



# 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)

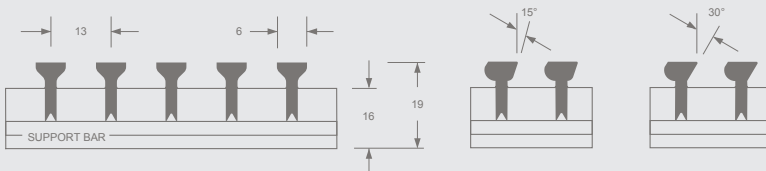
## ACCESSORIES

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

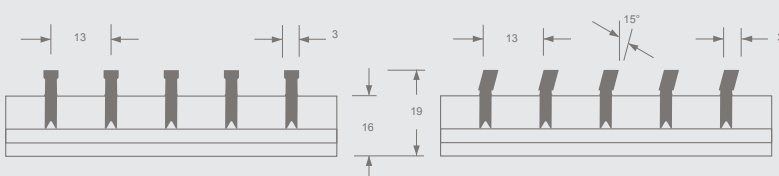
## MODELS

- 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)

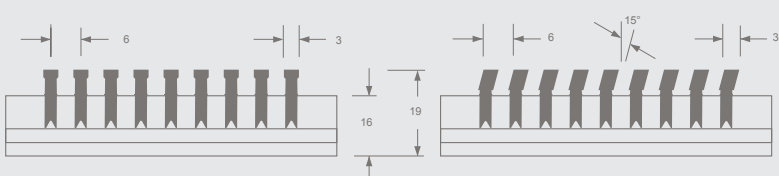
### 13 mm SPACING, 6 mm BARS (pencil proof) – 0°, 15° and 30° deflection



### 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.

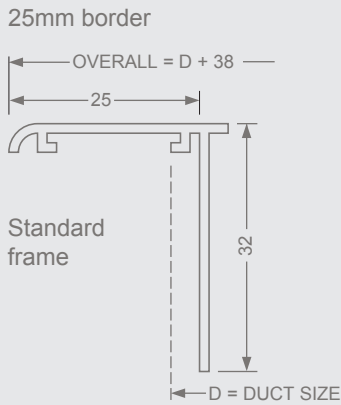
Duct Width D	13 mm SPACING (mm)	
	Opening width	Number of bars
38	19	1
50	31	2
65	45	3
75	56	4
90	71	5
100	81	6
125	106	8
150	131	10

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

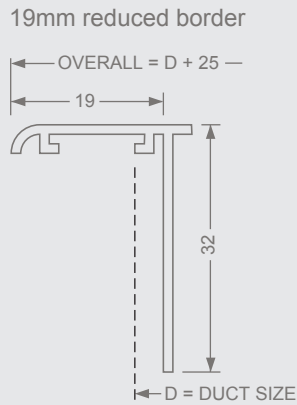
For F & G frames increase bars by two.

# PLBG – FRAME TYPES

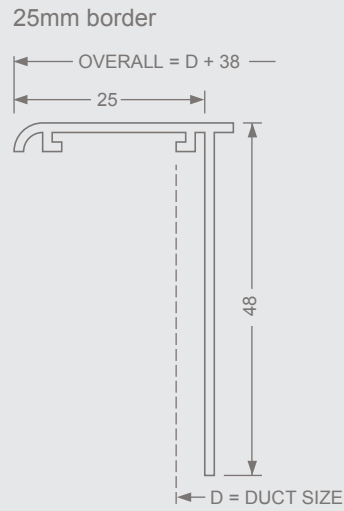
**TYPE A**



**TYPE B**

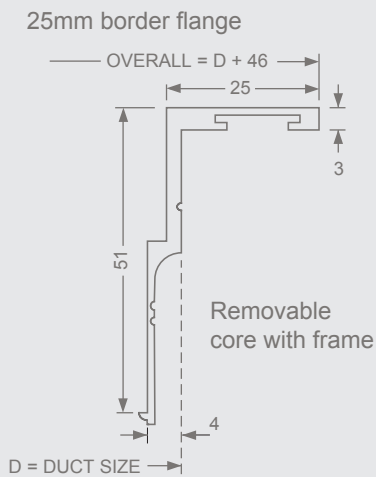


**TYPE D**

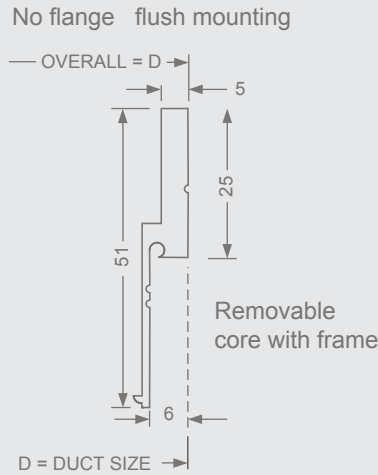


*Heavy duty mounting frames for floor installations*

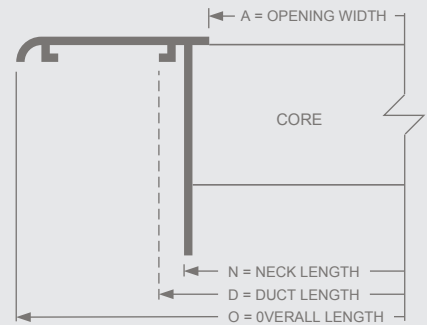
**TYPE F**



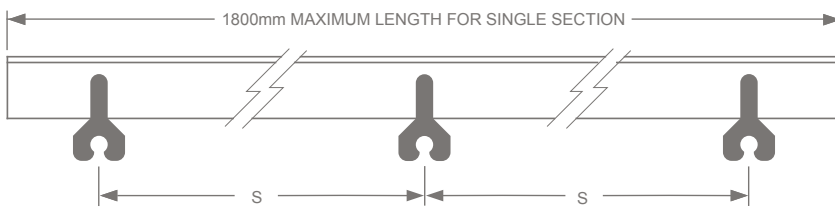
**TYPE G**



## Frame Dimensions



## Cross-Bar Spacing

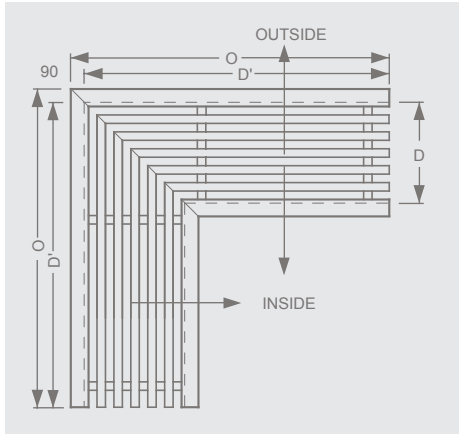


Standard Core:  $S = 300\text{mm}$  maximum support bar spacing. Frame Types A, B, and D. Optional HC Heavy Duty Core:  $S = 200\text{mm}$  maximum. Standard for floor models with frame types F and G, which also include secondary reinforcing support bars.

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 – MITRED CORNER SECTIONS

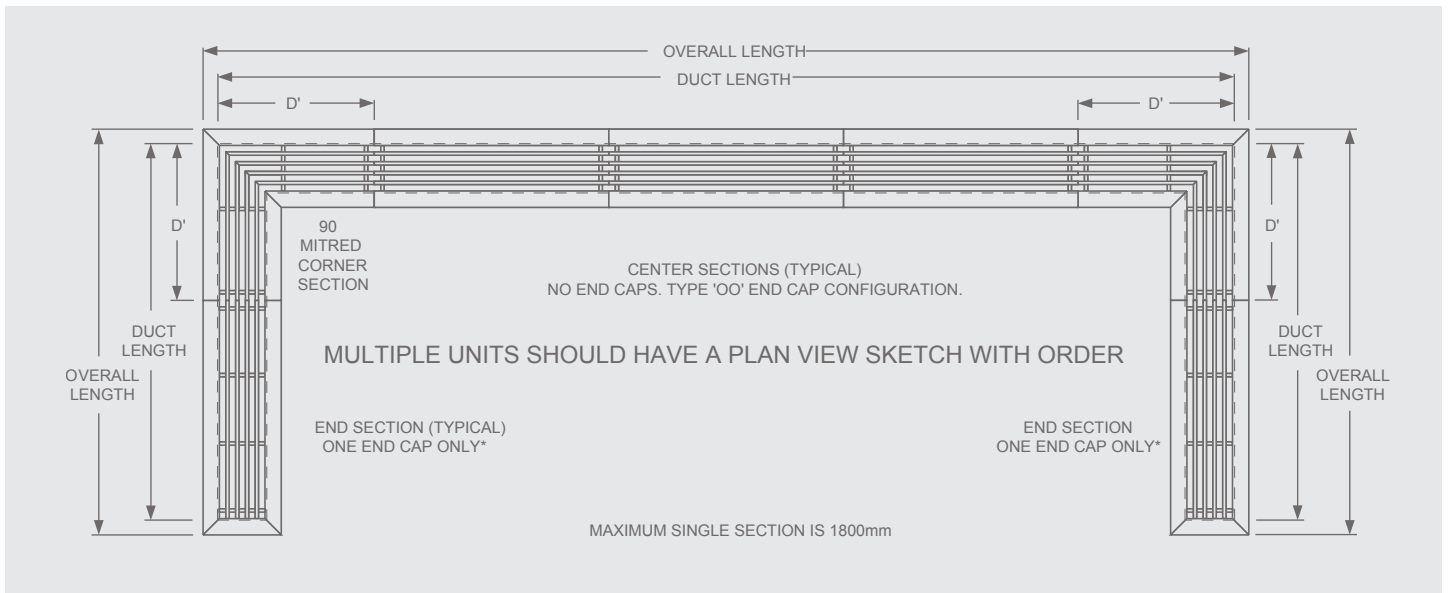


Factory welded with precision to match and align with the associated straight leg. Standard mitred corner section for floor, ceiling or wall is 90 degrees. *Other angles are available.*

Type	FLOOR, CEILING OR SILL
	Deflection
O	0°
A	Inside
B	Outside

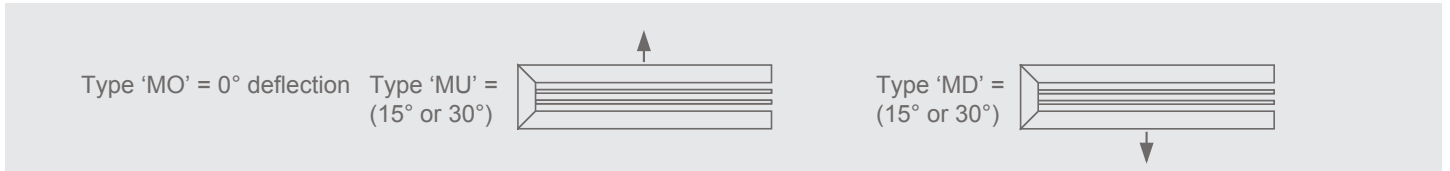
Duct Width D	Duct Length D	FRAME TYPES 90° MITRED CORNER DIMENSION 'O'					
		A/D	B	C	E	F	G
38 – 100	300	319	313	327	306	320	300
101 – 300	450	468	462	605	598	602	449

## Continuous Run Dimensions

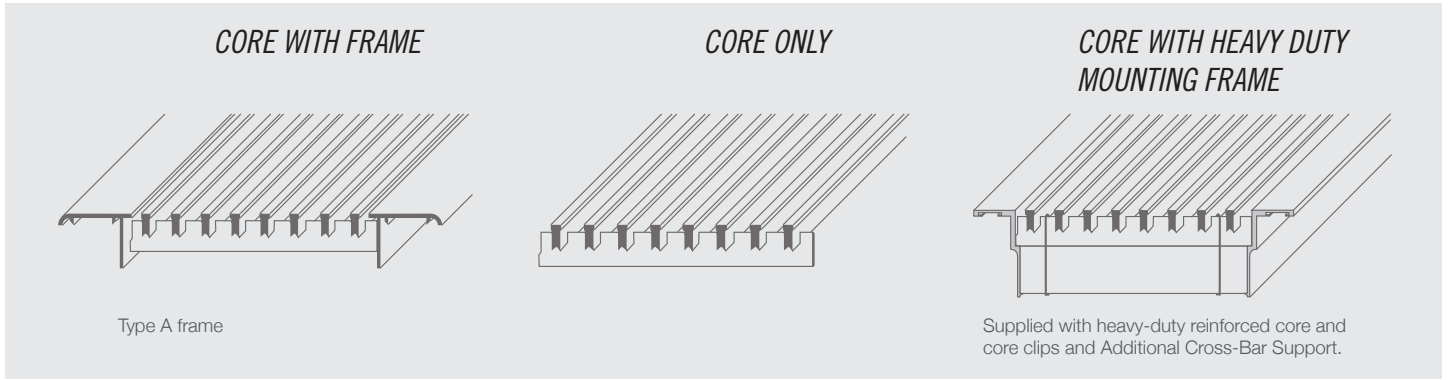


\*End sections with single end caps and deflecting cores must be specified and ordered with the desired core deflection direction.

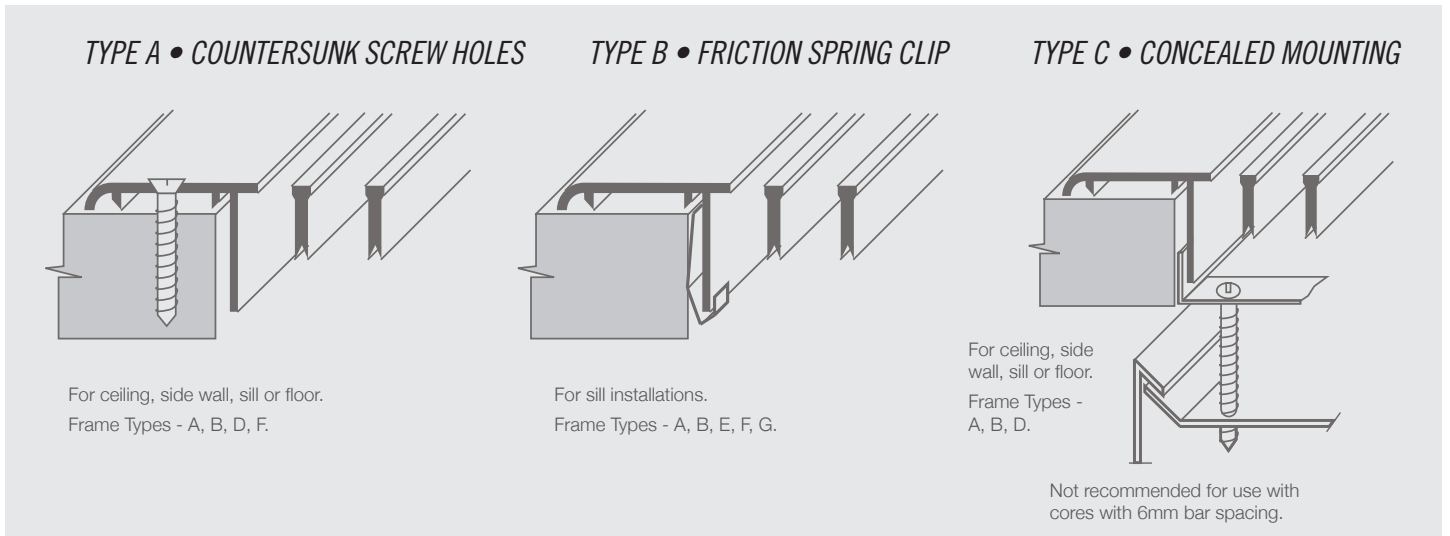
## End Cap Configurations (mitred end cap one end and open opposite end)



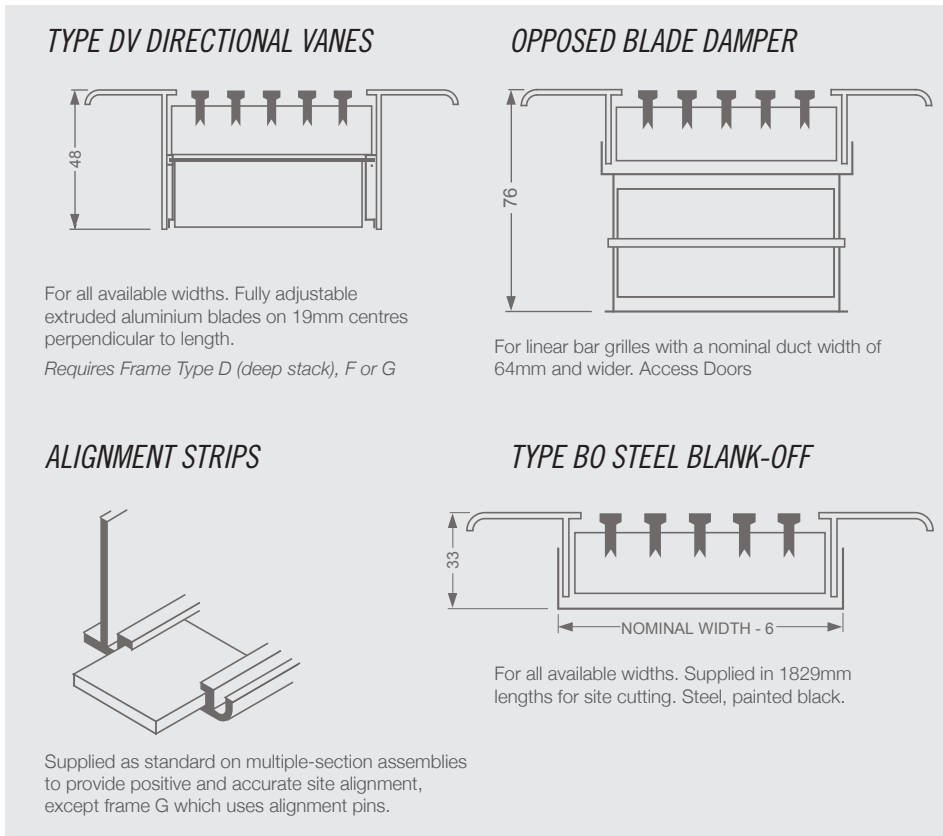
# PLBG – TYPICAL FRAMES



## Fastenings

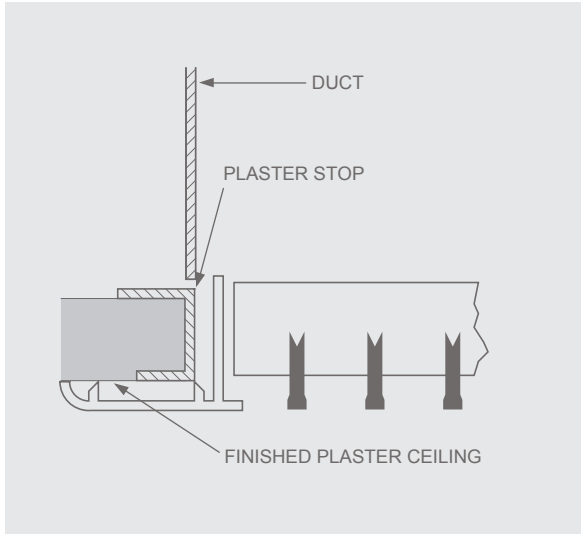


## Options & Accessories

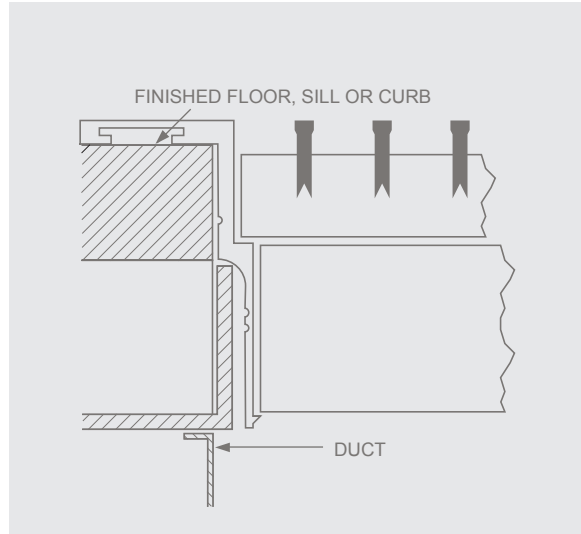


# PLBG – OPENING PREPERATIONS

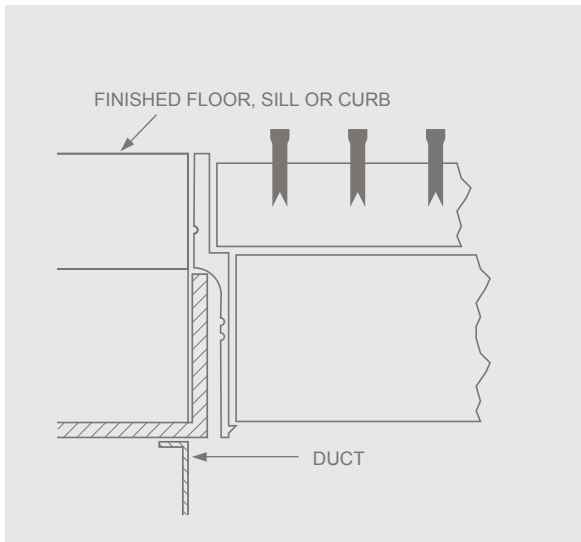
**CEILING 1 – frame types A, B, D or E**



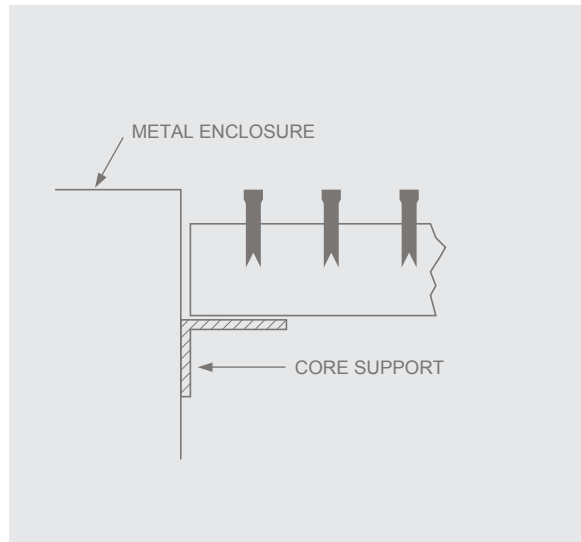
**FLOOR OR SILL 1 – frame type F**



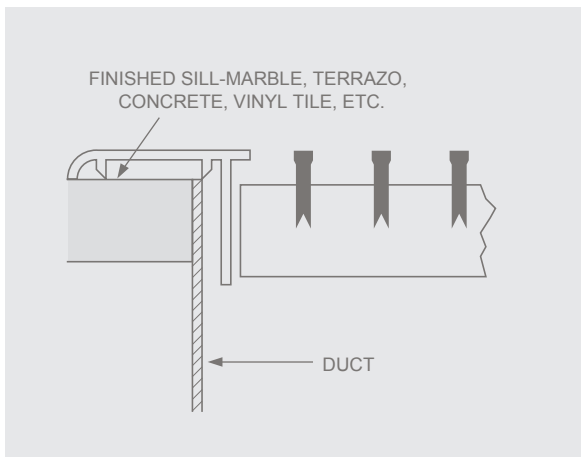
**FLOOR OR SILL 2 – frame type G**



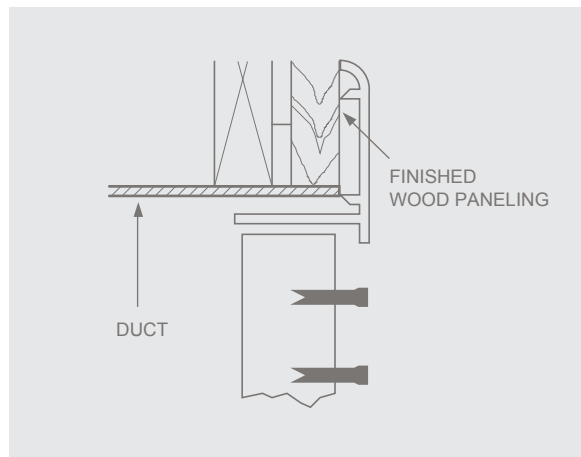
**RAISED SILL 1 – core only**



**RAISED SILL 2 – frame types A, B or D**



**SIDE WALL 1 – frame types A, B or D**



# 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
	Pa	-	-	4	8	12

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
	Pa	4	5	11	14	20	38
15°	NC	-	-	18	20	21	24
	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	25
	Pa	4	6	10	14	20
15°	NC	-	-	20	23	23
	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	27
	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	22	26
	Pa	8	10	14	18
15°	NC	18	20	20	24
	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	21	22
	Pa	7	10	14
15°	NC	18	18	20
	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 (m<sup>3</sup>/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 (m<sup>3</sup>/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	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