

# AIRFOIL



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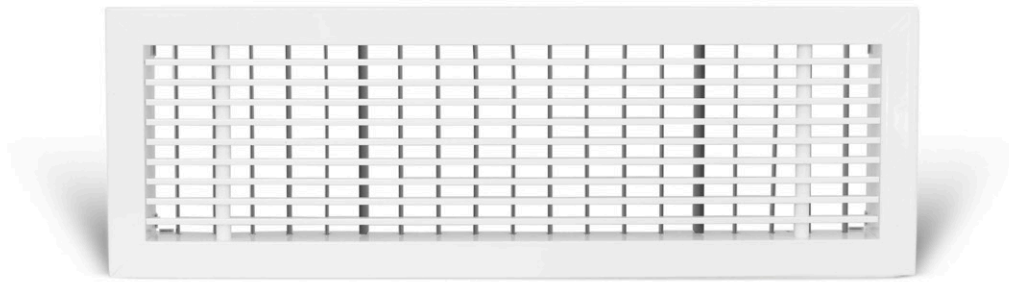
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**LINEAR BAR GRILLE  
VERTICAL BLADE  
LBG-1ARV-00**



## LINEAR BAR GRILLE VERTICAL BLADE LBG-1ARV-00

### PRODUCT DESCRIPTION AND APPLICATION

Airfoil's Australian Made and Engineered Linear Bar Grille with Vertical Blades LBG-1ARV-00, epitomises both beauty and functionality when installed in a wall for optimal supply air results. Characterised by its classy aluminium design and sturdy construction, this grille effortlessly blends the features of a traditional bar grille with those of a single deflection register.

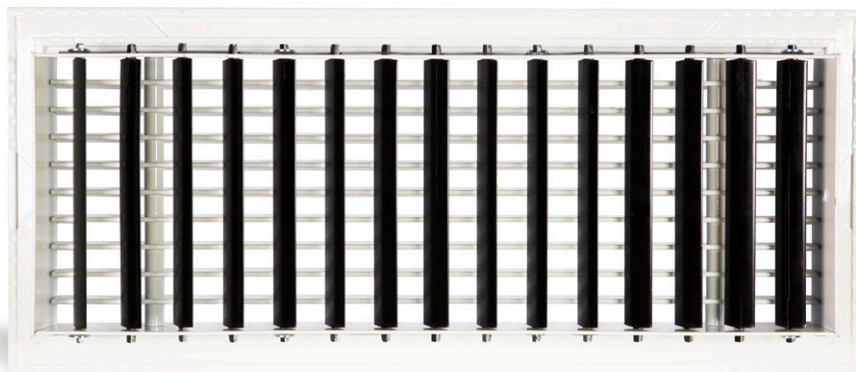
The manually adjustable aerofoil rear vertical blades, spaced at 25mm intervals, provide precise control over airflow to achieve desired air patterns. Additionally, the front horizontal 0 Degree Flat Bar Grille blades, spaced at 12mm intervals, ensure maximum airflow projection through the grille's face. The unique vertical blades are securely housed within the grille's 50mm deep outer frame, thanks to a robust spring-loaded steel wire configuration reinforced by knock-on star washes for added strength and quality.

With its sleek 25mm frame size, this grille offers a seamless contemporary aesthetic that can be customised to any size requirement. The LBG-1ARV-00 model can be powder-coated in a variety of colours, with the option for a satin black finish on the rear vertical blades, providing a discreet look without compromising performance. This innovative product is ideally suited for supply air applications requiring precise adjustments to horizontal and vertical airflow patterns, making it a versatile solution for various supply air applications.

## LINEAR BAR GRILLE VERTICAL BLADE LBG-1ARV-00

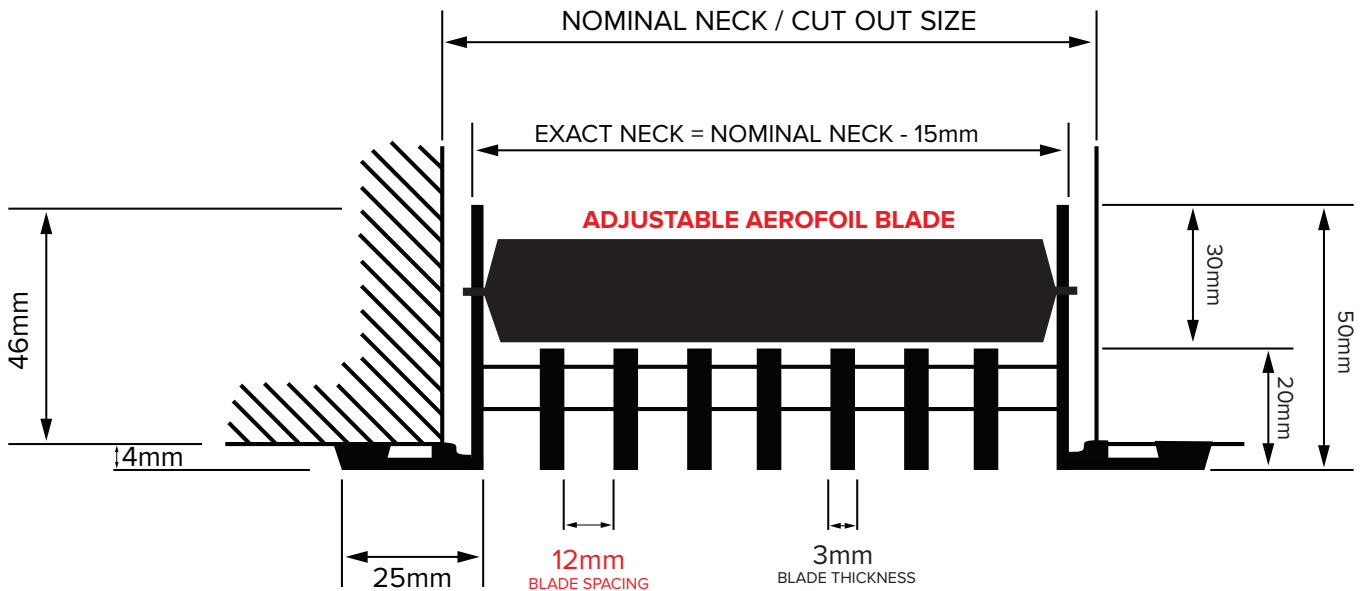
### PRODUCT SPECIFICATIONS AND INFORMATION

- **Product ordering code – LBG-1ARV-00**
- Australian Made and Designed
- Supply Air application
- Aluminium Construction
- Manufactured to any size
- 25mm frame
- 50mm deep outer frame
- 0° flat bar grille blades maximising horizontal throw capacity
- 12mm bar grille blade spacing as standard
- 25mm vertical aerofoil blade centres
- Bar grille blades are held via an aluminium spaced tube supporting mullion
- Adjustable aerofoil blades held via steel spring wire and knock-on star washers
- Wall mounted installation
- Powder coated standard white or in our Natural Anodised silver finish
- Vertical aerofoil blades are powder-coated satin black as standard
- Special powder-coating colours available upon request
- Product suitable for specific adjustments where horizontal and vertical airflow patterns are required
- Airfoil tested information available
- **The following metric performance data has been derived from exhaustive testing in elaborate laboratories of acoustic and vibrational engineers Louis A. Challis and Associates Proprietary Limited. Darling Street, Sydney 2000**



## LINEAR BAR GRILLE VERTICAL BLADE LBG-1ARV-00

### CROSS SECTIONAL DIAGRAM



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## LINEAR BAR GRILLE VERTICAL BLADE LBG-1ARV-00

### PERFORMANCE DATA – SUPPLY AIR

Neck Size	Total Pressure (pa)	3	5	9	14	20	27	36	45
50mm	Lit/sec/metre	34	51	68	85	100	110	130	150
	Throw min/max (m)	1.2-2.4	2.1-4.3	3-5.8	3.9-7.2	4.8-8.4	5.7-9.4	6.3-10.1	6.6-10.8
	Noise Rating NR	-	14	15	21	26	30	34	37
75mm	Lit/sec/metre	58	89	110	140	170	200	230	270
	Throw min/max (m)	2.1-3.6	3.0-5.0	4.5-6.7	5.4-8.4	6.6-9.4	8.1-10.8	9.0-12.2	10.5-13.7
	Noise Rating NR	-	-	14	20	25	29	33	36
100mm	Lit/sec/metre	86	120	170	210	250	300	340	380
	Throw min/max (m)	2.7-3.8	4.5-6.0	5.7-7.7	7.2-9.1	9.0-10.8	9.9-12.2	10.8-13.4	12.6-15.4
	Noise Rating NR	-	-	15	21	26	30	34	37
150mm	Lit/sec/metre	130	210	270	340	410	480	550	620
	Throw min/max (m)	4.3-5.5	6.4-7.3	7.8-8.8	9.8-10.6	11.7-12.5	13.6-14.3	14.7-15	16.6-16.8
	Noise Rating NR	-	-	21	22	27	31	35	38

Sound values are based on a room absorption of 8 dB, re 10<sup>-12</sup> watts for an active length of **3 metres**.

**Horizontal Throw** distances indicated are terminal velocities of 0.25 and 0.75 metres per second for an active length of **3 metres**. The following corrections for length should be made.

Active length in metres NR	0.3 <i>subtract 9</i>	0.6 <i>subtract 7</i>	1.2 <i>subtract 4</i>	2 <i>subtract 1</i>	3 <i>table value</i>	4 <i>add 1</i>	6 <i>add 3</i>
Throw at term vel. .075	multiply throw by 0.3		multiply throw by 0.7		table values		
Throw at term vel. .025	multiply throw by 0.6		multiply throw by 0.8		table values		

When used as a **Return Air Grille** the following corrections should be made.

1. NR value increases by 4.
2. Negative Static Pressure = Total Pressure (shown in the table) x 0.8

## LINEAR BAR GRILLE VERTICAL BLADE LBG-1ARV-00

### PERFORMANCE DATA – SUPPLY AIR

Neck Size	Total Pressure (pa)	5	10	20	30	40	50	60	70
100mm	Lit/sec/metre	140	210	300	360	415	470	520	565
	Throw (m) 0.25m/s to 0.75m/s	3.3-5.9	4.4-7.2	6.4-9.6	7.8-11.5	9-13.5	10.5-15	12-15.5	13.5-16
	Noise Rating NR	<15	<15	28	32	37	40	44	46
150mm	Lit/sec/metre	230	320	460	575	670	750	820	900
	Throw (m) 0.25m/s to 0.75m/s	4.5-6.5	6-8	8.5-11.5	9.9-13	11-14.5	12-16	13.5-17	15-19
	Noise Rating NR	<15	<15	28	32	38	41	44	48
200mm	Lit/sec/metre	310	400	565	680	785	865	950	1020
	Throw (m) 0.25m/s to 0.75m/s	3.2-6.5	4.7-9.2	6.4-13	8.5-15.5	9-18.5	9.5-19.5	10.5-21	11.5-23
	Noise Rating NR	<15	28	37	40	43	46	47	50
250mm	Lit/sec/metre	425	530	760	920	1035	1150	1270	1400
	Throw (m) 0.25m/s to 0.75m/s	2.9-5.5	4.5-9	6.5-13	8-15.5	10.5-18.5	11-20	12-23	13-25
	Noise Rating NR	21	31	37	40	44	46	48	51
300mm	Lit/sec/metre	505	690	920	1210	1380	1550	1650	1820
	Throw (m) 0.25m/s to 0.75m/s	3.5-6.5	5.2-10	6.8-13.5	8.4-16.5	10.5-21	12-23	13-25	13.5-26
	Noise Rating NR	21	26	36	40	43	46	47	52
400mm	Lit/sec/metre	665	860	1150	1400	1625	1850	2025	2170
	Throw (m) 0.25m/s to 0.75m/s	3.5-6.5	5-10	8-15	9-17	11-21	12-24	13-26	14-28
	Noise Rating NR	21	26	36	40	43	46	47	52

**Horizontal Throw** distances indicated are terminal velocities of 0.25 and 0.75 metres per second for an active length of **1.2 metres**.

For Return or Exhaust air, Pressure drop and Noise levels may be calculated by using the following formula.  
 Static Pressure Drop - Return Air = Static Pressure (Pa) X 1.5 & NR Return Air = NR + 9