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**HINGED LINEAR BAR GRILLE
WITH FILTER
H-LBG-00-F 12MM FLANGE**



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PRODUCT DESCRIPTION AND APPLICATION

Airfoil's Australian Made and designed Hinged Linear Bar Grille with Filter H-LBG-00-F (12mm Flange), stands out as a remarkable architectural product and is highly sought after by customers. Crafted from premium aluminium extruded profiles, this grille can be customised to fit any dimensions. Primarily used for ceiling-mounted Return Air applications, this bar grille includes a 12mm Filter as standard.

Its standout feature is the stylish and refined 20mm x 3mm Flat Bar blades, arranged at the standard 12mm pitch. The Zero Degree flat bar blades ensure consistent airflow without deviation, maximising the grille's return air capacity through its face. The blade systems are arranged using a round aluminium spaced tube for added support and strength. These systems are attached to the grille's inner hinged frame through a robust industrial rivet system.

With a slimline 12mm frame that provides an attractive appearance, the grille's outer frame depth is 50mm. The sturdy outer frame includes spring clips allowing for the simple installation of the hinged core centre by clicking it in place.

This user-friendly grille, which features a filter, is ordered based on blade length followed by height and can be custom powder-coated in a colour of choice. Ideal for both domestic and commercial settings where a Return Air Application is required, this architectural marvel offers both functionality and aesthetic appeal.

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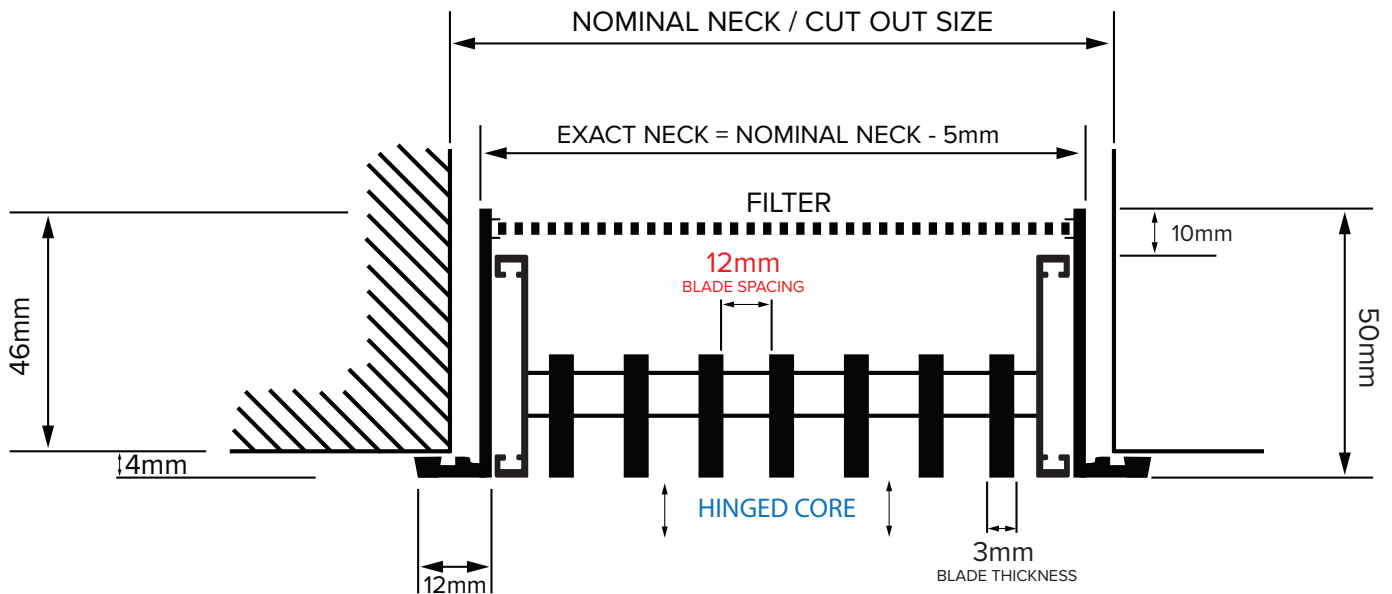
PRODUCT SPECIFICATIONS AND INFORMATION

- **Product ordering code – H-LBG-00-F (12mm Flange)**
- Australian Made and Designed
- Return Air application
- Aluminium Construction
- Manufactured to any size
- Hinged Core for easy installation and access
- Order blade length first, then by height
- Hinged on the long side as standard
- 12mm frame
- 50mm deep frame
- 20mm x 3mm flat bar blade
- 12mm blade spacing as standard (alternate blade spacing available)
- Blades are held via an aluminium spaced tube supporting mullion
- Wall or ceiling mounted installation
- Powder-coated standard white or in our Natural Anodised silver finish
- Special powder-coating colours available upon request
- Product suitable for all domestic and commercial settings
- 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**



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CROSS SECTIONAL DIAGRAM



DISCLAIMER:

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HINGED LINEAR BAR GRILLE WITH FILTER H-LBG-00-F 12MM FLANGE

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^{-12} 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 subtract 9 | 0.6 subtract 7 | 1.2 subtract 4 | 2 subtract 1 | 3 table value | 4 add 1 | 6 add 3 |
|-------------------------------|-----------------------|-------------------|-----------------------|-----------------|------------------|------------|------------|
| 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

HINGED LINEAR BAR GRILLE WITH FILTER H-LBG-00-F 12MM FLANGE

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