



Amenity Space Grilles & Diffusers - Technical Submittal (TSM)

Project: New Cross Residential, Oldham Road
Project No: MC1160
TSM No: D464-AME-XX-XX-TS-M-0037

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CARBONCONSULTANTS



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Building Services Engineering



REF	LOCATION	CEILING TYPE	AIR VOL	THROW	P.DROP	NOISE	GRILLE/DIFFUSER						PLENUM						
			(l/s)	(m)	(Pa)	(NC)	QTY	DESCRIPTION	PRODUCT CODE	FINISH	SIZE	OVERALL	QTY	DESCRI PTION	PRODUCT CODE	TYPE	SIZE	SPIGOT	HEIGHT
Supply Grilles																			
SG-00-01	Residential Entrance	Plasterboard (vertical bulkhead)	37	2.5	10	25	1	Linear Bar	LBG/NB/R/15/S/0/F0/3	9010	400x200	445x245	1	Lined	PBG/AC150/FL/60/0	Rear	400x150	150	100
SG-00-02	Residential Entrance	Plasterboard (vertical bulkhead)	37	2.5	10	25	1	Linear Bar	LBG/NB/R/15/S/0/F0/3	9010	400x200	445x245	1	Lined	PBG/AC150/FL/60/0	Rear	400x150	150	100
SG-00-03	Residential Entrance	Plasterboard (vertical bulkhead)	37	2.5	10	25	1	Linear Bar	LBG/NB/R/15/S/0/F0/3	9010	400x200	445x245	1	Lined	PBG/AC150/FL/60/0	Rear	400x150	150	100
SG-00-04	Office	Plasterboard	10	0.8	12	25	1	Valve (60% Open)	SEV/S/S/F3/W	White	100	150	0	N/A					
SG-00-05	Co Working	Plasterboard (vertical bulkhead)	78	2.8	10	25	1	Linear Bar	LBG/NB/R/15/S/0/F0/3	9010	400x200	445x245	1	Lined	PBG/AC150/FL/60/0	Rear	400x200	200	100
SG-00-06	Co Working	Plasterboard (vertical bulkhead)	78	2.8	10	25	1	Linear Bar	LBG/NB/R/15/S/0/F0/3	9010	400x200	445x245	1	Lined	PBG/AC150/FL/60/0	Rear	400x200	200	100
SG-00-07	Co Working	Plasterboard (vertical bulkhead)	78	2.8	10	25	1	Linear Bar	LBG/NB/R/15/S/0/F0/3	9010	400x200	445x245	1	Lined	PBG/AC150/FL/60/0	Rear	400x200	200	100
SG-00-08	Residents Lounge	Plasterboard	100	1.7/2.0	12	25	1	3-Way	SQD/M/3/R300/F0/3	9010	450x450	595x595	1	Lined	PBD/AC150/F/60/0	Top	300x300	250	100
Extract Grilles																			
EG-00-01	Office	Plasterboard	10	N/A	16	25	1	Valve (71% Open)	SEV/S/S/F3/W	White	100	150	0	N/A					
EG-00-02	Store	Plasterboard	13	N/A	25	25	1	Valve (71% Open)	SEV/S/S/F3/W	White	100	150	0	N/A					
EG-00-03	Acc. WC	Plasterboard	21	N/A	32	25	1	Valve (95% Open)	SEV/S/S/F3/W	White	100	150	0	N/A					
Return Air Grilles																			
RTA/0/01	Residential Entrance	Plasterboard	55	N/A	10	25	1	4 WAY	SQD/M/4/R300/F0/3	9010	450x450	595x595	0	N/A					
RTA/0/02	Residential Entrance	Plasterboard	55	N/A	10	25	1	4 WAY	SQD/M/4/R300/F0/3	9010	450x450	595x595	0	N/A					
RTA/0/03	Co Working	Plasterboard	100	N/A	10	25	1	4 WAY	SQD/M/4/R300/F0/3	9010	450x450	595x595	0	N/A					
RTA/0/04	Co Working	Plasterboard	100	N/A	10	25	1	4 WAY	SQD/M/4/R300/F0/3	9010	450x450	595x595	0	N/A					
RTA/0/05	Residents Lounge	Plasterboard	110	N/A	10	25	1	4 WAY	SQD/M/4/R300/F0/3	9010	450x450	595x595	0	N/A					

LINEAR BAR GRILLE - LBG



- DESCRIPTION & FEATURES

- Linear Bar Grilles are suitable for supply and extract air in sidewall or cill applications. They are available with 0°, 15°, 45° blades pitched to give either 50% or 75% free area. Standard flanges are 32mm although 19mm are available with butt joints to give a continuous appearance.
- Available with Opposed Blade Dampers, Adjustable Vertical Rear Blades, Plenum Boxes and **Plaster Frame**.
- LBG Grilles are manufactured from extruded aluminium sections, the **mitred corners being fully welded and finished**.
- Standard finish is RAL9010 or polyester powder coated to the customers colour requirement.

- PLENUM BOXES

- Plenum boxes are accessories for use with Grilles and Diffusers. They are designed to equalise the pressure profile within the box and hence provide an even velocity at the face of the Grille or Diffuser without the use of Equalising Grids.

- LBG ORDERING CODE (DIFFUSER)

SERIES: **LBG**

BLADES: **NB** - Narrow Blades (3.2mm)
WB - Wide Blades (6.1mm)

CORE: **F** - Fixed Core
R - Removable Core

DEFLECT: **0** - 0° Fixed Blades, **15** - 15° Fixed Blades
45 - 45° Fixed Blades

FRAME: **S** - 32mm Frame (std), **N** - 19mm Frame
PF - Plaster Frame
JF - Joinery Frame

ACCESS: **OB** - Opposed Blade Damper
RB - Adjustable Rear Blades
OR - Damper & Adjustable Rear Blades
0 - Not Applicable

FIXING: **F0** - No fixings, **F1** - CSK Flange Fixing Holes
F2 - Spring Clip, **F4** - Rear Strap
F5 - Rear Strap & Bracket, **F6** - Goal Post Bracket

FINISH: **1** - (Mill Finish), **2** - RAL9006 (Silver/Grey)
3 - RAL9010 (White), **4** - RAL9005 (Black)
5 - RAL9003 (White), **6** - RAL9016 (White),
7 - Other RAL/BS Code (additional costs may apply)
8 - Chrome Finish

Linear Bar Grilles can also be manufactured from various grades of Stainless Steel, please contact Sales Office.

Example: LBG/NB/F/15/S/OB/F1/3/Nominal Opening Size

- LBG ORDERING CODE (PLENUM)

TYPE: **PBU** - Un-Lined Side Entry
PBL - Lined Side Entry
PBA - Adaptor Top Entry

SERIES: **LBG**

MESH: **P** - Perforated Equalising Mesh
0 - No Equalising Mesh

DAMPER: **LS** - Lever Spigot Damper
CS - Cord Spigot Damper
0 - No Damper

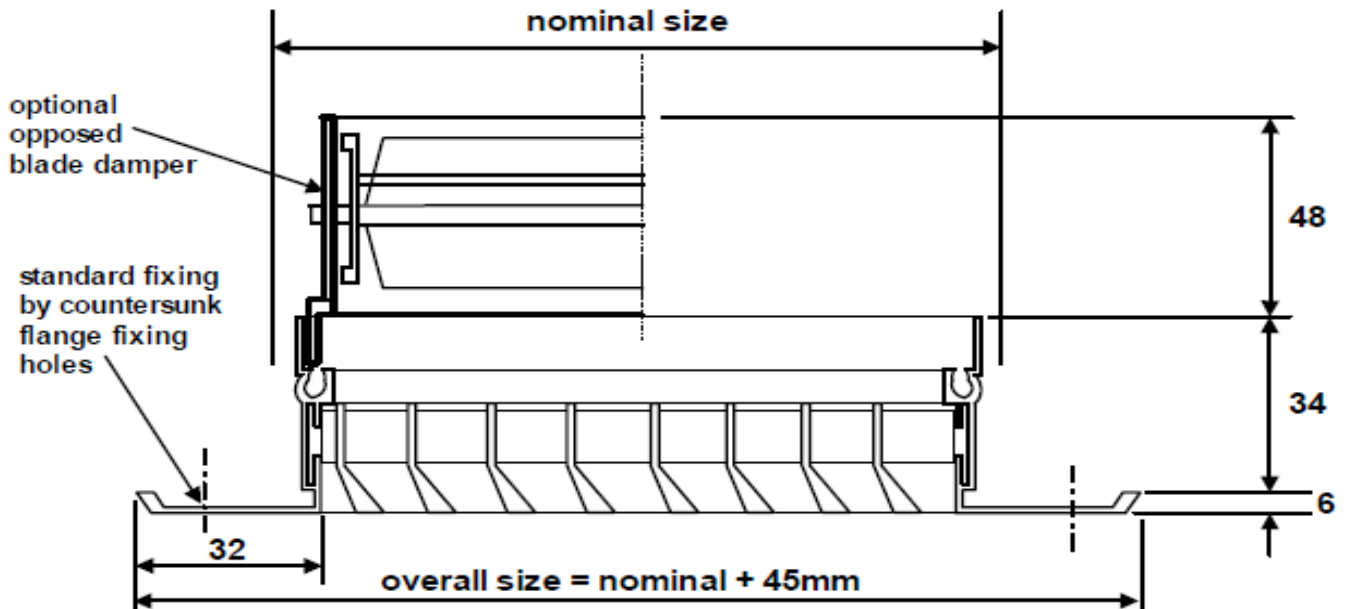
SPIGOT: **OP** - 2 Opposite Spigots
AD - 2 Adjacent Spigots
FL - Flat Oval Spigot

FINISH: **IN** - Black Internal
EX - Black External
IE - Black Internal & External

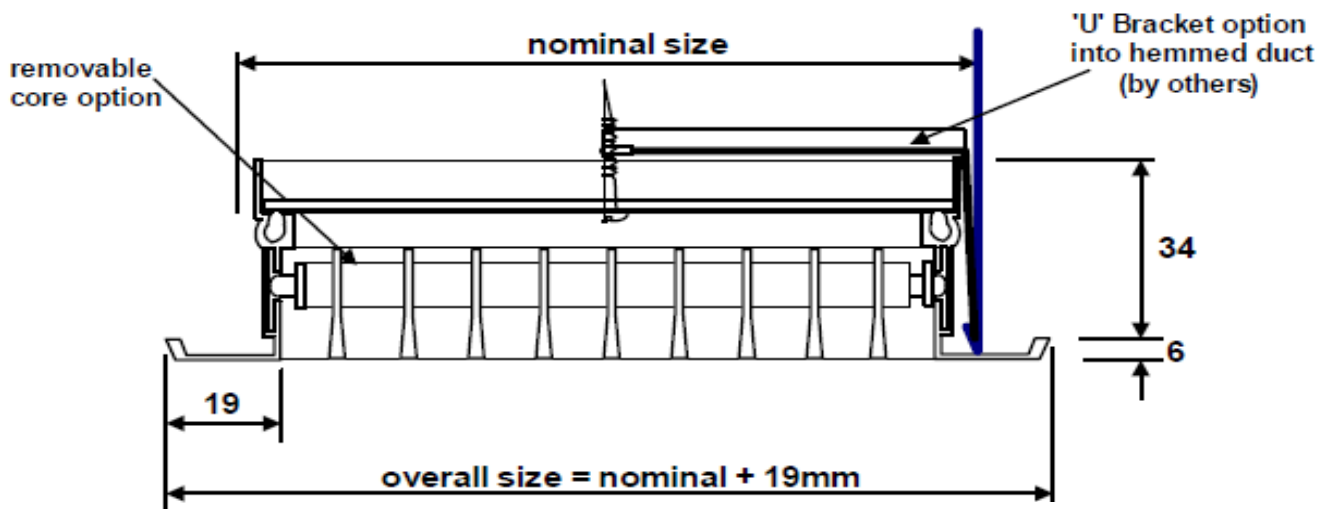
Example: PBL/LBG/CS/Nominal Size/Spigot Size

LINEAR BAR GRILLE - LBG

- LBG DIMENSIONS (GRILLE)



LBG/NB/F/15 with standard 32mm frame



LBG/NB/R/0 with 19mm frame and removable core



LBG/NB - 3mm/0°



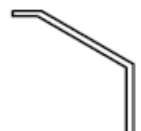
LBG/NB - 3mm/15°



LBG/WB - 6mm/0°



LBG/WB - 6mm/15°



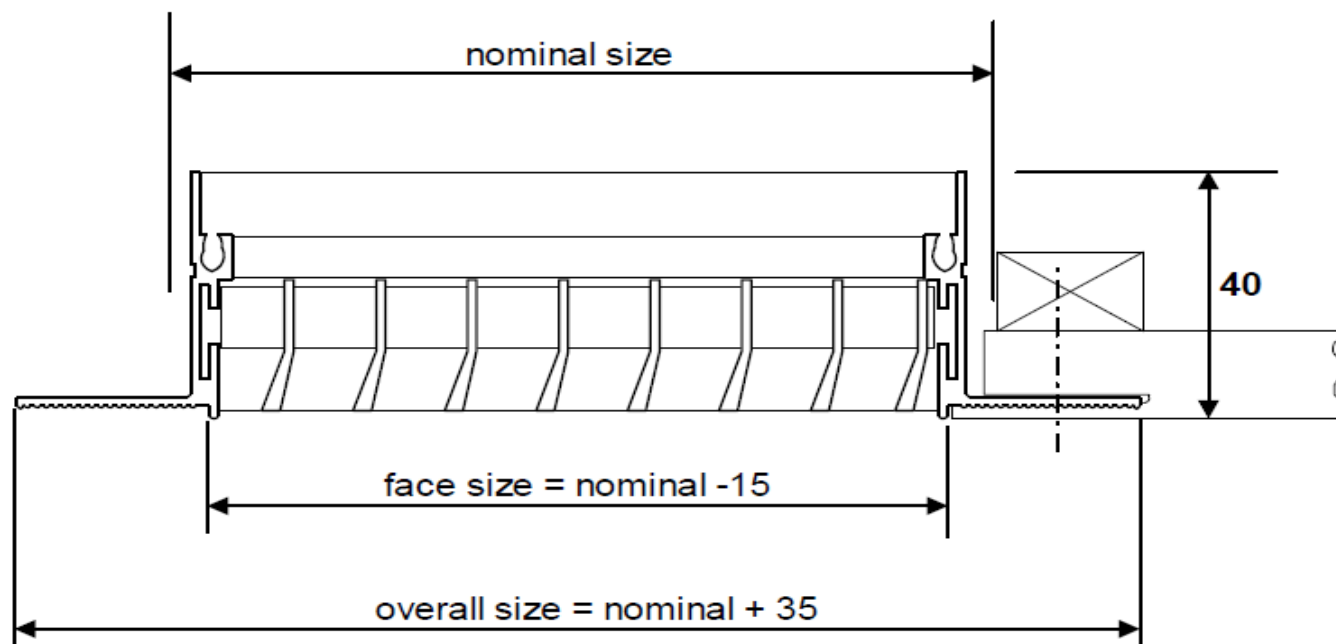
LBG 45°

LBG blade options

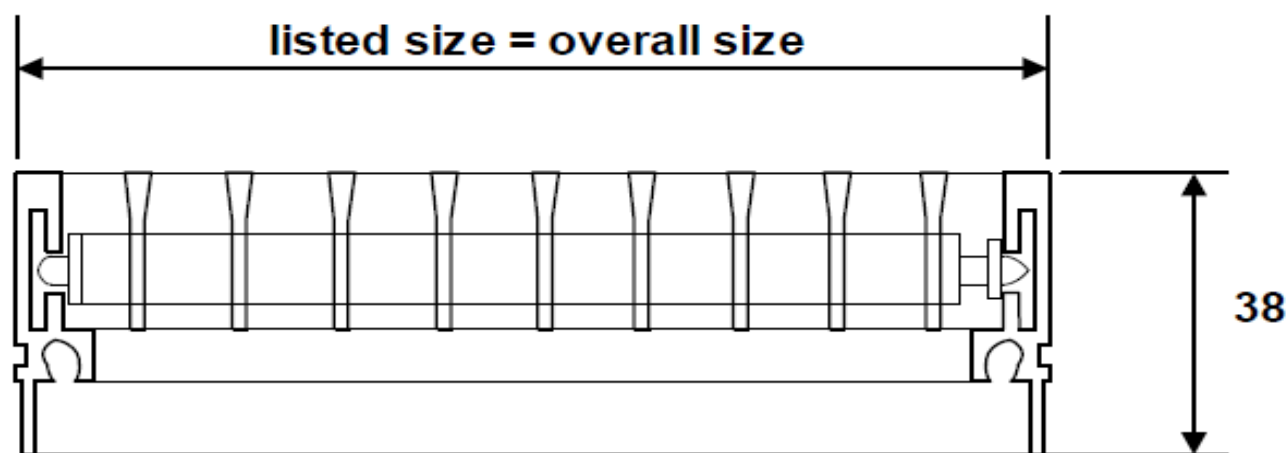
(Any blade type can be fitted to any frame option)

LINEAR BAR GRILLE - LBG

- LBG DIMENSIONS (GRILLE)



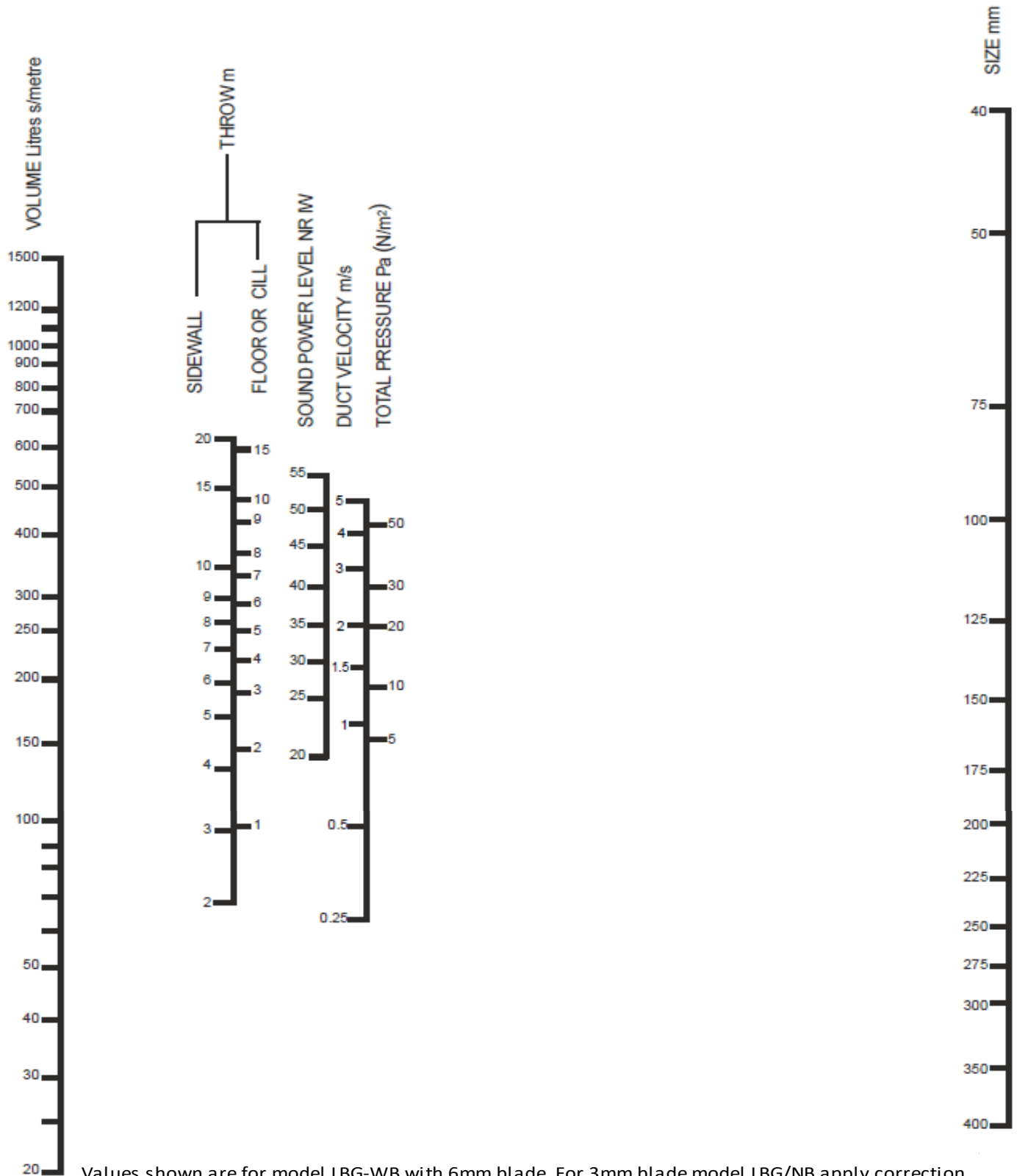
LBG/NB/F/15 with plaster frame



LBG/NB/R/0 with flangeless joinery frame and removable core

LINEAR BAR GRILLE - LBG

- LBG PERFORMANCE DATA



Values shown are for model LBG-WB with 6mm blade. For 3mm blade model LBG/NB apply correction factors as shown

LBG/NB Correction Factors

THROW
x0.8

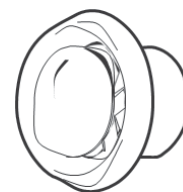
SOUND POWER
-2db

TOTAL PRESSURE
x0.8

SUPPLY or EXTRACT VALVES - SEV

DESCRIPTION & FEATURES

Valves (SEV) are suitable for use with all types of ventilation systems and offer an alternative low cost valve where noise level, although important, is not critical. Adjustment of the airflow is achieved by rotating the inner cone to the desired setting and is secured by means of a single lock nut.



Steel Valves are c/w mounting ring. The mounting ring is suitable for connecting to conventional ducting or for grouting into a wall and should be positioned to ensure that the front rim is flush with the finished wall face. The air valve has a quarter turn bayonet type fastening which secures it firmly in place in the mounting ring. SEV valves are manufactured from steel spinings, the outer body is fitted with a gasket to form an airtight seal with the mounting ring. The mounting ring being made from plated steel. Valves are finished in white, or polyester powder coated to the customers colour requirement.

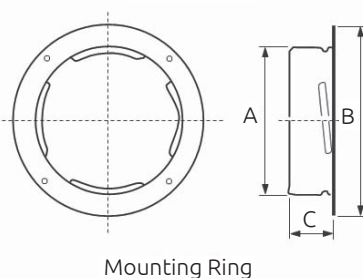
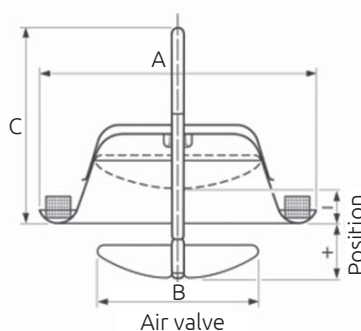
Plastic valves are manufactured from white polyimide and polypropylene. The plastic valves are suitable for temperatures up to 100°C.

SEV ORDERING CODE	
Series:	SEV
Const	S - Steel P - Plastic
Function	S - Supply E - Extract F - Fire Rated
Fixing	F3 - Mounting Ring
Finish	W - White 7 - Other RAL/BS Code (additional costs may apply)
Example: SEV/S/E/W/200dia	

SEV/S STEEL DIMENSIONS

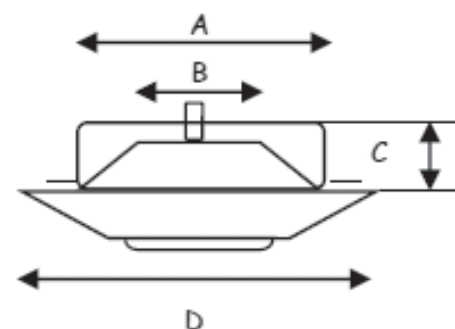
SIZE	A	B	C
VALVE			
80	115	61	75
100	137	75	75
125	161	100	95
150	202	120	95
160	212	130	95
200	248	157	120

SIZE	A	B	C
MOUNTING RING			
80	80	108	30
100	100	130	30
125	125	155	30
150	150	178	30
160	160	190	30
200	200	236	30



SEV/P PLASTIC DIMENSIONS

SIZE	A	B	C	D
100	95	80	40	145
125	120	93	40	158
150	145	124	40	195
160	158	124	40	195
200	195	170	40	245



SEV Performance Data - Extract

AIR VOL (l/s)	SIZE	DISC POSITION (% OPEN)									
		25%		50%		75%		100%			
		Pa	NR	Pa	NR	Pa	NR	Pa	NR	Pa	NR
10	100	64	26	36	21	15	/	8	/		
	125	20	/	10	/	7	/	3	/		
15	100			54	30	31	21	16	/		
	125	45	20	23	/	15	/	8	/		
20	100			79	32	51	28	26	21		
	125	55	22	42	20	25	/	15	/		
	160	51	23	25	/	15	/	10	/		
	125			65	27	40	20	23	/		
25	160	80	26	39	20	24	/	16	/		
	200	29	/	12	/	5	/	5	/		
	125			94	33	60	25	34	/		
30	160			56	25	34	20	23	/		
	200	41	21	17	/	8	/	3	/		
	125					95	35	61	28		
40	160			100	33	61	28	42	5		
	200	74	33	31	/	21	/	14	/		
50	160			156	39	95	34	66	30		
	200			41	26	16	/	8	/		
60	200			59	36	28	22	12	/		
70	200			81	87	39	27	17	/		
80	200					50	33	22	/		
100	200					80	45	35	28		

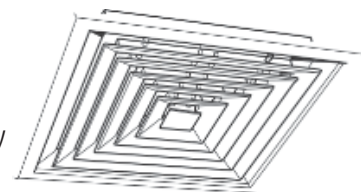
SEV Performance Data - Supply

AIR VOL (l/s)	SIZE	DISC POSITION (% OPEN)									
		25%		50%		100%					
		T	Pa	NR	T	Pa	NR	T	Pa	T	NR
10	100	0.8	45	28	0.8	17	20	0.6	5	/	/
	125	0.8	20	/	0.6	6	/	0.5	2	/	/
15	100				1.1	38	26	0.9	11	20	20
	125	0.9	20	/	0.9	14	/	0.7	5	/	/
20	100							1.2	20	21	21
	125	1.5	82	33	1.3	26	20	0.9	9	/	/
	160	0.8	15	/	0.8	10	/	0.5	4	/	/
	125				1.6	40	25	1.1	14	/	/
25	160	1.0	22	20	0.9	16	/	0.7	6	/	/
	200	0.8	23	/	0.6	8	/	0.5	2	/	/
	125				1.9	58	31	1.4	20	/	/
30	160	1.2	40	20	1.0	23	/	0.8	9	/	/
	200	0.8	14	/	0.7	11	/	0.6	4	/	/
	125							1.8	36	25	25
40	160	1.7	73	33	1.4	41	26	1.1	16	/	/
	200	1.4	62	30	1.0	22	/	0.8	7	/	/
50	160				1.7	63	33	1.3	26	22	22
	200	1.7	93	38	1.2	35	25	1.0	11	/	/
60	200				1.6	50	35	1.2	16	/	/
70	200				1.8	68	38	1.5	23	23	23
80	200				2.0	85	42	1.7	30	27	27
100	200							2.1	47	35	35

LOUVRE FACE DIFFUSER - SQD

DESCRIPTION & FEATURES

Square & Rectangular Louvre Face Diffusers (SQD) are suitable for Supply Air ceiling applications where air is to be introduced with the maximum diffusion and minimum disturbance. Also suitable for Extract/Return Air applications.



The core, available to give 1, 2, 3 or 4 way throw patterns including 2 way corner. The SQD can be supplied with Opposed Blade Dampers, Non Vision Plates, Plenum boxes and Adapter Boxes. SQD diffusers are manufactured from extruded aluminium sections.

SQD diffusers have a high free area compared to other types, which means they can handle more air with less noise and fan pressure requirements, which partly explains their popularity.

SQD diffusers have Removable Cores which makes them easy to fit without visible screws and enables access for cleaning.

Standard finish is RAL9010 or polyester powder coated to the customers colour requirement.

PLENUM BOXES

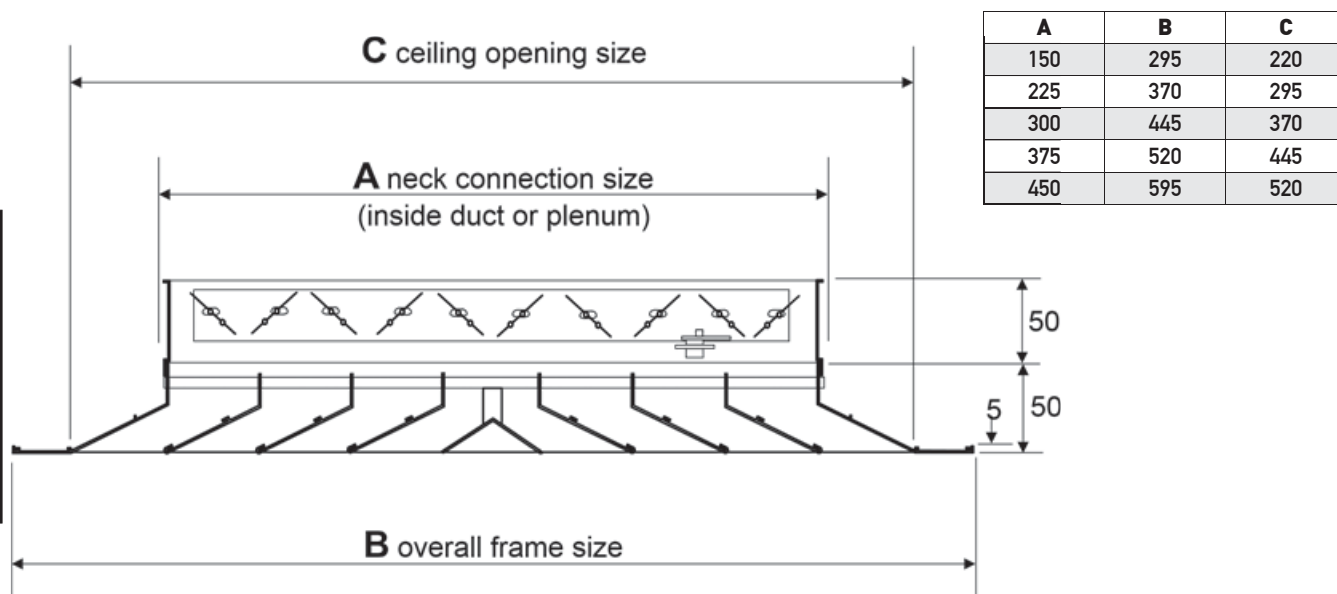
Plenum boxes are accessories for use with Grilles and Diffusers. They are designed to equalise the pressure profile within the box and hence provide an even velocity at the face of the Grille or Diffuser without the use of Equalising Grids.

SQD ORDERING CODE (DIFFUSER)	
Series:	SQD
Ceiling	S - Standard (cut in) M - Modular (595sq tile) T - Tegular (see data sheet) B - Clip in tile
Pattern	1 2c (corner) 2o (opposite) 3 4 -Way
Damper	OB - Opposed Blade Damper 0 - No Damper
Blank	B1 B2c (corner) B2o (opposite) B3
Access	N - Non Vision Plate, R - Neck Reducer (150, 225, 300, 375)
Fixing	F0 - No fixings, F1 - CSK Flange Fixing Holes
Finish	1 - (Mill Finish) 2 - RAL9006 (Silver/Grey) 3 - RAL9010 (White) 4 - RAL9005 (Black) 5 - RAL9003 (White) 6 - RAL9016 (White), 7 - Other RAL/BS Code (additional costs may apply) 8 - Chrome Finish - Powder Coated
Example: SQD/M/4/OB/0/R300/F0/3	

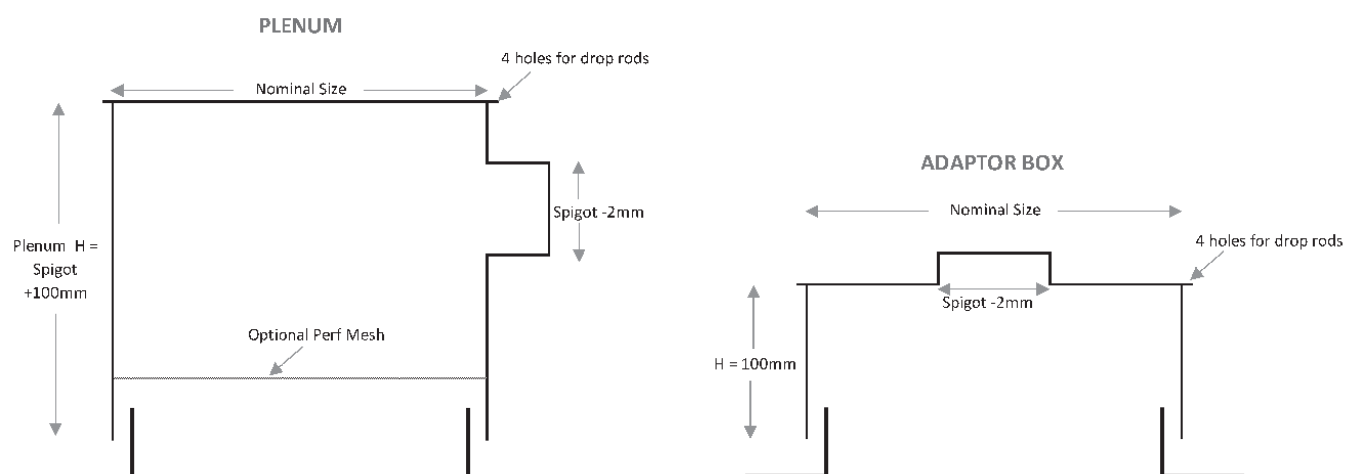
SQD ORDERING CODE (PLENUM)	
Type	PBU - Un-Lined Side PBL - Lined Side PBA - Adaptor Top
Series	SQD
Mesh	P - Perforated Equalising Mesh 0 - No Equalising Mesh
Damper	LS - Lever Spigot Damper CS - Cord Spigot Damper 0 - No Damper
Spigot	OP - 2 Opposite Spigots AD - 2 Adjacent Spigots FL - Flat Oval Spigot
Finish	IN - Black Internal EX - Black External IE - Black Internal & External
Example: PBL/SQD/CS	

LOUVRE FACE DIFFUSER - SQD

SQD DIMENSIONS (DIFFUSER)



PLENUM BOX DIMENSIONS



Side entry as drawn. Top entry 250 high.

SQD Performance Data

AIR VOL (l/s)	SIZE	SPIGOT (if applicable)	DIFFUSER c/w SUPPLY SIDE ENTRY PLENUM					EXTRACT				
			P.DROP (Pa)	NOISE (NR)	4-Way T	3-Way T	2-Way T	1-Way T	DIFFUSER + PLENUM		FACE ONLY	
25	150x150	98dia	17	/	0.8	0.9	1.1	1.4	18	/	5	/
	150x150	123dia	10	/	0.8	0.9	1.1	1.4	11	/	5	/
30	150x150	123dia	14	/	0.9	1.0	1.3	1.7	16	/	8	/
	150x150	123dia	25	20	1.2	1.3	1.7	2.3	27	23	13	23
40	150x150	148dia	16	20	1.2	1.3	1.7	2.3	18	23	13	23
	150x150	148dia	25	25	1.5	1.6	2.1	2.9	28	30	20	30
50	150x150	148dia	13	/	1.0	1.1	1.4	1.9	22	/	5	/
	225x225	148dia	15	20	1.5	1.6	2.1	2.9	16	22	10	22
75	225x225	198dia	26	30	2.0	2.2	2.8	3.8	28	30	16	30
	225x225	198dia	16	20	1.5	1.6	2.1	2.9	18	/	5	/
100	300x300	198dia	10	/	1.5	1.6	2.1	2.9	11	20	5	20
	300x300	248dia	30	35	2.5	2.8	3.5	4.8	33	35	25	35
125	225x225	223dia	15	20	1.9	2.1	2.6	3.6	16	23	8	23
	300x300	248dia	10	20	1.9	2.1	2.6	3.6	11	23	8	23
150	300x300	248dia	21	25	2.3	2.5	3.2	4.3	23	27	11	27
	300x300	298dia	14	25	2.3	2.5	3.2	4.3	15	27	11	27
175	375x375	250dia	15	15	1.8	2.0	2.5	3.4	16	/	5	/
	300x300	298dia	19	28	2.6	2.9	3.7	5.0	21	30	15	30
200	375x375	298dia	13	20	2.1	2.3	2.9	4.0	14	22	7	22
	450x450	298dia	10	/	1.8	2.0	2.5	3.3	11	/	5	/
225	375x375	298dia	17	22	2.4	2.7	3.4	4.6	20	25	9	25
	375x375	348dia	12	22	2.4	2.7	3.4	4.6	13	25	10	25
250	450x450	298dia	13	/	2.0	2.2	2.8	3.8	14	/	5	/
	375x375	298dia	21	25	2.7	3.0	3.8	5.1	24	28	11	28
275	375x375	348dia	15	25	2.7	3.0	3.8	5.1	17	28	11	28
	450x450	298dia	16	/	2.3	2.5	3.2	4.3	17	20	5	20
300	450x450	348dia	17	/	2.3	2.5	3.2	4.3	12	20	5	20
	375x375	348dia	19	28	3.0	3.3	4.2	5.7	20	31	13	31
325	450x450	348dia	14	20	2.5	2.8	3.5	4.8	15	23	7	23
	450x450	398dia	10	20	2.5	2.8	3.5	4.8	11	23	7	23
350	450x450	348dia	17	22	2.8	3.0	3.9	5.2	18	25	8	25
	450x450	398dia	12	22	2.8	3.0	3.9	5.2	13	25	8	25
375	450x450	348dia	20	25	3.0	3.3	4.2	5.7	22	28	9	28
	450x450	398dia	14	25	3.0	3.3	4.2	5.7	16	28	9	28
400	450x450	348dia	23	27	3.3	3.6	4.6	6.2	25	30	11	30
	450x450	398dia	17	27	3.3	3.6	4.6	6.2	19	30	11	30

SQD Performance Data (continued)

AIR VOL (l/s)	SIZE	SPIGOT (if applicable)	DIFFUSER c/w SUPPLY SIDE ENTRY PLENUM						EXTRACT							
			P.DROP (Pa)	NOISE (NR)	4-Way		3-Way		2-Way		1-Way		DIFFUSER + PLENUM		FACE ONLY	
					T	T	T	T	T	T	T	T	Pa	NR	Pa	NR
350	450x450	398dia	20	30	3.5	3.9	4.9	6.7	21	32	12	32	32	32		
	450x450	448dia	15	30	3.5	3.9	4.9	6.7	16	32	12	32	32	32		
400	450x450	398dia	25	32	4.0	4.4	5.6	7.6	28	35	16	35	35	35		
	450x450	448dia	19	32	4.0	4.4	5.6	7.6	21	35	16	35	35	35		

Throw data (metres) is based on to a Terminal Velocity of 0.5m/s to give an average room air movement of 0.25m/s when fitted within a 2.7m high ceiling.

Sound Power Levels (NR) and Pressure Drops (Pa) applies to a fully opened Damper. The assumed room absorption is between 8-10dB.

Selection and tests are based on +/- 10°C.

Where diffusers are required to be blanked (3, 2 or 1 way blow), the required volume should be divided 0.75, 0.5 or 0.25 respectively, and selections made from the 4 way performance charts. Where there is no ceiling effect, throw is reduced by approximately 35%.

/ indicates a value of less than 20.