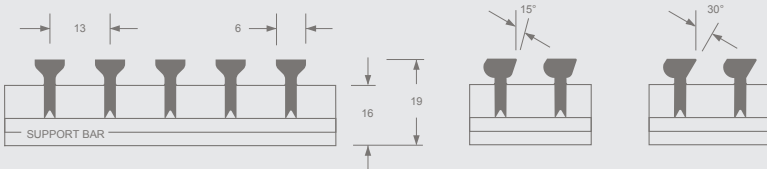
Deflection: 0°, 15° or 30°

End Caps: Mitred or Open

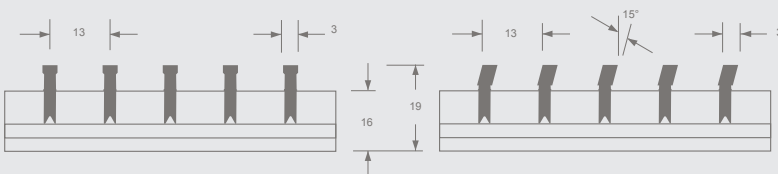
Damper: – None (standard)
– Opposed Blade Damper

Frame: – 25 mm (standard)
– 19 mm
– 25 mm (c/w deep neck)
– 25 mm Heavy Duty (floor)
– Heavy Duty without flange, flush mount (floor)

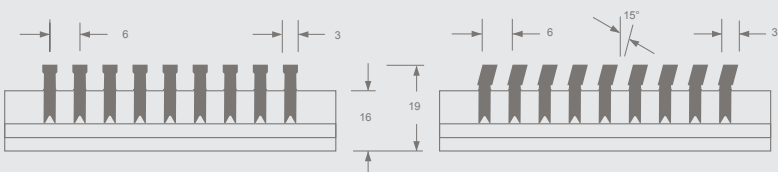
13 mm SPACING, 6 mm BARS (pencil proof) – 0°, 15° and 30° deflection



13 mm SPACING, 3 mm BARS (pencil proof) – 0° and 15° deflection



6 mm SPACING, 3 mm BARS (heel proof) – 0° and 15° deflection



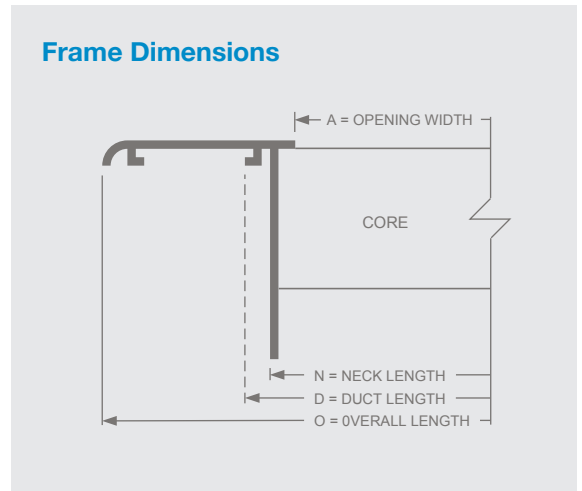
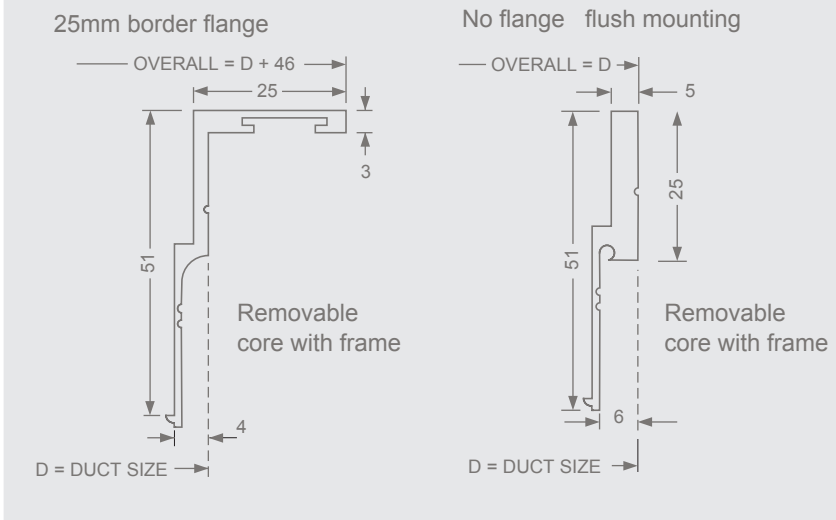
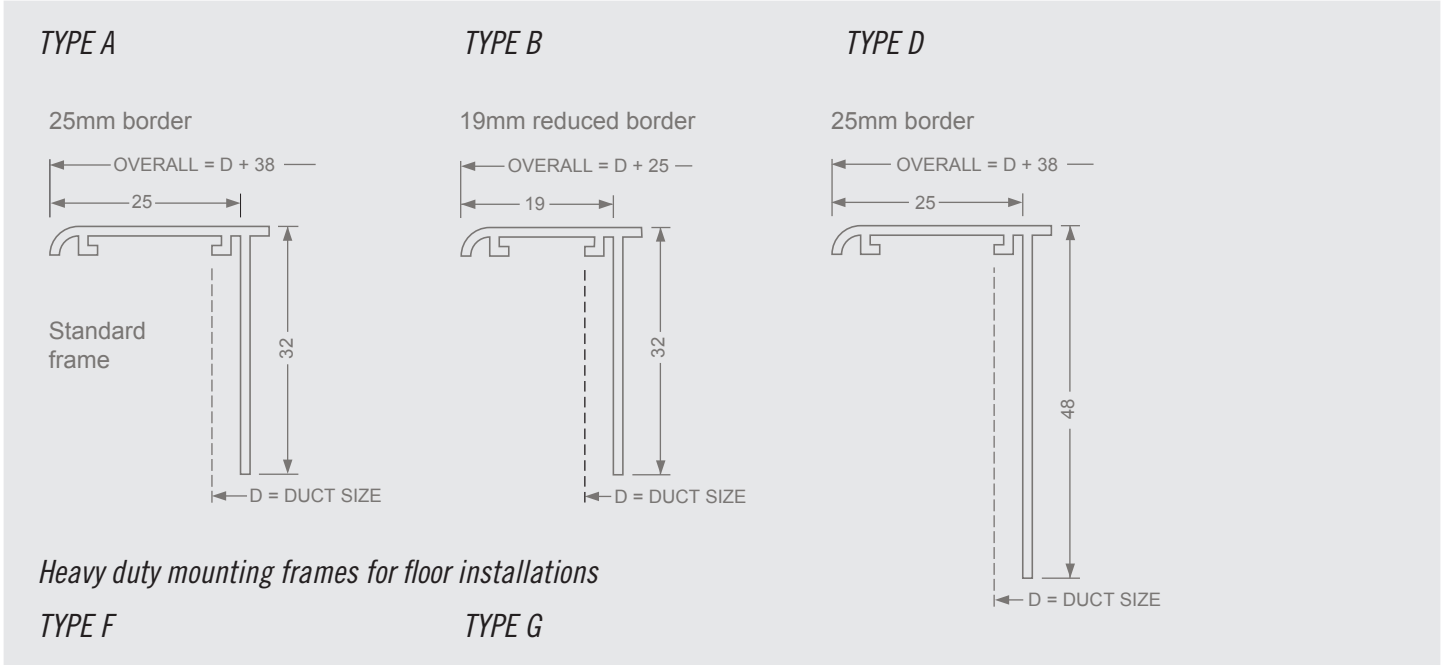
All dimensions are given in mm.

Duct Width D	13 mm SPACING (mm)	
	Opening width	Number of bars
38	19	1
50	31	2
65	45	3
75	56	4
90	71	5
100	81	6
125	106	8
150	131	10

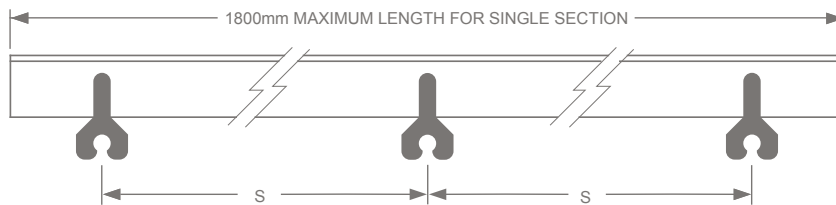
Duct Width D	6 mm SPACING (mm)	
	Opening width	Number of bars
38	19	2
50	31	4
65	45	6
75	56	8
90	71	10
100	81	12
125	106	16
150	131	20

For F & G frames increase bars by two.

PLBG – FRAME TYPES



Cross-Bar Spacing



Standard Core: S = 300mm maximum support bar spacing. Frame Types A, B, and D. Optional HC Heavy Duty Core: S = 200mm maximum. Standard for floor models with frame types F and G, which also include secondary reinforcing support bars.

Type	FRAME TYPES (mm)	
	N	O
A	$D - 13$	$D + 38$
B	$D - 13$	$D + 25$
D	$D - 13$	$D + 38$
E	$D - 13$	$D + 13$
F	D	$D + 46$
G	D	D

Dimensions are for length or width

PLBG – SELECTION DATA

SUPPLY SELECTION DATA						
50 mm Nominal Grille Height						
Air VOL	0.030	0.045	0.060	0.080	0.100	0.125
T1	0.6 - 1.5	1.5 - 3.0	2.3 - 4.1	2.7 - 5.0	3.7 - 6.7	4.3 - 7.5
T2	0.5 - 0.9	0.5 - 1.0	0.9 - 1.4	1.5 - 2.8	2.2 - 3.5	3.1 - 4.8
Face VEL	1.0	1.5	2.0	2.5	3.2	4.0
0°	NC	-	15	17	22	23
	Pa	-	2	7	14	20
15°	NC	-	15	20	20	23
	Pa	-	4	8	12	16

SUPPLY SELECTION DATA							
75 mm Nominal Grille Height							
Air VOL	0.060	0.080	0.100	0.125	0.150	0.200	0.250
T1	1.5 - 3.0	2.4 - 3.9	2.9 - 5.3	3.0 - 5.8	4.5 - 7.6	4.8 - 7.8	6.2 - 10.2
T2	0.5 - 1.0	1.0 - 2.0	1.8 - 2.9	2.2 - 3.5	2.8 - 4.5	3.5 - 5.2	5.2 - 7.2
Face VEL	1.1	1.5	1.8	2.3	2.7	3.6	4.5
0°	NC	-	20	22	23	26	29
	Pa	4	5	11	14	20	38
15°	NC	-	18	20	21	24	27
	Pa	-	3	6	8	12	22

100 mm Nominal Grille Height						
Air VOL	0.100	0.125	0.150	0.200	0.250	0.300
T1	2.3 - 4.2	2.7 - 5.1	3.4 - 6.2	3.8 - 7.2	5.5 - 8.7	7.3 - 12.0
T2	1.1 - 2.0	1.6 - 2.7	2.0 - 3.5	2.8 - 4.8	4.0 - 5.9	5.2 - 7.8
Face VEL	1.3	1.5	1.9	2.5	3.1	3.8
0°	NC	-	16	20	25	32
	Pa	4	6	10	14	20
15°	NC	-	20	23	23	30
	Pa	2	3	6	8	12

125 mm Nominal Grille Height					
Air VOL	0.150	0.200	0.250	0.300	0.350
T1	2.8 - 5.1	3.1 - 5.5	4.9 - 7.2	6.0 - 11.0	6.5 - 10.2
T2	1.5 - 2.5	2.5 - 3.4	3.0 - 4.9	4.1 - 6.5	5.3 - 7.5
Face VEL	1.4	1.9	2.4	2.9	3.3
0°	NC	18	20	20	25
	Pa	5	10	9	20
15°	NC	15	18	18	23
	Pa	3	5	5	12

150 mm Nominal Grille Height						
Air VOL	0.200	0.250	0.300	0.350	0.400	0.450
T1	2.9 - 4.8	4.5 - 6.5	5.4 - 9.0	5.9 - 9.2	6.8 - 10.1	8.0 - 11.0
T2	2.0 - 2.8	2.5 - 3.9	3.5 - 5.5	4.2 - 5.8	5.0 - 7.0	6.8 - 8.8
Face VEL	1.5	1.9	2.3	2.7	3.0	3.38
0°	NC	15	19	23	25	29
	Pa	4	8	18	22	16
15°	NC	-	16	20	22	27
	Pa	3	4	10	11	12

200 mm Nominal Grille Height						
Air VOL	0.300	0.350	0.400	0.450	0.500	0.550
T1	4.5 - 7.7	5.2 - 8.2	5.5 - 9.2	7.0 - 10.0	7.5 - 12.5	8.5 - 13.5
T2	-	-	-	-	-	-
Face VEL	1.7	1.9	2.2	2.5	2.8	3.1
0°	NC	20	22	25	27	32
	Pa	9	12	14	22	28
15°	NC	18	20	22	23	30
	Pa	5	6	8	12	16

250 mm Nominal Grille Height					
Air VOL	0.350	0.400	0.450	0.500	0.550
T1	3.9 - 7.0	5.2 - 8.1	6.0 - 9.3	7.0 - 10.0	8.0 - 11.5
T2	-	-	-	-	-
Face VEL	1.5	1.7	2.0	2.2	2.4
0°	NC	20	22	26	28
	Pa	8	10	14	18
15°	NC	18	20	24	25
	Pa	4	6	8	10

300 mm Nominal Grille Height				
Air VOL	0.400	0.450	0.500	0.550
T1	4.7 - 7.5	5.4 - 8.0	5.7 - 9.0	6.5 - 10.5
T2	-	-	-	-
Face VEL	1.4	1.6	1.8	2.0
0°	NC	20	22	25
	Pa	7	10	14
15°	NC	18	18	22
	Pa	4	6	8

THROW CORRECTION FACTORS

Diffuser Length	Throw Multiplication Factor	Adjust NC
0.6	0.85	-2
1.0	0.95	-1
1.2	1.00	0
1.5	1.05	+1
2.0	1.10	+2
3.0	1.15	+4

KEY INFORMATION

Throw based on diffuser installed in a standard dropped ceiling.

Air VOL = Air Volume (m³/s per m)

T1 = Sidewall throw in metres (m)

T2 = Sill throw in metres (m)

Face VEL = Face Velocity (m/s)

NC = Sound Pressure Level

Pa = Static Pressure Drop

PLBG – SELECTION DATA

RETURN SELECTION DATA

50 mm Height						
Air VOL	0.050	0.080	0.100	0.125	0.150	
Face Vel	1.5	2.5	3.5	4.0	5.0	
0°	NC	-	-	21	25	33
	Pa	8	16	28	40	56
15°	NC	-	-	19	23	30
	Pa	5	10	18	25	35

RETURN SELECTION DATA

75 mm Height							
Air VOL	0.080	0.100	0.125	0.150	0.200	0.250	
Face Vel	1.5	2.0	2.3	2.8	3.7	4.6	
0°	NC	15		20	18	25	33
	Pa	8	12	20	20	32	65
15°	NC	-	-	-	15	22	30
	Pa	5	7	12	12	20	40

KEY INFORMATION

Throw based on diffuser installed in a standard dropped ceiling.

Air VOL = Air Volume (m³/s per m)

Face VEL = Face Velocity (m/s)

NC = Sound Pressure Level

Pa = Static Pressure Drop

100 mm Height							
Air VOL	0.125	0.150	0.200	0.250	0.300	0.350	
Face Vel	1.5	2.0	2.5	3.2	3.8	4.5	
0°	NC	15	16	20	28	32	36
	Pa	8	10	16	30	35	56
15°	NC	-	-	17	24	26	32
	Pa	5	6	10	18	22	35

125 mm Height								
Air VOL	0.150	0.200	0.250	0.300	0.350	0.400	0.450	
Face Vel	1.5	2.0	2.5	2.9	3.4	3.8	4.3	
0°	NC	-	18	24	30	34	35	36
	Pa	6	12	16	24	28	40	50
15°	NC	-	16	20	24	28	30	33
	Pa	4	7	10	14	18	24	30

150 mm Height									
Air VOL	0.200	0.250	0.300	0.350	0.400	0.450	0.500	0.550	
Face Vel	1.5	2.0	2.3	2.7	3.0	3.5	3.8	4.2	
0°	NC	-	22	28	33	34	35	36	39
	Pa	8	12	15	22	26	30	37	44
15°	NC	-	18	22	27	28	31	32	34
	Pa	5	7	9	14	16	18	22	26

200 mm Height												
Air VOL	0.250	0.300	0.350	0.400	0.450	0.500	0.550	0.600	0.650	0.700	0.750	
Face Vel	1.4	1.6	1.9	2.2	2.5	2.8	3.0	3.3	3.6	3.9	4.2	
0°	NC	20	24	25	30	30	35	36	36	38	39	40
	Pa	6	10	12	20	17	20	24	32	32	40	48
15°	NC	-	20	20	25	26	30	31	32	33	34	36
	Pa	4	6	7	11	10	12	14	18	18	24	28

250 mm Height													
Air VOL	0.350	0.400	0.450	0.500	0.550	0.600	0.650	0.700	0.750	0.800	0.850	0.900	
Face Vel	1.5	1.7	2.0	2.2	2.4	2.5	2.8	3.0	3.3	3.5	3.7	3.9	
0°	NC	20	25	27	32	31	32	35	36	38	38	39	40
	Pa	8	10	10	14	14	17	20	24	28	30	38	43
15°	NC	15	20	23	26	26	27	30	32	33	34	35	37
	Pa	5	6	6	8	8	10	12	14	16	18	22	25

300 mm Height														
Air VOL	0.400	0.450	0.500	0.550	0.600	0.650	0.700	0.750	0.800	0.850	0.900	0.950	1.000	
Face Vel	1.4	1.6	1.8	2.0	2.0	2.3	2.5	2.7	2.9	3.0	3.2	3.4	3.6	
0°	NC	22	25	28	28	30	32	33	36	36	38	39	40	41
	Pa	8	10	10	12	14	14	17	20	24	24	27	38	34
15°	NC	17	18	24	24	25	28	29	32	33	34	35	36	37
	Pa	5	6	6	7	8	8	10	12	14	14	16	16	20

350 mm Height												
Air VOL	0.500	0.550	0.600	0.650	0.700	0.750	0.800	0.850	0.900	0.950	1.000	
Face Vel	1.5	1.6	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	3.0	
0°	NC	22	25	29	30	30	32	34	35	36	38	38
	Pa	8	10	10	12	14	17	17	20	20	20	24
15°	NC	18	20	25	26	26	30	30	31	33	34	34
	Pa	5	6	6	7	8	10	10	12	12	12	14

400 mm Height										
Air VOL	0.600	0.650	0.700	0.750	0.800	0.850	0.900	0.950	1.000	
Face Vel	1.6	1.7	1.9	2.0	2.1	2.2	2.4	2.5	2.6	
0°	NC	26	25	28	31	32	33	35	36	36
	Pa	8	10	10	14	14	17	17	17	20
15°	NC	22	20	24	30	29	30	32	33	34
	Pa	6	6	6	8	8	10	10	10	12