

# AIRFOIL

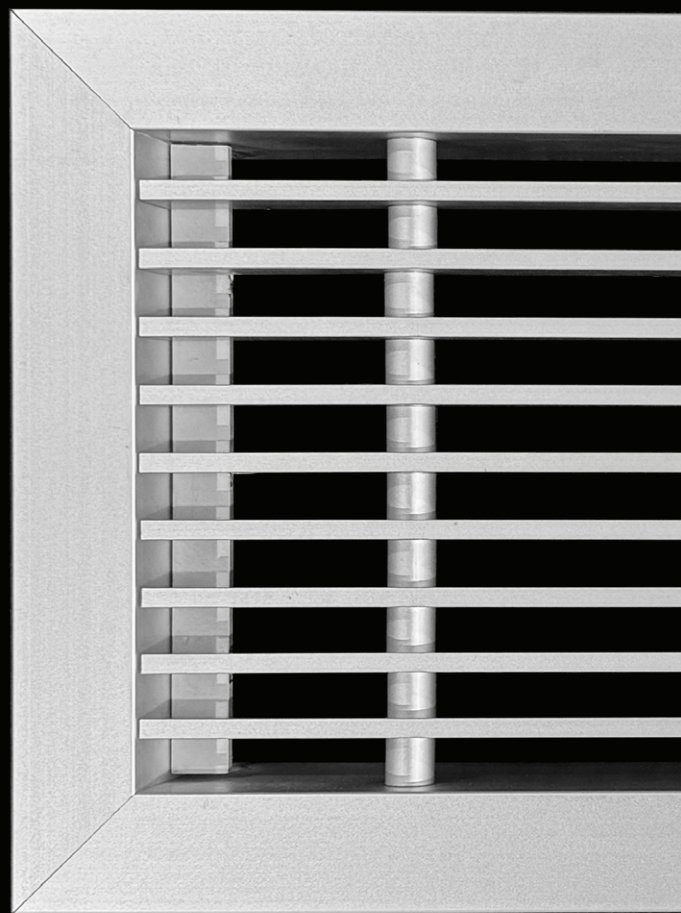


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**WALK ON FLOOR GRILLE  
BGF-15**



## WALK ON FLOOR GRILLE BGF-15

### PRODUCT DESCRIPTION AND APPLICATION

Airfoil's Australian Made and designed Walk-On Floor Grille BGF-15 serves both supply and return air functions with seamless efficiency when installed on the floor. Crafted with precision from premium-grade aluminium, the Floor Grille stands as a testament to durability, boasting an impressive weight capacity of up to 150kg. Featuring a 50mm Deep frame with a unique 25mm return angle for easy installation.

The 15° kick blades are securely held in place by a robust 20mm x 12mm x 3mm welded angle, fortified further by intersecting security rods meticulously bolted to the frame. This meticulous construction not only guarantees stability but also enhances the grille's resilience to withstand the rigors of everyday use.

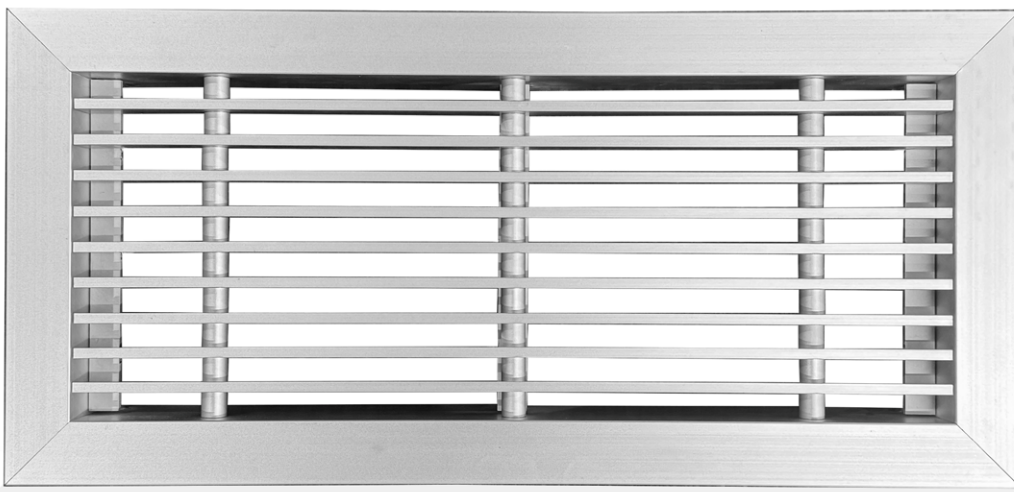
For applications requiring return air functionality, the option to incorporate a filter ensures the purity of the air distribution system, maintaining an environment of pristine cleanliness.

In addition to its functional superiority, the Walk-On Floor Grille (BGF-15) also excels in aesthetic appeal. Available in a myriad of finishes, including a powder-coat in any Dulux colour or a Natural Anodised option, it seamlessly integrates into any design scheme. Its sleek, contemporary appearance effortlessly marries form with function, elevating the ambiance of any space while embodying exceptional strength and style.

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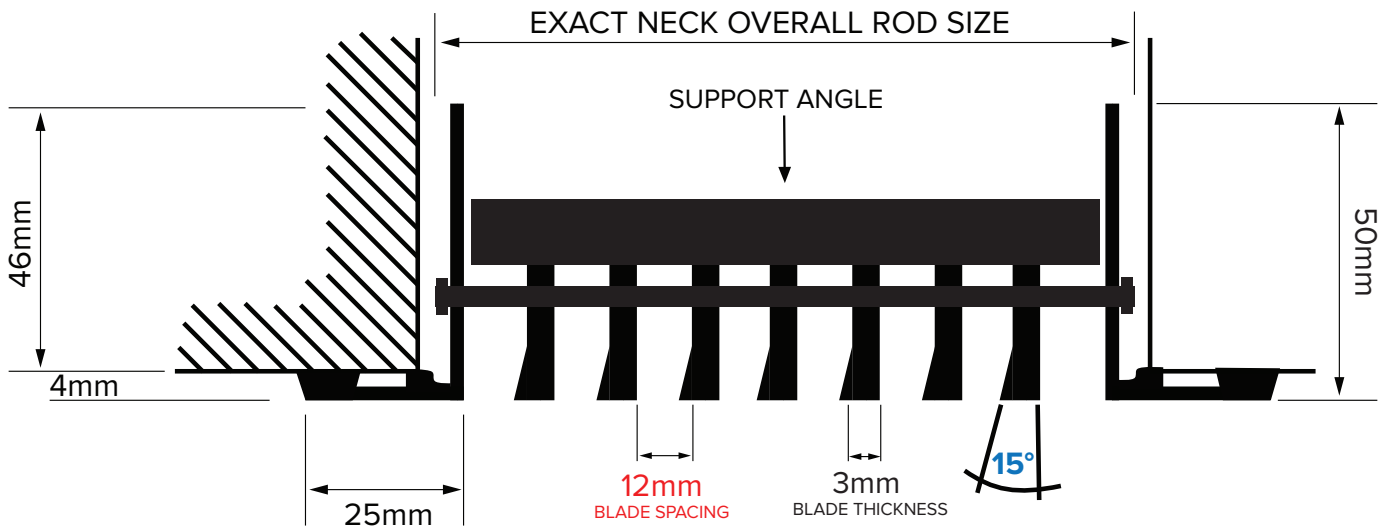
### PRODUCT SPECIFICATIONS AND INFORMATION

- **Product ordering code – BGF-15**
- Australian Made and Designed
- Supply and Return Air application
- Aluminium Construction
- Floor installation
- Manufactured to any size
- 25mm frame
- 50mm deep frame
- 20mm x 3mm blades
- Unique 15° kick bar grille blade maximising horizontal throw capacity
- 150kg weight capacity
- 12mm blade spacing as standard (alternate blade spacing available)
- Blades are held by robust 20mm x 12mm x 3mm welded angle
- Optional filter available
- 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 where the even distribution of air is paramount
- 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**



## WALK ON FLOOR GRILLE BGF-15

### CROSS SECTIONAL DIAGRAM



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## WALK ON FLOOR GRILLE BGF-15

### PERFORMANCE DATA

#### SUPPLY AIR

| Neck Size | Total Pressure (pa) | 3       | 5       | 9       | 14       | 20         | 27        | 36        | 45        |
|-----------|---------------------|---------|---------|---------|----------|------------|-----------|-----------|-----------|
| 50mm      | Lit/sec/metre       | 34      | 52      | 69      | 86       | 100        | 130       | 150       | 170       |
|           | Throw min/max (m)   | 1.2-2.4 | 2.1-4.3 | 3-5.8   | 3.9-7.2  | 4.8-8.4    | 5.4-9.1   | 6.3-9.8   | 6.6-10.8  |
|           | Noise Rating NR     | -       | 14      | 22      | 28       | 33         | 38        | 42        | 46        |
| 75mm      | Lit/sec/metre       | 57      | 86      | 110     | 140      | 170        | 200       | 230       | 250       |
|           | Throw min/max (m)   | 1.8-3.1 | 3.0-5.0 | 4.5-6.5 | 5.4-7.9  | 6.6-9.4    | 8.1-10.8  | 9.0-12    | 10.5-13.4 |
|           | Noise Rating NR     | -       | -       | 20      | 26       | 31         | 36        | 40        | 44        |
| 100mm     | Lit/sec/metre       | 86      | 120     | 160     | 200      | 240        | 280       | 320       | 360       |
|           | Throw min/max (m)   | 2.7-3.8 | 3.9-5.8 | 5.7-7.7 | 6.6-8.6  | 8.4 - 10.6 | 9.9-12.0  | 10.5-13.4 | 11.7-14.4 |
|           | Noise Rating NR     | -       | 13      | 21      | 27       | 32         | 37        | 41        | 45        |
| 150mm     | Lit/sec/metre       | 130     | 200     | 260     | 330      | 400        | 460       | 520       | 600       |
|           | Throw min/max (m)   | 4.3-5.2 | 6.4-7.3 | 7.8-8.8 | 9.8-10.2 | 11.4-11.8  | 12.2-13.2 | 13.2-14.3 | 15.2-15.7 |
|           | Noise Rating NR     | -       | 13      | 21      | 27       | 32         | 37        | 41        | 45        |

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<br>NR | 0.3<br>subtract 9     | 0.6<br>subtract 7 | 1.2<br>subtract 4     | 2<br>subtract 1 | 3<br>table value | 4<br>add 1 | 6<br>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

## WALK ON FLOOR GRILLE BGF-15

### 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