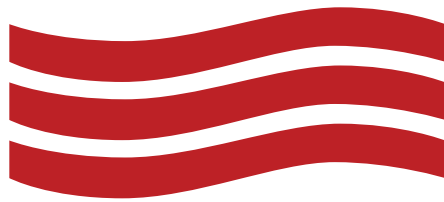


# AIRFOIL



GRILLES  
DUCT  
FITTINGS

*making it happen sooner...*



**CATALOGUE**  
EDITION 7.1

Primary distributor for

**TROX® TECHNIK**  
The art of handling air



# CORE VALUES AND VISION

## BUSINESS CONCEPT

Our mission is to develop, manufacture, stock and market high-quality air diffusion and ventilation products. With our customers in focus, we aim to be the most dependable company for quality, availability and delivery.

## CORE VALUES

Airfoil's core values of quality, availability and reliability of delivery focus on the customer.

## QUALITY

To Airfoil, quality means offering reliable products. In addition, quality must permeate through to every part of the business, from product development and manufacture to logistics and customer support. Our aim is to be the first choice for our customers, and we have therefore developed a broad, well balanced product portfolio of standardised quality products. Our status as a quality assured company ensures all aspects of the operations adhere to best practices.

## AVAILABILITY

To ensure availability, we have chosen to stock a substantial quantity of products at all times. Instead of starting production when we receive an order, we can deliver right away from our central warehouse. The strategy of holding stock translates into higher productivity on our custom-made products, allowing the business to have secure control over the entire flow of goods.

## DELIVERY AVAILABILITY

Delivery reliability means the ability to deliver, without delay, the products and solutions that the customer needs. The standard range is delivered directly from stock and our custom-made products are manufactured internally with the best lead times in the industry. Air diffusion and ventilation systems are installed late in the construction process, and the installation contractor often needs the products at short notice. Against that background, we have built up an efficient production and logistics organisation to cater for the needs of the contractor. We also place great emphasis on punctual deliveries when producing directly to order.



# GRILLES

80,000 grilles in stock



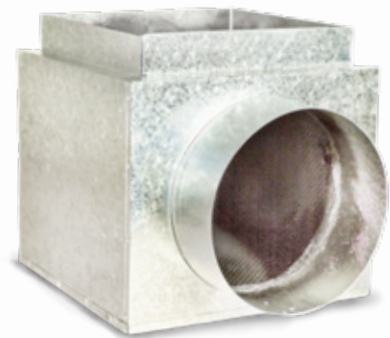
# DUCT

20,000 lengths of insulated duct



# FITTINGS

manufacture and stock a huge variety of sheet metal fittings



## COMPANY PROFILE

Airfoil is the longest running supplier of air conditioning components and accessories in Australia. Our success is based on our motto **“Making it happen sooner.”** Today we are a young energetic team servicing the whole country, but remain proudly Australian owned and family operated.

Airfoil stocks **over 80,000 grilles, 20,000 lengths of duct and a complete range of sheet metal fittings.** This means we can fill any size order quickly,

but also at the right price. If your job has specific requirements, we can customise any component in our factory complex with the fastest turnaround times in the industry.

We are the **only quality assured company** in the sector. As a market leader, we pride ourselves on never turning down a challenging job. We look for quality solutions that will fit into the timeframe and budget. There is no job too small or too big.

Airfoil is where **fast turnaround time meets excellent quality.** Come and experience the difference.



# THE AIRFOIL DIFFERENCE



## QUALITY ASSURED

We are the only NSW manufacturer in the sector to have **quality assured systems**. This provides us with the framework to deliver a consistent product across the board. Any mistakes are logged and corrected. An internal audit is performed monthly and an **official audit by SAI Global** every six months. You can have confidence that we are **continually improving our manufacturing processes** to provide you with better service.

### What is quality management and ISO 9001?

ISO 9001 is the world's most widely recognised Quality Management System (QMS). It belongs to the ISO 9000 family of quality management system standards (along with ISO 9004), and helps organisations to meet the expectations and needs of their customers, amongst other benefits.

An ISO 9001 quality management system will help to continually monitor and manage quality across all operations, and outlines ways to achieve, as well as benchmark, consistent performance and service.

### About SAI Global

SAI Global helps organisations manage risk, protect reputation, and perform better in an increasingly complex and interconnected ethical and regulatory environment. Through their trusted expertise, services and technology, SAI Global help manage the entire life-cycle of risk. Solutions include risk management software, standards and regulatory content, and ethics and compliance learning. Services include risk assessments, certification, testing and audits. In Australia, they are also a leading provider of settlement related services; company, personal and property information.

SAI Global Limited is listed on the Australian Securities Exchange and the head office is in Sydney, Australia. They have around 2,000 employees in 29 countries and 51 locations across Europe, North America and Asia.







## LOCALLY MADE

All our custom products are made in Australia at our 7,800 square metre factory complex in Moorebank, Sydney. We don't expect our customers to buy our products just because we're an Australian manufacturer. Our customers buy our products because our grilles, duct, and fittings are manufactured to the highest standard, at competitive prices, and always on time. Making locally means we cut turnaround times and can control the quality of the product.

## CUSTOM-MADE

Airfoil has never turned away a job for being too hard or because we haven't done it before. It doesn't matter whether it's a bar grille that's made like a triangle or a grille installed under a staircase, we'll make it. **No job is beyond our capability.** We have the staff with the talent and experience to make anything you can throw at us!

## LATEST AND BEST

Airfoil consistently invests in cutting-edge technologies to make our work faster and more accurate. This investment can be a purchase of the latest steel plasma cutting machines, new software for the office, or applying the latest ideas to our

production processes. We are **continually innovating to make our products, timeframes, and your experience better.**

## TECHNICAL SERVICES AND SUPPORT

Airfoil's staff are our major asset. We have the experience, knowledge and desire to make your job easier. We can assist in selection of products, technical specifications and workable solutions. If you need to know what size grille fits a particular sized room and air flow, we will help. If you need a site visit for measurements or after sales support, **we are there for you.**







## REAL PARTNERSHIP

We offer a real partnership with our customers. We care about your job and your experience with Airfoil. We understand that we are a small part of the whole job and shouldn't be the cause of any worries. When a customer places an order we become part of their job and **work as a team**. Our young dynamic staff take on the responsibility and **communicate openly** to ensure you're always fully informed about the progress of your job.

## FAST TURNAROUND

Airfoil's motto is "**Making it happen sooner**" and we mean it. We offer the fastest turnaround in the industry, **usually from 5 to 10 working days** in any State; immediate delivery for duct, 10 to 15 working days for custom-made sheet metal items and custom-made grilles. Other suppliers don't seem to put as much emphasis on the importance of getting a job delivered on time. At Airfoil, we do whatever it takes to live up to our motto "**Making it happen sooner.**"

## ONE STOP SHOP

Airfoil is your one stop shop for all your air conditioning grilles, duct and sheet metal fittings. This not only makes our customers lives easier, but also **makes delivery more secure**. Using just one supplier **consolidates ordering** into one stress-free delivery pipeline that can be scheduled as you need. You deal with an experienced sales person who knows your job from start to finish.

## ORDERING AIRFOIL PRODUCTS

For a catalogue or general enquiries about Airfoil products please contact your local state office via the details on the back of the catalogue. If you're in WA or NT contact the QLD office and SA or TAS contact the VIC office.







**TROX<sup>®</sup> TECHNIK**  
The art of handling air



**AIRFOIL**  
GRILLES  
DUCT  
FITTINGS

## PRIMARY DISTRIBUTOR FOR TROX

Airfoil's Managing Director, Adam Carney, and the Airfoil team are excited to announce the TROX Primary Dealership.

*"TROX products and equipment are globally renowned in the industry and we are proud to be chosen as their Primary Dealer. With TROX, we are looking forward to being able to provide the most extensive product range on the market here in Australia."*

Adam Carney, Managing Director  
Airfoil Manufacturing Pty Ltd

*"Managing Director Adam Carney and his highly trained and experienced Airfoil team have a proud 40 year history in the Manufacturing of Air Diffusion Products and Accessories. Airfoil is the only **Quality Endorsed Company ISO 9001 (SAI Global)** in the Manufacturing Air Diffusion Sector within Australia. With their commitment to quality, turnaround times, and customer service we believe that Airfoil is a great match for our TROX products."*

Tony Wood-Collier, Director Business Development  
TROX Australia Pty Ltd

## TROX TECHNIK

TROX is a **global leader** in the development and manufacture of air conditioning components, devices and systems. With subsidiary companies in 28 countries on all five continents, TROX boasts 14 production facilities and is present in over 70 countries. TROX products have been **used in some of Australia's flagship construction projects** such as Sydney's Barangaroo, which is the largest construction project in the Southern Hemisphere.

## ORDERING TROX PRODUCTS

For a catalogue or general enquiries about TROX products please contact Airfoil's Australian General Manager, Steven Mifsud on (02) 9601 1066 or via email at [steve@airfoil.com.au](mailto:steve@airfoil.com.au).







## MEMBER OF AIRAH

Airfoil is a proud member of AIRAH. AIRAH is a specialist organisation which represents over 10,000 air conditioning, refrigeration, heating and ventilation professionals across Australia.

## COMMITMENT TO YOU

Our commitment to customer service has seen us grow into a market leader. We will be with you every step of the way. We will always do everything in our power to make your job as smooth as possible. Small and large customers are all treated with the same friendly service that is the hallmark of Airfoil's **40 years of business**. You'll always be met with a smile at Airfoil.

Member of





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**PROJECT: NEWINGTON COLLEGE, STANMORE, SYDNEY**



33  
IDGE RD

# AIRFOIL



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## AIRFOIL



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9601 1066



133 NEWBRIDGE ROAD, MOOREBANK SYDNEY



# 1.0 TEST PROCEDURES



## Selection of diffusers

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, 246–248 Darling Street King's Cross Sydney 2000.

To select the diffuser appropriate to use and situation, two sets of data should be considered:

1. The specific room-use characteristics and the structure components of that room, and,
2. The performance characteristics of the actual ceiling diffuser.

Four important aspects involve from these two sets of data:

1. The air pattern requirements.
2. The throw requirements.
3. The air quality.
4. The desired noise levels

### 1. The air pattern requirement

The disbursement of the air in terms of direction relates to the shape of the space to be conditioned and the positioning of the outlet. For example, the situation of an outlet in the corner of the room may require either a 25, 26 or 27 core pattern or alternatively a 41 or 42 pattern blanked so as to provide for a two-way adjacent air discharge.

For example, a large area, such as a library, supermarket, school room, ballroom or integrated office, may be divided into a series of overlapping space models which may be square or rectangular to suit the 41 or 42 patterns.

Lighting fixtures, exposed beams, support columns and office partitions may all have a strong bearing on the frame style and core pattern that best suits any given situation.

### 2. Throw requirement

Considerations of throw are vital to ensure that the two extremes of air conditioning are not encountered i.e.

1. Inadequate conditioning which fails to adequately cover the total area, and;

2. Excessive air quantities relative to the capacity and positioning of the diffuser creating a draft.

The throw requirement is generally the distance from the outlet to the nearest enclosing wall or the distance from the diffuser to the intersection of its air stream with that being delivered from another diffuser.

For high ceiling applications throw is usually measured to the extent of the 1500 mm level in the room.

The throw should not exceed 1.5 times the ceiling mounting height.

### 3. The air quantity

Measured in litres per second, the air to be delivered into each space is determined by the overall system design.

The number of ceiling outlet supplying each space determines the litres per second being transmitted through each outlet.

The throw should not exceed 1.5 times the ceiling mounting height.

### 4. The noise level requirement

The maximum permissible NR levels from each outlet relate directly to the quantity of air transmitted through any given core style and neck size

The following table may be used as a guide to the generally acceptable NR levels for various common use situations.

NR LEVELS	TYPICAL APPLICATIONS
20-25	Radio, TV studios, Churches
25-30	Theatres, Opera Houses, Concert halls, Board Rooms.
30-35	Conference Rooms, Movie Theatres, Lecture Rooms, Private offices.
35-40	Libraries, general offices, toilets, restaurants.
40-45	Holes, cafeterias.
45-50	Storerooms, large department stores and supermarkets.
Over 50	Manufacturing areas.



## Scope of Performance Data

### Neck Velocities

The performance data is based on neck velocities of 1.5, 2.0, 2.5, 3.0 and 3.5 metres per second of all Airfoil core patterns and for all standard next sizes.

### Pressure Drop

Total pressure drop counted through each core pattern at varying net velocities is set out in pascals. The total pressure drop being the sum of the static pressure drop of the air as it passes through the diffuser and velocity pressure of the air at the neck of the diffuser.

The static pressure drops across the diffuser were measured by using an inclined manometer from tapping point upstream of the plenum box.

### Sound levels

The sound pressure to sound power conversion factors were obtained by measuring the sound pressure level of the sound power calibrator in the sound chamber with the ceiling outlet installed. The measured sound pressure levels were subtracted from the known sound powers of the sound power calibrator to provide a conversion factor in decibels for each octave band.

The Sound power figures for each test were used as a basis for determining a sound pressure level at a distance of 1.5 m from the diffuser in a room with constants as follows:

Octave Band Centre Frequency (Hz)	63	125	250	500	1K	2K	4K	8K
Room Constant (dB)	5	6	7	8	8	8	8	8

### Throw air throw measurement

Maximum and minimum air throw were measured by using a Wallace Thermo-anemometer. The maximum throw was defined for a terminal velocity at the ceiling of 0.65 m/sec. and the minimum throw of terminal velocity of 1.5 m/sec. at the ceiling.

The Wallace Thermo-anemometer was reference checked before each series of measurements by comparison with a Kata thermometer and was regularly referenced relative to its zero level during measurements.



**PROJECT AQUA APARTMENTS  
NORTH SYDNEY**

# 1.2 TEST PROCEDURE

## RETURN, RELIEF AND OUTSIDE GRILLES

## Measurement Procedures for Return, Relief and Outside Grilles

### 1. Sound pressure level measurements

Sound pressure levels in the chamber were measured using the following equipment:

Microphone – Bruel & Kjaer 4144  
Preamplifier - Bruel & Kjaer 2619  
Power supply - Bruel & Kjaer 2807  
Rotating boom – (1m radius, 1 min. cycle)  
Precision Laboratory sound level meter HP8052A  
Precision Octave Filter Set– H P8055A  
Integrating voltmeter– Nebula type 1  
Sound Power calibrator– Challis/Torin type 1

The microphone was mounted on a rotating boom which was used to provide space average in the chamber while the integrating voltmeter provided a time average of the sound pressure level. Averaging times ranging between 10 seconds and 100 seconds were used. This system was referenced level checked before and after each series of measurements using a reference source, Bruel & Kjaer type 4230, and system drift did not exceed 0.1 dB.

Equipment was calibrated in the Challis laboratory which currently holds N.A.T.A. certificates for compliance with AS1259 and ASZ41.

The volume of the reverberation is such as to allow measurements to be made with a high accuracy down to the 63Hz octave band. The accuracy claimed for the measurements of sound pressure level is +/-2 dB at 60Hz, +/- 1.5dB at 125Hz and 8kHz; and +/-1.0dB in octave bands from 250Hz to 4kHz.

The background noise levels due to external noise and system noise were measured at each test air flow and where necessary, corrections for background noise have been applied to the measured sound pressure levels.

In some cases, at the lowest air flows, the measured levels of regenerated noise at 63Hz and in the higher frequency bands were indistinguishable from the system noise level, and in these cases the sound power levels have been quoted as being 10dB below the measured value.

The background and their system noise level in the chamber was typically as follows:-

#### Sound Pressure Levels in dB (re $2 \times 10^{-5}$ Pascals)

Octave Band Centre Frequency (Hz)	63	125	250	500	1K	2K	4K	8K
Typical Air System Noise	45	36	27	20	16	14	8	9

The system allowed accurate measurements for the determination of NR figures down to NR 15.

### 2. Air flow measurements

Each unit was tested at three air flows, using either of two fan configurations:-

#### (a). Air flow is less than 1400 litres per second

These flows were provided by means of axial a series of axle fans or a large centrifugal fan. The desired airflows were measured by means of an ASTM triple nozzle system, installed in an acoustic plenum box incorporating an air straightening grid. The nozzle box was installed in the 600 mm x 600mm ductwork leading to the reverberation chamber, and provided air flows of an overall accuracy of better than +/- 5%.

#### (b). Air flows greater than 1400 litres per second

These flows were provided by means of the centrifugal fan, with air flows measured by means of a series of orifice plates installed in the 600 mm diameter inlet duct leading to the fan. This system is capable of measuring air flows over the range of 500 litres per second to 10,000 litres per second with an overall accuracy of +/- 5%.

### 3. Static pressure drop measurements

The static pressure drop across the test item was measured from a tapping point in the discharge duct of approximately 500 mm upstream of the unit, using an Inclined Manometer. This reads in steps of five Pascals (0.02"WG) and provides an overall accuracy of +/- 2.5 Pascals.



## Selection of supply registers

The following metric performance data has been derived from an exhaustive testing in elaborate laboratories of acoustic and vibrational engineers Louis A. Challis and associates Proprietary Limited, 246–248 Darling Street King's Cross Sydney 2000.

To select the diffuser appropriate to use and situation, two sets of data should be considered:

1. The specific room-use characteristics and the structure components of that room, and,
2. The performance characteristics of the actual ceiling diffuser.

Four important aspects evolve from these two sets of data:

1. The air pattern requirements -drop.
2. The throw requirements.
3. The air quality.
4. The desired noise levels

### 1. The air pattern requirements - Drop

At any constant air quantity (litres per second), the vertical distance the air will drop increases as the neck area of the grill increases. This increased drop is due to the inverse relationship of air velocity at the face of the grille to the neck area of that grille.

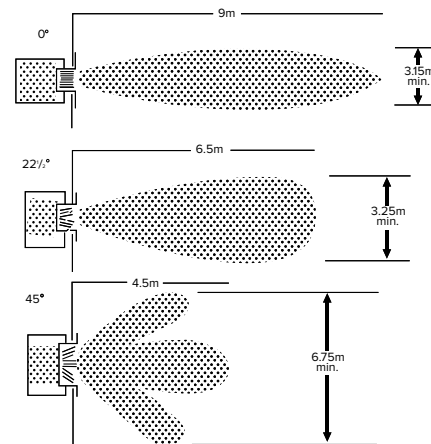
Assuming the spread angle of the aerofoil blades is maintained at a constant setting the length of throw will increase as the litres per second is increased. This increased length of throw will be accompanied by an increased air drop.

Adjusting the spread angles of the grille is the easiest source of altering the performance of the supply register.

Testing has shown that the general rules that have been applied to estimate spread are valid ;–

1. At a 45° setting the spread of air is approximately 1.5 times the throw
2. At a 22.5° setting the spread of air is approximately 0.5 times the throw and cook,
3. At a 0° setting the spread of air is approximately 0.35 times the throw

Example – An Air Quantity of 375 litres per second disbursed through a 600mm x 300mm double deflection register.



### 2. The throw requirement

Consideration of the throw metres of air from a supplier register under varying air quantities is vital to ensure that the two extremes of conditioning are not encountered ;–

1. inadequate conditioning which fails to adequately cover the total area, and
2. excessive air quantities relative to the neck area and spread of the angle register, thereby creating drafts.

Throw requirement is generally the distance from the outlet to the nearest enclosing wall or the distance from the register to the intersection of its air stream with that being delivered from another register.

The throw of air from the register selected should be limited to ensure the drop of the air stream does not fall below a reasonable working level within the room being conditioned i.e. around 1500 mm

### 3. The air quantity

Measured in litres per second, the air quantity to be delivered to each space is determined by the overall system design.

The number of registers supplying a given space determines the litres per second being transmitted through each outlet.

### 4. The noise level requirement

The maximum permissible noise levels (NR) from each supply register relate directly to the quantity of air being transmitted through the register to the neck size and louvre blade spread angle of the register.

# 1.3 TEST PROCEDURE SUPPLY REGISTERS

Given a constant air quantity the noise level (NR) increases as the core area of the register decreases.

Similarly, given a constant air quantity, the noise level (NR) increases as the angle of the spread (blade adjustment) closes from 0° through to 90°.

The following table maybe used as a guide to generally acceptable noise levels for various, new situations.

NR LEVELS	TYPICAL APPLICATIONS
20-25	Radio, TV studios, Churches
25-30	Theatres, Opera Houses, Concert halls, Board Rooms.
30-35	Conference Rooms, Movie Theatres, Lecture Rooms, Private offices.
35-40	Libraries, general offices, toilets, restaurants.
40-45	Holes, cafeterias.
45-50	Storerooms, large department stores and supermarkets.
Over 50	Manufacturing areas.

## Scope of performance data

The Airfoil supply register range was tested in the reverberation chambers of the laboratory of Louis A. Challis and associates Proprietary Limited, 246–248 Darling Street King's Cross Sydney 2000. The laboratory utilises two groups of fans capable of supplying air flows up to 10,000 litres per second with silenced discharge and extended duct system leading to the reverberation chamber.

### 1.(a) Sound pressure level measurements

Sound pressure level in the chamber were measured using the following equipment

Microphone – Bruel & Kjaer 4144  
Preamplifier - Bruel & Kjaer 2619  
Power supply - Bruel & Kjaer 2807  
Rotating boom – (1m radius, 1 min. cycle)  
Precision Laboratory sound level meter HP8052A  
Precision Octave Filter Set– H P8055A  
Integrating voltmeter– Nebula type 1  
Sound Power calibrator– Challis/Torin type 1

The microphone was mounted on a rotating boom which was used to provide space average in the chamber while the integrating voltmeter provided a time average of the sound pressure level. Averaging time ranging between 10 seconds and 100 seconds were used. This system was referenced level checked before and after each series of measurements using a reference source, Bruel & Kjaer type 4230, and system drift did not exceed 0.3 dB.

Equipment was calibrated in the Challis laboratory which currently holds N.A.T.A. certificates for compliance with AS1259 and ASZ41.

The volume of the reverberation is such as to allow measurements to be made with a high accuracy down to the 63Hz octave band. The accuracy claimed for the measurements of sound pressure level is +/-2 dB at 63Hz, +/- 1.5dB at 125Hz; and +/- 1.0dB in octave bands from 250Hz to 8kHz.

The background noise levels due to external noise and system noise were measured at each test air flow and where necessary, corrections for background noise have been applied to the measured sound pressure levels.

In some cases, at the lowest airflows, the measured levels in the high-frequency bands were indistinguishable from the background noise level, and in these cases the sound power and sound pressure level at 1.5 m have been quoted as “Less than” the minimum measurable value.

The background and their system noise level in the chamber was typically as follows:-

#### Sound Pressure Levels in dB (re 2x10<sup>-5</sup> Pascals)

Octave Band Centre Frequency (Hz)	63	125	250	500	1K	2K	4K	8K
Typical Air System Noise	50	36	26	17	11	8	8	8

The system allowed accurate measurements for the determination of NR figures down to NR 16.

### 1.(b) Sound Power Computations

The sound power figures for each test were used as a basis for determining the sound pressure level at a distance of approximately 1.5 m from the register in a room with room constants as follows:

Octave Band Centre Frequency (Hz)	63	125	250	500	1K	2K	4K	8K
Room Constant (dB)	5	6	7	8	8	8	8	8



## 2. Static pressure drop measurements

The static pressure drop across the test grille was measured using an inclined Manometer from a tapping point of approximately 450 mm upstream of the test unit.

## 3. Air throw measurements

Each test sample was typically tested at 3 air flows. The desired air volumes were measured by means of an ASTM triple nozzle system, installed in a lined box incorporating an air straightening grid. The nozzle box was installed in a 600 mm x 600 mm duct leading to the chamber. The system provided air flows to an accuracy of +/-5%.

## 4. Air velocity measurements

Measurements of face velocity were carried out using the Wallac Thermo-anemometer (as described above). The average of nine readings taken across the face of the test units provided air velocity measurements to precision of +/- 5%.



Laboratory tests were also carried out by Vipac Engineers & Scientists

Vipac Engineers & Scientists is a leading engineering consultancy and testing laboratory established 43 years ago, employing 150 trained specialists throughout eight Australian offices.

Vipac's in-house laboratories, wind tunnels, acoustic and climatic chambers, solar simulators and vibration rigs allow engineers to prototype, model and fabricate customised elements for projects. This enables the testing of unusual materials to prove their feasibility to clients and value-add to projects.

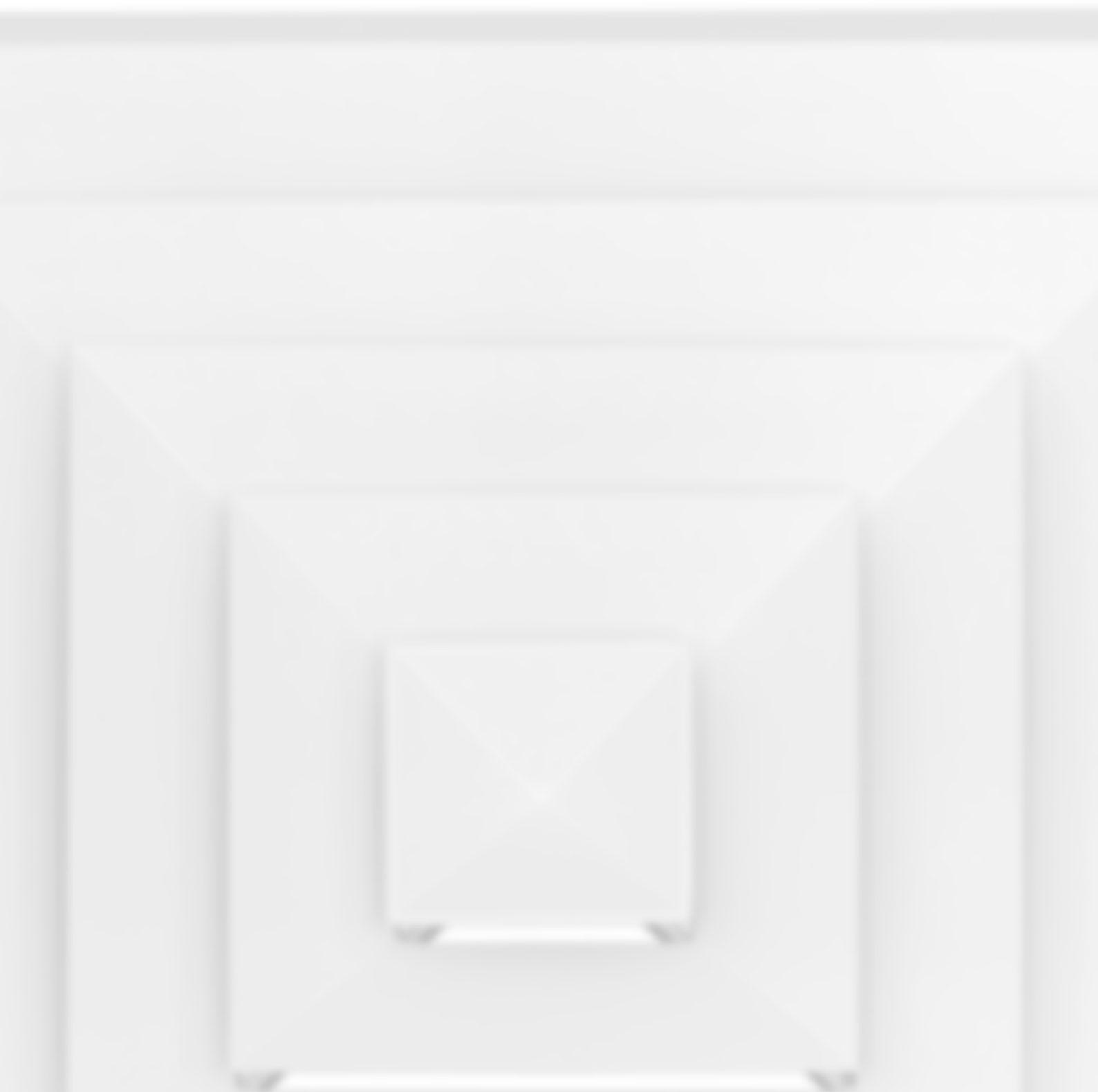








# 2.0 DIFFUSERS







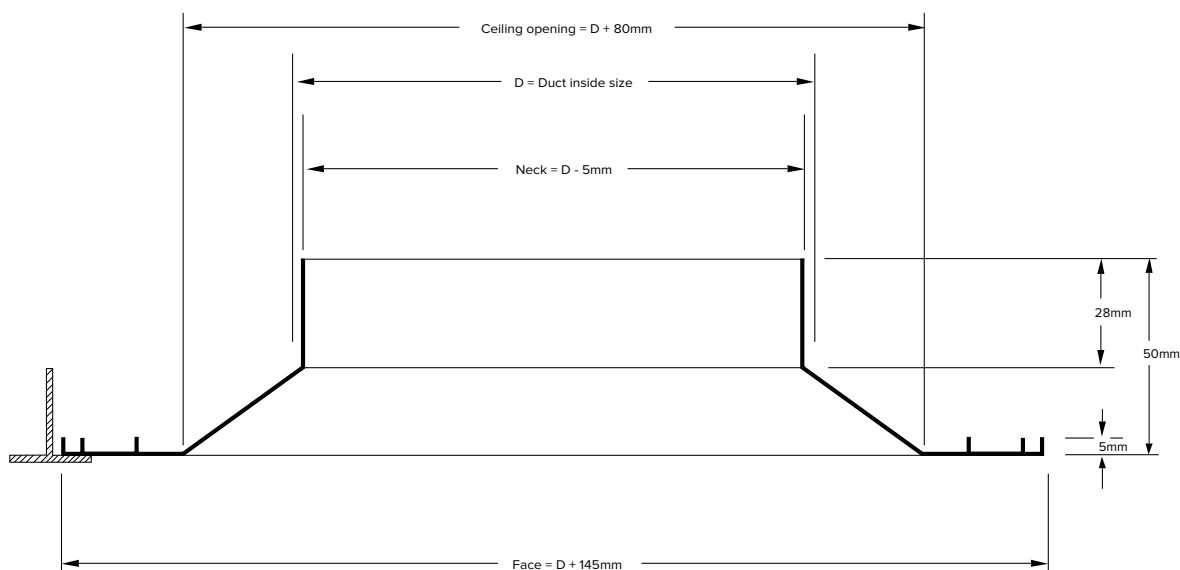


The Airfoil Louvre Face Diffuser is a frame style generally flush mounted to the ceiling line. This is ideal for lay-in applications where the diffuser is placed into a T-bar ceiling grid.

The Louvre Face Diffuser can be used in place of a modular ceiling tile without altering the T-bar construction. It comes in standard white.



Sectional diagram



#### Louvre Face Diffuser Options

> *Standard sizes: 150x150mm, 225x225mm, 300x300mm, 375x375mm, 395x395mm LAY IN FACE, 595x595mm LAY IN FACE. Special sizes manufactured on request*

> *Available in 5 different patterns*

> *Non-standard colours or finishes available on request*

#### Product specification codes:

<b>LFD41</b>	4 way blow diffuser	<b>LFD41/F</b>	4 way blow diffuser LAY IN FACE
<b>LFD31</b>	3 way blow diffuser	<b>LFD31/F</b>	3 way blow diffuser LAY IN FACE
<b>LFD25</b>	2 way corner blow diffuser	<b>LFD25/F</b>	2 way corner blow diffuser LAY IN FACE
<b>LFD22</b>	2 way opposite blow diffuser	<b>LFD22/F</b>	2 way opposite blow diffuser LAY IN FACE
<b>LFD21</b>	1 way blow diffuser	<b>LFD21/F</b>	1 way blow diffuser LAY IN FACE

Specification: Product code + size.

Example: **LFD41/F 395x395** 4 way blow diffuser 395mm x 395mm LAY IN FACE

**LFD41 300x300** 4 way blow diffuser 300mm x 300mm nominal neck

**Important Note:** Dimensions will be assumed nominal neck size unless otherwise specified.

## 2.1 DIFFUSERS

### LOUVRE FACE DIFFUSER (LFD41) 4 WAY BLOW

11

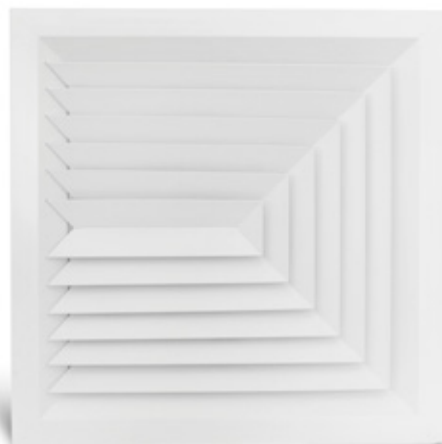


Performance Data Neck Velocity (m/sec.)

Neck Area	Rating	1.5	2.0	2.5	3.0	3.5
(sq. metre)	Total Pressure Drop in Pascals	10	15	23	33	44
150x150	l/s	34	45	56	67	78
	NR - dB	—	—	—	—	20
	NC - dB	—	—	—	—	19
	Min - Max Throw (metres)	0.6-1.8	0.9-1.8	1.2-2.1	1.5-2.7	1.5-3.0
225x225	l/s	76	101	127	152	177
	NR - dB	—	—	—	22	27
	NC - dB	—	—	—	21	26
	Min - Max Throw (metres)	1.2-2.4	1.5-3.0	1.8-3.7	2.1-4.0	2.4-4.3
300x300	l/s	135	180	225	270	315
	NR - dB	—	—	22	28	32
	NC - dB	—	—	21	27	31
	Min - Max Throw (metres)	1.5-3.4	1.8-4.0	2.1-4.6	2.7-5.2	3.4-5.5
375x375	l/s	210	260	345	421	490
	NR - dB	—	21	27	31	38
	NC - dB	—	20	26	30	37
	Min - Max Throw (metres)	1.8-4.3	2.1-4.6	2.4-5.5	3.4-6.1	4.3-6.1
450x450	l/s	304	405	506	607	708
	NR - dB	—	25	30	34	40
	NC - dB	—	24	29	33	39
	Min - Max Throw (metres)	2.1-4.9	2.4-5.5	3.7-6.7	4.3-7.3	4.9-7.9

Throw measurements are at 1.5mls min and .65mls max terminal velocity.





Performance Data Neck Velocity (m/sec.)

Neck Area	Rating	1.5	2.0	2.5	3.0	3.5
(sq. metre)	Total Pressure Drop in Pascals	10	15	23	33	44
150x150 0.0225	I/s	34	45	56	67	78
	NR - dB	—	—	—	24	31
	NC - dB	—	—	—	23	30
	Min-Max Throw (metres)	L 0.6-2.1 S 0.6-1.8	1.2-2.4 0.9-1.8	1.2-2.7 0.9-2.1	1.5-3.0 1.2-2.4	1.8-3.4 1.2-2.7
225x225 0.0506	I/s	76	101	127	152	177
	NR - dB	—	—	23	29	35
	NC - dB	—	—	22	28	34
	Min-Max Throw (metres)	L 1.2-3.0 S 1.2-2.7	1.5-3.7 1.2-3.0	1.8-4.0 1.5-3.7	2.4-4.6 1.8-3.7	2.7-4.9 2.1-4.0
300x300 0.0900	I/s	135	180	225	270	315
	NR - dB	—	21	26	32	38
	NC - dB	—	20	25	31	37
	Min-Max Throw (metres)	L 1.5-4.3 S 1.2-3.7	2.1-4.9 1.5-3.7	2.4-5.5 2.1-4.0	3.0-5.5 2.4-4.9	3.7-6.4 3.0-5.2
375x375 0.1406	I/s	210	260	345	421	490
	NR - dB	—	23	29	34	40
	NC - dB	—	22	28	33	39
	Min-Max Throw (metres)	L 1.8-5.2 S 1.5-4.3	2.4-6.1 2.1-4.9	3.0-6.7 2.4-5.5	3.7-7.0 3.4-6.1	4.9-7.6 4.3-6.4
450x450 0.2025	I/s	304	405	506	607	708
	NR - dB	—	24	30	35	42
	NC - dB	—	23	29	34	41
	Min-Max Throw (metres)	L 2.4-6.4 S 1.8-4.9	3.0-7.3 2.4-5.8	4.0-8.2 3.4-6.7	4.9-8.8 4.0-7.3	5.5-9.4 4.6-7.6

Throw measurements are at 1.5mls min and .65mls max terminal velocity.

## 2.1 DIFFUSERS

### LOUVRE FACE DIFFUSER (LFD25) 2 WAY CORNER BLOW

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Performance Data Neck Velocity (m/sec.)

Neck Area	Rating	1.5	2.0	2.5	3.0	3.5
(sq. metre)	Total Pressure Drop in Pascals	10	15	32	33	44
150x150	l/s	34	45	56	67	78
	NC - dB	—	—	—	24	30
	0.0225	—	—	—	23	29
	Min - Max Throw (metres)	0.9-2.4	1.5-3.0	1.5-3.0	2.1-3.7	2.4-4.0
225x225	l/s	76	101	127	152	177
	NR - dB	—	—	22	28	34
	0.0506	—	—	21	27	33
	Min - Max Throw (metres)	1.2-3.4	2.1-4.0	2.4-4.6	2.7-5.2	3.0-5.5
300x300	l/s	135	180	225	270	315
	NR - dB	—	21	26	31	37
	0.0900	—	20	25	30	36
	Min - Max Throw (metres)	1.8-4.6	2.4-5.5	3.0-6.1	4.0-6.4	4.3-7.0
375x375	l/s	210	260	345	421	490
	NR - dB	19	22	29	34	40
	0.1406	18	21	28	33	39
	Min - Max Throw (metres)	2.1-6.2	3.0-7.0	4.6-8.2	5.0-8.5	5.8-9.1
450x450	l/s	304	405	506	607	708
	NR - dB	—	23	30	35	41
	0.2025	—	22	29	34	40
	Min - Max Throw (metres)	2.7-7.0	3.7-8.2	4.6-9.1	5.5-10.0	6.7-10.9

Throw measurements are at 1.5mls min and .65mls max terminal velocity.





Performance Data Neck Velocity (m/sec.)

Neck Area	Rating	1.5	2.0	2.5	3.0	3.5
(sq. metre)	Total Pressure Drop in Pascals	10	15	23	33	44
225x225	l/s	76	101	127	152	177
	NC - dB	—	—	23	29	35
	0.0506	—	—	22	28	34
	Min - Max Throw (metres)	1.2-3.4	1.5-3.7	1.8-4.3	2.4-4.9	3.0-5.2
300x300	l/s	135	180	225	270	315
	NR - dB	—	21	26	32	38
	0.0900	—	20	25	31	37
	Min - Max Throw (metres)	1.8-4.6	2.4-5.5	3.0-6.1	3.4-6.4	4.0-7.0
375x375	l/s	210	260	345	421	490
	NR - dB	—	23	28	34	40
	0.1406	—	22	27	33	39
	Min - Max Throw (metres)	2.1-5.8	3.0-6.7	3.7-7.6	4.3-8.2	5.2-8.8
450x450	l/s	304	405	506	607	708
	NR - dB	—	24	30	35	42
	0.2025	—	23	29	34	41
	Min - Max Throw (metres)	2.7-7.3	4.0-8.5	4.9-9.1	5.8-10.0	7.0-10.9

Throw measurements are at 1.5mls min and .65mls max terminal velocity.

## 2.1 DIFFUSERS

### LOUVRE FACE DIFFUSER (LFD 11) 1 WAY BLOW

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**AIRFOIL**  
GRILLES  
DUCT  
FITTINGS  
*making it happen sooner...*



Performance Data Neck Velocity (m/sec.)

Neck Area	Rating	1.5	2.0	2.5	3.0	3.5
(sq. metre)	Total Pressure Drop in Pascals	10	15	23	33	44
150x150	l/s	34	45	56	67	78
	NR - dB	—	—	—	22	29
	NC - dB	—	—	—	21	28
	Min - Max Throw (metres)	1.2-3.4	1.5-3.7	2.1-4.0	2.7-4.6	3.0-5.2
225x225	l/s	76	101	127	152	177
	NR - dB	—	—	22	27	33
	NC - dB	—	—	21	26	32
	Min - Max Throw (metres)	1.8-5.2	2.4-5.5	3.4-6.4	4.0-7.0	4.6-7.9
300x300	l/s	135	180	225	270	315
	NR - dB	—	21	25	30	36
	NC - dB	—	20	24	29	35
	Min - Max Throw (metres)	2.4-6.7	3.4-7.9	4.3-8.5	5.5-9.1	6.1-10.0
375x375	l/s	210	260	345	421	490
	NR - dB	17	23	27	33	39
	NC - dB	16	22	26	32	38
	Min - Max Throw (metres)	3.0-7.0	3.7-10.0	5.5-10.7	6.1-11.0	8.0-13.0
450x450	l/s	304	405	506	607	708
	NR - dB	—	24	29	34	41
	NC - dB	—	23	28	33	40
	Min - Max Throw (metres)	3.4-7.0	4.0-10.3	5.8-11.0	6.4-11.3	8.2-13.4

Throw measurements are at 1.5mls min and .65mls max terminal velocity.



#### Product ordering codes:

<b>LFD41/F 595x595</b>	4 way blow diffuser 595mm x 595mm LAY IN FACE STYLE
<b>LFD31/F 595x595</b>	3 way blow diffuser 595mm x 595mm LAY IN FACE STYLE
<b>LFD25/F 595x595</b>	2 way corner blow diffuser 595mm x 595mm LAY IN FACE STYLE
<b>LFD21/F 595x595</b>	2 way opposite blow diffuser 595mm x 595mm LAY IN FACE STYLE
<b>LFD11/F 595x595</b>	1 way blow diffuser 595mm x 595mm LAY IN FACE STYLE
<b>LFD41/F 395x395</b>	4 way blow diffuser 395mm x 395mm LAY IN FACE STYLE
<b>LFD31/F 395x395</b>	3 way blow diffuser 395mm x 395mm LAY IN FACE STYLE
<b>LFD25/F 395x395</b>	2 way corner blow diffuser 395mm x 395mm LAY IN FACE STYLE
<b>LFD21/F 395x395</b>	2 way opposite blow diffuser 395mm x 395mm LAY IN FACE STYLE
<b>LFD11/F 395x395</b>	1 way blow diffuser 395mm x 395mm LAY IN FACE STYLE
<b>LFD41 375x375</b>	4 way blow diffuser 375mm x 375mm
<b>LFD31 375x375</b>	3 way blow diffuser 375mm x 375mm
<b>LFD25 375x375</b>	2 way corner blow diffuser 375mm x 375mm
<b>LFD21 375x375</b>	2 way opposite blow diffuser 375mm x 375mm
<b>LFD11 375x375</b>	1 way blow diffuser 375mm x 375mm
<b>LFD41 300x300</b>	4 way blow diffuser 300mm x 300mm
<b>LFD31 300x300</b>	3 way blow diffuser 300mm x 300mm
<b>LFD25 300x300</b>	2 way corner blow diffuser 300mm x 300mm
<b>LFD21 300x300</b>	2 way opposite blow diffuser 300mm x 300mm
<b>LFD11 300x300</b>	1 way blow diffuser 300mm x 300mm
<b>LFD41 225x225</b>	4 way blow diffuser 225mm x 225mm
<b>LFD31 225x225</b>	3 way blow diffuser 225mm x 225mm
<b>LFD25 225x225</b>	2 way opposite blow diffuser 225mm x 225mm
<b>LFD21 225x225</b>	2 way opposite blow diffuser 150mm x 150mm
<b>LFD11 225x225</b>	1 way blow diffuser 225mm x 225mm
<b>LFD41 150x150</b>	4 way blow diffuser 150mm x 150mm
<b>LFD31 150x150</b>	3 way blow diffuser 150mm x 150mm
<b>LFD25 150x150</b>	2 way corner blow diffuser 150mm x 150mm
<b>LFD21 150x150</b>	2 way opposite blow diffuser 150mm x 150mm
<b>LFD11 150x150</b>	1 way blow diffuser 150mm x 150mm



**PROJECT: GREENLAND HOTEL, SYDNEY**

## 2.2 DIFFUSERS

### BEVELLED FACE DIFFUSER (BD)

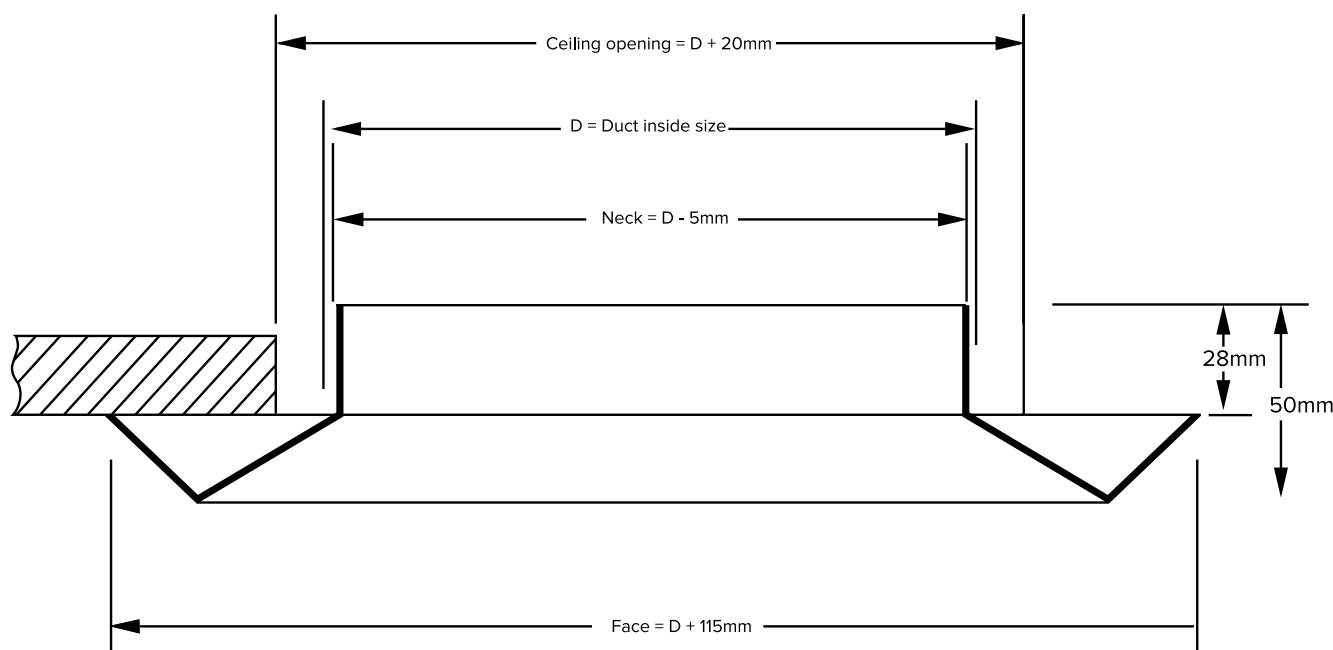
17



The Airfoil Bevelled Face Diffuser is a surface mounting model. The attractive 45 degree bevelled frame comes in standard white. It offers the advantage of a built-in anti-smudge frame for increased ceiling protection.

All sizes are available with a fixing clip neck adaptor with a choice of spigot sizes to suit the flexible duct. Used in domestic and commercial capacities, the BD is extremely effective in providing an even spread of air across the target area.

Cross sectional diagram



#### Bevelled Face Diffuser Options

> *Standard sizes: 150x150mm, 225x225mm, 300x300mm, 375x375mm, 450x450mm, 600x600mm. Special sizes are manufactured on request*

> *Available in 5 different patterns*

> *Non-standard colours or finishes available on request*

#### Product specification codes:

**BD41** 4 way blow diffuser  
**BD31** 3 way blow diffuser  
**BD25** 2 way corner blow diffuser  
**BD21** 2 way opposite blow diffuser  
**BD11** 1 way blow diffuser

Specification: Product code + size.  
 Example: **BD41 450x450** 4 way blow diffuser 450mm x 450mm

**Important Note:** Dimensions will be assumed nominal neck size unless otherwise specified.





Performance Data: Neck Velocity (m/sec.)

Neck Area	Rating	1.5	2.0	2.5	3.0	3.5
(sq. metre)	Total Pressure Drop in Pascals	10	15	23	33	44
150x150  0.0225	l/s	34	45	56	67	78
	NR - dB	—	—	—	—	20
	NC - dB	—	—	—	—	19
	Min - Max Throw (metres)	0.6-1.8	0.9-1.8	1.2-2.1	1.5-2.7	1.5-3.0
225x225  0.0506	l/s	76	101	127	152	177
	NR - dB	—	—	—	22	27
	NC - dB	—	—	—	21	26
	Min - Max Throw (metres)	1.2-2.4	1.5-3.0	1.8-3.7	2.1-4.0	2.4-4.3
300x300  0.0900	l/s	135	180	225	270	315
	NR - dB	—	—	22	28	32
	NC - dB	—	—	21	27	31
	Min - Max Throw (metres)	1.5-3.4	1.8-4.0	2.1-4.6	2.7-5.2	3.4-5.5
375x375  0.1406	l/s	210	260	345	421	490
	NR - dB	—	21	27	31	38
	NC - dB	—	20	26	30	37
	Min - Max Throw (metres)	1.8-4.3	2.1-4.6	2.4-5.5	3.4-6.1	4.3-6.1
450x450  0.2025	l/s	304	405	506	607	708
	NR - dB	—	25	30	34	40
	NC - dB	—	24	29	33	39
	Min - Max Throw (metres)	2.1-4.9	2.4-5.5	3.7-6.7	4.3-7.3	4.9-7.9

Throw measurements are at 1.5mls min and .65mls max terminal velocity.

## 2.2 DIFFUSERS

### BEVELLED FACE DIFFUSER (BD3 1) 3 WAY BLOW

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**AIRFOIL**  
GRILLES  
DUCT  
FITTINGS  
*making it happen sooner...*



Performance Data: Neck Velocity (m/sec.)

Neck Area	Rating	1.5	2.0	2.5	3.0	3.5
(sq. metre)	Total Pressure Drop in Pascals	10	15	23	33	44
150x150 0.0225	l/s	34	45	56	67	78
	NR - dB	—	—	—	24	31
	NC - dB	—	—	—	23	30
	Min-Max Throw (metres)	L 0.6-2.1	1.2-2.4	1.2-2.7	1.5-3.0	1.8-3.4
		S 0.6-1.8	0.9-1.8	0.9-2.1	1.2-2.4	1.2-2.7
225x225 0.0506	l/s	76	101	127	152	177
	NR - dB	—	—	23	29	35
	NC - dB	—	—	22	28	34
	Min-Max Throw (metres)	L 1.2-3.0	1.5-3.7	1.8-4.0	2.4-4.6	2.7-4.9
		S 1.2-2.7	1.2-3.0	1.5-3.7	1.8-3.7	2.1-4.0
300x300 0.0900	l/s	135	180	225	270	315
	NR - dB	—	21	26	32	38
	NC - dB	—	20	25	31	37
	Min-Max Throw (metres)	L 1.5-4.3	2.1-4.9	2.4-5.5	3.0-5.5	3.7-6.4
		S 1.2-3.7	1.5-3.7	2.1-4.0	2.4-4.9	3.0-5.2
375x375 0.1406	l/s	210	260	345	421	490
	NR - dB	—	23	29	34	40
	NC - dB	—	22	28	33	39
	Min-Max Throw (metres)	L 1.8-5.2	2.4-6.1	3.0-6.7	3.7-7.0	4.9-7.6
		S 1.5-4.3	2.1-4.9	2.4-5.5	3.4-6.1	4.3-6.4
450x450 0.2025	l/s	304	405	506	607	708
	NR - dB	—	24	30	35	42
	NC - dB	—	23	29	34	41
	Min-Max Throw (metres)	L 2.4-6.4	3.0-7.3	4.0-8.2	4.9-8.8	5.5-9.4
		S 1.8-4.9	2.4-5.8	3.4-6.7	4.0-7.3	4.6-7.6

Throw measurements are at 1.5mls min and .65mls max terminal velocity.





Performance Data: Neck Velocity (m/sec.)

Neck Area	Rating	1.5	2.0	2.5	3.0	3.5
(sq. metre)	Total Pressure Drop in Pascals	10	15	32	33	44
150x150	l/s	34	45	56	67	78
	NC - dB	—	—	—	24	30
	0.0225	—	—	—	23	29
	Min - Max Throw (metres)	0.9-2.4	1.5-3.0	1.5-3.0	2.1-3.7	2.4-4.0
225x225	l/s	76	101	127	152	177
	NR - dB	—	—	22	28	34
	0.0506	—	—	21	27	33
	Min - Max Throw (metres)	1.2-3.4	2.1-4.0	2.4-4.6	2.7-5.2	3.0-5.5
300x300	l/s	135	180	225	270	315
	NR - dB	—	21	26	31	37
	0.0900	—	20	25	30	36
	Min - Max Throw (metres)	1.8-4.6	2.4-5.5	3.0-6.1	4.0-6.4	4.3-7.0
375x375	l/s	210	260	345	421	490
	NR - dB	19	22	29	34	40
	0.1406	18	21	28	33	39
	Min - Max Throw (metres)	2.1-6.2	3.0-7.0	4.6-8.2	5.0-8.5	5.8-9.1
450x450	l/s	304	405	506	607	708
	NR - dB	—	23	30	35	41
	0.2025	—	22	29	34	40
	Min - Max Throw (metres)	2.7-7.0	3.7-8.2	4.6-9.1	5.5-10.0	6.7-10.9

Throw measurements are at 1.5mls min and .65mls max terminal velocity.

## 2.2 DIFFUSERS

### BEVELLED FACE DIFFUSER 2 WAY OPPOSITE BLOW 2 WAY OPPOSITE BLOW



Performance Data: Neck Velocity (m/sec.)

Neck Area	Rating	1.5	2.0	2.5	3.0	3.5
(sq. metre)	Total Pressure Drop in Pascals	10	15	23	33	44
225x225	l/s	76	101	127	152	177
	NC - dB	—	—	23	29	35
	0.0506	—	—	22	28	34
	Min - Max Throw (metres)	1.2-3.4	1.5-3.7	1.8-4.3	2.4-4.9	3.0-5.2
300x300	l/s	135	180	225	270	315
	NR - dB	—	21	26	32	38
	0.0900	—	20	25	31	37
	Min - Max Throw (metres)	1.8-4.6	2.4-5.5	3.0-6.1	3.4-6.4	4.0-7.0
375x375	l/s	210	260	345	421	490
	NR - dB	—	23	28	34	40
	0.1406	—	22	27	33	39
	Min - Max Throw (metres)	2.1-5.8	3.0-6.7	3.7-7.6	4.3-8.2	5.2-8.8
450x450	l/s	304	405	506	607	708
	NR - dB	—	24	30	35	42
	0.2025	—	23	29	34	41
	Min - Max Throw (metres)	2.7-7.3	4.0-8.5	4.9-9.1	5.8-10.0	7.0-10.9

Throw measurements are at 1.5mls min and .65mls max terminal velocity.





Performance Data: Neck Velocity (m/sec.)

Neck Area	Rating	1.5	2.0	2.5	3.0	3.5
(sq. metre)	Total Pressure Drop in Pascals	10	15	23	33	44
150x150	l/s	34	45	56	67	78
	NR - dB	—	—	—	22	29
	NC - dB	—	—	—	21	28
	Min - Max Throw (metres)	1.2-3.4	1.5-3.7	2.1-4.0	2.7-4.6	3.0-5.2
225x225	l/s	76	101	127	152	177
	NR - dB	—	—	22	27	33
	NC - dB	—	—	21	26	32
	Min - Max Throw (metres)	1.8-5.2	2.4-5.5	3.4-6.4	4.0-7.0	4.6-7.9
300x300	l/s	135	180	225	270	315
	NR - dB	—	21	25	30	36
	NC - dB	—	20	24	29	35
	Min - Max Throw (metres)	2.4-6.7	3.4-7.9	4.3-8.5	5.5-9.1	6.1-10.0
375x375	l/s	210	260	345	421	490
	NR - dB	17	23	27	33	39
	NC - dB	16	22	26	32	38
	Min - Max Throw (metres)	3.0-7.0	3.7-10.0	5.5-10.7	6.1-11.0	8.0-13.0
450x450	l/s	304	405	506	607	708
	NR - dB	—	24	29	34	41
	NC - dB	—	23	28	33	40
	Min - Max Throw (metres)	3.4-7.0	4.0-10.3	5.8-11.0	6.4-11.3	8.2-13.4

Throw measurements are at 1.5mls min and .65mls max terminal velocity.

## 2.2 DIFFUSERS

### BEVELLED FACE DIFFUSER (BD) STANDARD PRODUCT CODES

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#### Product ordering codes:

<b>BD41 600x600</b>	4 way blow diffuser 600mm x 600mm
<b>BD41 450x450</b>	4 way blow diffuser 450mm x 450mm
<b>BD31 450x450</b>	3 way blow diffuser 450mm x 450mm
<b>BD25 450x450</b>	2 way corner blow diffuser 450mm x 450mm
<b>BD21 450x450</b>	2 way opposite blow diffuser 450mm x 450mm
<b>BD11 450x450</b>	1 way blow diffuser 450mm x 450mm
<b>BD41 375x375</b>	4 way blow diffuser 375mm x 375mm
<b>BD31 375x375</b>	3 way blow diffuser 375mm x 375mm
<b>BD25 375x375</b>	2 way corner blow diffuser 375mm x 375mm
<b>BD21 375x375</b>	2 way opposite blow diffuser 375mm x 375mm
<b>BD11 375x375</b>	1 way blow diffuser 375mm x 375mm
<b>BD41 300x300</b>	4 way blow diffuser 300mm x 300mm
<b>BD31 300x300</b>	3 way blow diffuser 300mm x 300mm
<b>BD25 300x300</b>	2 way corner blow diffuser 300mm x 300mm
<b>BD21 300x300</b>	2 way opposite blow diffuser 300mm x 300mm
<b>BD11 300x300</b>	1 way blow diffuser 300mm x 300mm
<b>BD41 225x225</b>	4 way blow diffuser 225mm x 225mm
<b>BD31 225x225</b>	3 way blow diffuser 225mm x 225mm
<b>BD25 225x225</b>	2 way corner blow diffuser 225mm x 225mm
<b>BD21 225x225</b>	2 way opposite blow diffuser 225mm x 225mm
<b>BD11 225x225</b>	1 way blow diffuser 225mm x 225mm
<b>BD41 150x150</b>	4 way blow diffuser 150mm x 150mm
<b>BD31 150x150</b>	3 way blow diffuser 150mm x 150mm
<b>BD25 150x150</b>	2 way corner blow diffuser 150mm x 150mm
<b>BD21 150x150</b>	2 way opposite blow diffuser 150mm x 150mm
<b>BD11 150x150</b>	1 way blow diffuser 150mm x 150mm



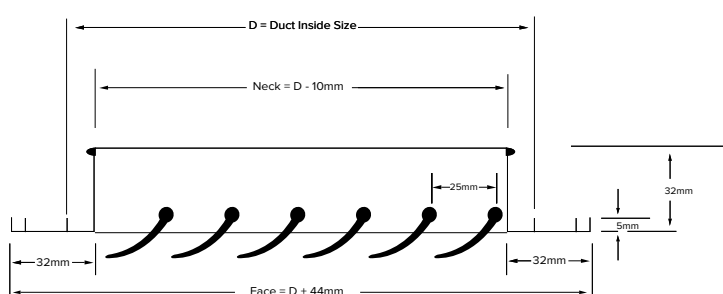
**PROJECT: SYDNEY ADVENTIST HOSPITAL**



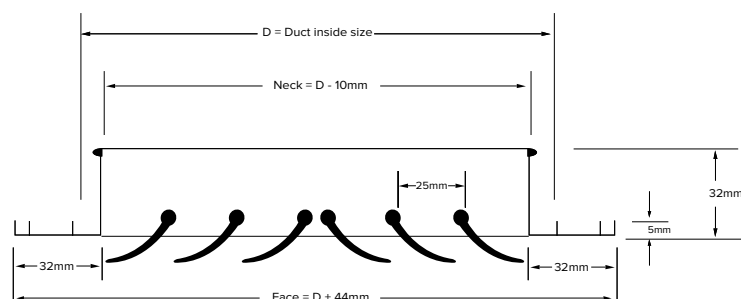
Airfoil's Curved Blade Registers frame style are generally flush mounted to the ceiling line and are manufactured from high quality aluminium. The curved blade register is adjustable and comes with a fixing clip neck adaptor or cushion box. It comes in standard in powder coated white.



Cross sectional diagram CR1



Cross sectional diagram CR2



#### Curved Blade Register Options

- > Non-standard colours or finishes available on request
- > Available in fixed or removable core
- > Available in 4 different patterns
- > Special sizes are manufactured on request
- > Optional MDO style on request

#### Product specification codes:

<b>CR4</b>	4 way curved blade blow diffuser with fixed core	<b>RCCR4</b>	4 way curved blade blow diffuser with removable core
<b>CR3</b>	3 way curved blade blow diffuser with fixed core	<b>RCCR3</b>	3 way curved blade blow diffuser with removable core
<b>CR2</b>	2 way curved blade blow diffuser with fixed core	<b>RCCR2</b>	2 way curved blade blow diffuser with removable core
<b>CR1</b>	1 way curved blade blow diffuser with fixed core	<b>RCCR1</b>	1 way curved blade blow diffuser with removable core

Specification: Product code + size.

Example: **CR3 450x450** 3 way curved blade blow diffuser with fixed core 450mm x 450mm

## 2.3 DIFFUSERS

### CURVED BLADE REGISTER (CR4)

4 WAY BLOW

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Performance Data

Face Velocity	1 m/s			1.5 m/s			2 m/s			2.5 m/s		
Neck Size	I/s	Throw m	Stat Pres (Pa)	I/s	Throw m	Stat Pres (Pa)	I/s	Throw m	Stat Pres (Pa)	I/s	Throw m	Stat Pres (Pa)
300x300	56	.6	1.5	80	.9	2.75	108	1.3	4.5	124	1.8	6
400x400	100	.6	1.5	140	1.2	2.75	192	1.5	4.5	232	2.1	6
450x300	85	.6	1.5	129	.9	2.75	154	1.5	4.5	197	2	6
450x450	133	.9	1.5	185	1.2	2.75	234	1.8	4.5	294	2.3	6
600x300	114	.6	1.5	168	1.2	2.75	215	1.8	4.5	275	2	6
600x450	177	.9	1.5	266	1.5	2.75	343	2.3	4.5	242	2.6	6
600x600	240	1.2	1.5	366	2	2.75	481	2.7	4.5	575	3.4	6

Face Velocity	3 m/s			3.5 m/s			4 m/s		
Neck Size	I/s	Throw m	Stat Pres (Pa)	I/s	Throw m	Stat Pres (Pa)	I/s	Throw m	Stat Pres (Pa)
300x300	146	2.1	8	166	2.2	9.25	195	2.4	12.5
400x400	276	2.7	8	314	3.1	9.25	360	3.6	12.5
450x300	235	2.4	8	270	3	9.25	314	3.3	12.5
450x450	368	3	8	414	3.6	9.25	470	4.2	12.5
600x300	316	2.7	8	326	3.5	9.25	400	3.9	12.5
600x450	520	3.6	8	595	4.3	9.25	662	4.9	12.5
600x600	700	4.3	8	790	5.2	9.25	910	5.8	12.5





Performance Data

Face Velocity	1 m/s			1.5 m/s			2 m/s			2.5 m/s		
Neck Size	l/s	Throw m	Stat Pres (Pa)	l/s	Throw m	Stat Pres (Pa)	l/s	Throw m	Stat Pres (Pa)	l/s	Throw m	Stat Pres (Pa)
300x300	57	.6	1	82	.9	2.5	110	1.3	3.75	127	1.8	5.5
400x400	103	.6	1.25	143	1.2	2.5	196	1.5	3.75	236	2.1	5.5
450x300	87	.6	1.25	131	.9	2.5	158	1.5	3.75	201	2	5.5
450x450	135	.9	1.25	190	1.2	2.5	242	1.8	3.75	302	2.3	5.5
600x300	116	.6	1.25	170	1.2	2.5	220	1.8	3.75	280	2	5.5
600x450	180	.9	1.25	269	1.5	2.5	349	2.4	3.75	432	2.7	5.5
600x600	245	1.2	1.25	371	2.1	2.5	490	2.7	3.75	585	3.4	5.5

Face Velocity	3 m/s			3.5 m/s			4 m/s		
Neck Size	l/s	Throw m	Stat Pres (Pa)	l/s	Throw m	Stat Pres (Pa)	l/s	Throw m	Stat Pres (Pa)
300x300	150	2.1	7	170	2.2	7.75	200	2.4	10.5
400x400	284	2.7	7	322	3.2	7.75	370	3.7	10.5
450x300	240	2.4	7	275	3.1	7.75	322	3.4	10.5
450x450	376	3	7	422	3.7	7.75	485	4.3	10.5
600x300	324	2.7	7	334	3.6	7.75	415	4	10.5
600x450	530	3.7	7	610	4.4	7.75	680	4.9	10.5
600x600	720	4.3	7	810	5.2	7.75	930	5.8	10.5

## 2.3 DIFFUSERS

### CURVED BLADE REGISTER (CR2) 2 WAY BLOW

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Performance Data

Face Velocity	1 m/s			1.5 m/s			2 m/s			2.5 m/s		
Neck Size	l/s	Throw m	Stat Pres (Pa)	l/s	Throw m	Stat Pres (Pa)	l/s	Throw m	Stat Pres (Pa)	l/s	Throw m	Stat Pres (Pa)
300x300	59	.9	1.25	83	1.9	2	112	1.5	3.5	130	2.1	4.25
400x400	105	.6	1.25	146	1.5	2.25	200	2.7	3.5	240	3.6	4.25
450x300	88	.9	1.25	133	1.2	2.25	162	1.8	3.5	205	3.4	4.25
450x450	137	1.2	1.25	195	1.8	2.25	251	2.4	3.5	310	3.7	4.25
600x300	118	.9	1.25	172	1.8	2.25	225	2.4	3.5	285	3.0	4.25
600x450	182	1.2	1.25	272	2.1	2.25	355	3.0	3.5	440	3.9	4.25
600x600	247	1.5	1.25	375	2.4	2.25	500	3.7	3.5	595	4.7	4.25

Face Velocity	3 m/s			3.5 m/s			4 m/s		
Neck Size	l/s	Throw m	Stat Pres (Pa)	l/s	Throw m	Stat Pres (Pa)	l/s	Throw m	Stat Pres (Pa)
300x300	155	2.4	6.5	175	3	7	210	3.4	10
400x400	290	4.7	6.5	330	5.2	7	380	5.9	10
450x300	245	3.7	6.5	280	4	7	330	4.3	10
450x450	380	4	6.5	430	4.7	7	500	5.4	10
600x300	330	3.7	6.5	342	4.4	7	430	5.2	10
600x450	540	4.6	6.5	625	5.5	7	700	6.1	10
600x600	735	5.5	6.5	830	6.4	7	960	7.3	10



Performance Data

Face Velocity	1 m/s			1.5 m/s			2 m/s			2.5 m/s		
Neck Size	l/s	Throw m	Stat Pres (Pa)	l/s	Throw m	Stat Pres (Pa)	l/s	Throw m	Stat Pres (Pa)	l/s	Throw m	Stat Pres (Pa)
300x300	60	.9	.75	85	1.5	1.5	115	2.1	2.5	135	3	3.75
400x400	105	1.5	1	150	2.1	1.75	205	3.0	2.5	245	4	3.75
450x300	90	1.2	1	135	1.8	1.75	165	2.7	2.5	210	3.7	3.75
450x450	140	1.5	1	200	2.7	1.75	260	3.7	2.5	320	4.6	3.75
600x300	120	1.5	1	175	2.1	1.75	230	3.4	2.5	290	4.3	3.75
600x450	185	2.1	1	275	3.0	1.75	360	4.3	2.5	450	4	3.75
600x600	250	2.4	1	380	3.7	1.75	510	5.2	2.5	610	6.7	3.75

Face Velocity	3 m/s			3.5 m/s			4 m/s		
Neck Size	l/s	Throw m	Stat Pres (Pa)	l/s	Throw m	Stat Pres (Pa)	l/s	Throw m	Stat Pres (Pa)
300x300	160	3.4	5	180	4	6.25	215	4.6	7.5
400x400	300	4.9	5	340	5.8	6.25	400	6.7	7.5
450x300	250	4.3	5	290	5.5	6.25	340	6.1	10
450x450	390	5.5	5	440	6.7	6.25	520	7.6	10
600x300	340	5.2	5	350	6.1	6.25	450	7	10
600x450	550	6.7	5	640	7.9	6.25	730	8.5	10
600x600	750	7.6	5	850	9.1	6.25	1000	10.3	10



## 2.4 DIFFUSERS

### LINEAR SLOT DIFFUSER (LS)

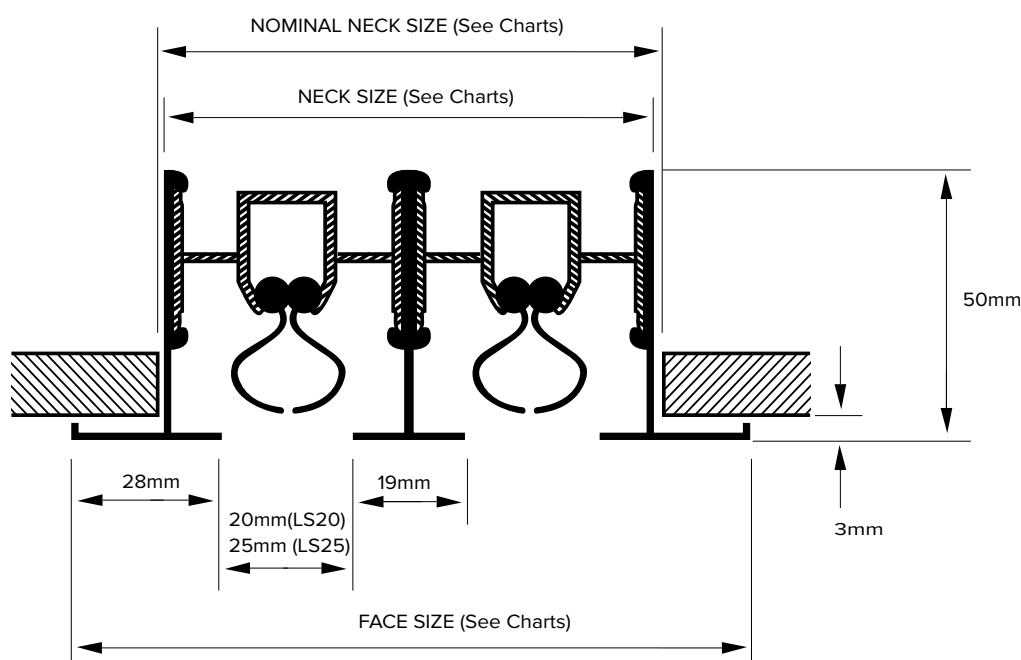
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Airfoil's Linear Slot Diffuser is generally ceiling mounted and can be used for both supply and return air functions. The slots can be adjusted to provide a variable air throw pattern from vertical to horizontal.

Airfoil's superior design delivers greater air volume per slot and less noise for a more effective room air circulation.

Cross sectional diagram



#### Linear Slot Diffuser Options

- > Slot widths of either 20mm or 25mm
- > Recommended single length 4.5m, maximum 6m
- > Specific colours and finishes available on request
- > Up to 10 slots with fixed core

#### Product specification codes:

<b>LS125</b>	One slot linear diffuser with 25mm spacing	<b>LS120</b>	One slot linear diffuser with 20mm spacing
<b>LS225</b>	Two slot linear diffuser with 25mm spacing	<b>LS220</b>	Two slot linear diffuser with 20mm spacing
<b>LS325</b>	Three slot linear diffuser with 25mm spacing	<b>LS320</b>	Three slot linear diffuser with 20mm spacing
<b>LS425</b>	Four slot linear diffuser with 25mm spacing	<b>LS420</b>	Four slot linear diffuser with 20mm spacing
<b>LS525</b>	Five slot linear diffuser with 25mm spacing	<b>LS520</b>	Five slot linear diffuser with 20mm spacing
<b>LS625</b>	Six slot linear diffuser with 25mm spacing	<b>LS620</b>	Six slot linear diffuser with 20mm spacing
<b>LS725</b>	Seven slot linear diffuser with 25mm spacing	<b>LS720</b>	Seven slot linear diffuser with 20mm spacing
<b>LS825</b>	Eight slot linear diffuser with 25mm spacing	<b>LS820</b>	Eight slot linear diffuser with 20mm spacing
<b>LS925</b>	Nine slot linear diffuser with 25mm spacing	<b>LS920</b>	Nine slot linear diffuser with 20mm spacing
<b>LS1025</b>	Ten slot linear diffuser with 25mm spacing	<b>LS1020</b>	Ten slot linear diffuser with 20mm spacing

Specification: Product code + size.

Example: **LS825 1200 NNS** Eight slot linear diffuser with 25mm spacing and nominal neck size of 1200mm

**Important Note:** Dimensions will be assumed nominal neck size unless otherwise specified.

PRODUCT CODE	SLOT	SLOT WIDTH	EXACT NECK SIZE	FACE SIZE
LS125	1	25	45	80
LS225	2	25	90	125
LS325	3	25	135	170
LS425	4	25	180	215
LS525	5	25	225	260
LS625	6	25	270	305

Performance Data - LS 25MM Slot width supply application

No. Slots	Total Press.		Horiz.		1		4		9		16		24		35		49		62	
	Pascals.		Vert.		1		2		6		10		15		21		29		37	
1	Lit / sec / metre				12		25		37		50		65		75		90		100	
	NR				-		-		16		25		32		37		42		46	
	Throw	Hor.	0.1	1	0.4	3.4	1	4	1.8	4.6	2.8	5.2	3.4	5.8	4.8	6.2	3.8	6.8		
	in metres	Vert	0.6		2.4		3.8		4.4		4.6		5.2		5.6		5.8			
2	Lit / sec / metre				25		50		75		100		125		150		175		200	
	NR				-		-		21		30		37		42		47		51	
	Throw	Hor.	0.4	1.8	1	4.6	1.8	5.8	3.4	6.8	4.4	7.4	4.6	8.2	5	8.2	5.6	9.6		
	in metres	Vert	1.6		3.4		5		5.8		6.8		7.6		8		8.6			
3	Lit / sec / metre				37		75		115		150		185		225		260		300	
	NR				-		16		24		33		40		45		50		54	
	Throw	Hor.	0.4	3.2	1.2	5.8	3.2	7	4	8.2	5	9.2	5.8	9.8	6.2	10.8	6.8	11.4		
	in metres	Vert	2.2		4		6.2		7.4		8.2		8.8		9.8		10.4			
4	Lit / sec / metre				50		100		150		200		250		300		350		400	
	NR				-		13		26		35		42		47		52		56	
	Throw	Hor.	0.6	3.4	1.8	6.8	3.8	8.2	4.6	9.6	6.2	10.4	6.8	11.4	7.4	12.2	7.6	13.2		
	in metres	Vert	-		13		26		35		42		47		52		56			
5	Lit / sec / metre				65		125		185		250		310		375		435		495	
	NR				-		14		27		36		43		48		53		57	
	Throw	Hor.	0.6	4	2.4	7.4	4	9.2	5.6	10.4	6.8	11.6	7.4	12.8	8	13.8	8.6	14.6		
	in metres	Vert	2.8		5.2		7.6		9.6		10.4		11.6		12.6		13.2			
6	Lit / sec / metre				75		150		225		300		375		445		520		595	
	NR				-		15		28		37		44		49		54		58	
	Throw	Hor.	1	4.4	2.8	8.2	4.6	9.8	5.8	11.4	7.4	12.8	8.2	13.8	8.8	15	9.2	16		
	in metres	Vert	2.8		5.8		8.6		10.4		11.6		12.6		13.8		14.6			
7	Lit / sec / metre				90		175		260		350		435		520		610		695	
	NR				-		16		29		38		45		50		55		59	
	Throw	Hor.	1	4.6	3.2	8.6	4.6	10.8	6.4	12.2	8	13.8	8.8	15	9.6	16.2	10.2	17.2		
	in metres	Vert	3.2		6.2		9.2		11		12.6		13.8		14.6		16			
8	Lit / sec / metre				100		200		300		400		495		595		695		795	
	NR				-		17		30		39		46		51		56		60	
	Throw	Hor.	1.2	5	3.4	9.6	5	11.4	6.8	13.2	8.6	14.6	9.2	16	10.2	17.2	10.8	18.4		
	in metres	Vert	3.4		6.8		9.8		12		13.2		14.6		16		16.8			

Performance Data - LS 25MM Slot width return application

No. Slot	Negative Static Pressure in Pascals	5	10	18	27	40	54	70	112
1	Lit / sec / metre	31	47	65	80	95	110	125	155
	NR	-	14	22	28	33	37	41	47
2	Lit / sec / metre	65	95	125	155	185	220	250	310
	NR	-	17	25	31	36	40	44	50
3	Lit / sec / metre	95	140	185	235	280	325	375	465
	NR	-	19	27	33	38	42	46	52
4	Lit / sec / metre	125	185	250	310	375	435	495	620
	NR	-	20	28	34	39	43	47	53
5	Lit / sec / metre	155	235	310	390	465	545	620	775
	NR	-	21	29	35	40	44	48	54
6	Lit / sec / metre	185	280	375	465	560	650	745	930
	NR	-	22	30	36	41	45	49	55
7	Lit / sec / metre	220	325	435	545	650	760	870	1085
	NR	-	23	31	37	42	46	50	56
8	Lit / sec / metre	250	375	495	620	745	870	995	1240
	NR	-	23	31	37	42	46	50	56

## 2.4 DIFFUSERS

### LINEAR SLOT DIFFUSER (LS20) 20MM SLOT SPACING



PRODUCT CODE	SLOT	SLOT WIDTH	EXACT NECK SIZE	FACE SIZE
LS120	1	20	36	75
LS220	2	20	75	115
LS320	3	20	113	155
LS420	4	20	152	195
LS520	5	20	190	235
LS620	6	20	228	275

Performance Data - LS 20MM Slot width supply application

No. Slots	Total Press. Pascals.	Horiz. Vert.	1.5 1	4 3	8 6	14 11	23 17	31 24	44 31	58 42
1	Lit / sec / metre		9	19	28	37	47	55	65	75
	NR		-	-	-	21	27	33	38	42
	Throw	Hor.	0.4 1	0.4 2.8	1 3.4	1.6 4	2.4 4.6	2.8 5	3.2 5.2	3.4 8
	in metres	Vert.	0.6	1.8	3.2	3.8	4.4	4.6	5	5.2
2	Lit / sec / metre		19	37	55	75	95	115	130	150
	NR		-	-	16	26	32	38	43	47
	Throw	Hor.	0.4 1.6	0.6 4	1.6 5	2.8 8	3.4 6.4	4 7	4.4 6	4.6 8.2
	in metres	Vert.	1.2	2.8	4.4	5.2	5.8	6.4	7	7.4
3	Lit / sec / metre		28	55	85	115	140	170	195	225
	NR		-	-	19	29	35	41	46	50
	Throw	Hor.	0.4 2.4	1.2 5	2.2 6.2	3.4 7	4.4 8	5 8.6	5.6 9.2	5.8 9.8
	in metres	Vert.	1.8	3.4	5.2	6.4	7	8	8.6	9.2
4	Lit / sec / metre		37	75	115	150	185	225	260	300
	NR		-	-	21	31	37	43	48	52
	Throw	Hor.	0.4 3.2	1.6 5.8	3.2 7	4 8.2	5 9.2	5.8 9.8	6.4 10.8	6.8 11.4
	in metres	Vert.	1.8	4	5.8	7.4	8.2	9.2	9.8	10.4
5	Lit / sec / metre		47	95	140	185	235	280	325	375
	NR		-	-	22	32	38	44	49	53
	Throw	Hor.	0.6 3.4	1.8 6.4	3.4 8	4.6 9.2	5.6 10.2	6.4 11	7 12	7.6 12.8
	in metres	Vert.	2.2	4.4	6.4	8.2	9.2	10.2	11	11.6
6	Lit / sec / metre		55	115	170	225	280	335	390	445
	NR		-	-	23	33	39	45	50	54
	Throw	Hor.	0.6 3.8	2.4 7	3.8 8.6	5 9.8	6.2 11	7 12.2	7.6 12.2	8 13.8
	in metres	Vert.	2.4	4.6	7.4	9.2	10.2	11	12	12.8
7	Lit / sec / metre		65	130	195	260	325	390	455	520
	NR		-	13	24	34	40	46	51	55
	Throw	Hor.	1 3.8	2.8 7.6	4 9.2	5.6 10.8	6.8 12	7.6 13.2	8.2 14	8.8 15
	in metres	Vert.	2.4	5	7.4	9.8	11	12	12.8	13.8
8	Lit / sec / metre		75	150	225	300	375	445	520	595
	NR		-	14	25	35	41	47	52	56
	Throw	Hor.	1.2 4.4	2.8 8.2	4.4 9.8	5.8 11.4	7.4 12.8	8 13.8	8.8 15	9.2 16
	in metres	Vert.	2.4	5	7.4	10.2	11.6	12.8	13.8	14.6

Performance Data - LS 20MM Slot width return application

No. Slot	Negative Static Pressure in Pascals	2	7	16	27	42	62	86	112
1	Lit / sec / metre	15	31	47	65	80	95	110	125
	NR	-	-	21	29	35	40	44	48
2	Lit / sec / metre	31	65	95	125	155	185	220	250
	NR	-	13	24	32	38	43	47	51
3	Lit / sec / metre	47	95	140	185	235	280	325	375
	NR	-	15	26	34	40	45	49	53
4	Lit / sec / metre	65	125	185	250	310	375	435	495
	NR	-	16	27	35	41	46	50	54
5	Lit / sec / metre	80	155	235	310	390	465	545	620
	NR	-	17	28	36	42	47	51	55
6	Lit / sec / metre	95	185	280	375	465	560	650	745
	NR	-	18	29	37	43	48	52	56
7	Lit / sec / metre	110	220	325	435	545	650	760	870
	NR	-	19	30	38	44	49	53	57
8	Lit / sec / metre	125	250	375	495	620	745	870	995
	NR	-	19	30	38	44	49	53	57



Airfoil's Removable Core Linear Slot Diffuser is generally ceiling mounted and can be used for both supply and return air functions. The slots can be adjusted to provide a variable air throw pattern from vertical to horizontal. The removable core provides easy installation and cleaning. The product comes complete with safety chain.



Airfoil's superior design delivers greater air volume per slot and less noise for a more effective room air circulation.

### Removable Core Linear Slot Diffuser Options

- > Slot width; standard 20mm or custom made 25mm
- > Recommended single length 4.5m, maximum 6m
- > Up to 4 slots

### Product specification codes:

<b>RCLS125</b>	One slot linear diffuser with 25mm spacing	<b>RCLS120</b>	One slot linear diffuser with 20mm spacing
<b>RCLS225</b>	Two slot linear diffuser with 25mm spacing	<b>RCLS220</b>	Two slot linear diffuser with 20mm spacing
<b>RCLS325</b>	Three slot linear diffuser with 25mm spacing	<b>RCLS320</b>	Three slot linear diffuser with 20mm spacing
<b>RCLS425</b>	Four slot linear diffuser with 25mm spacing	<b>RCLS420</b>	Four slot linear diffuser with 20mm spacing

Specification: Product code + size.

Example: **RCLS425** Four slot linear diffuser with 25mm spacing and nominal neck size of 1200mm

**Important Note:** Dimensions will be assumed nominal neck size unless otherwise specified.



## 2.5 DIFFUSERS

### REMOVABLE CORE LINEAR SLOT DIFFUSER (RCLC) STOCKED STANDARD

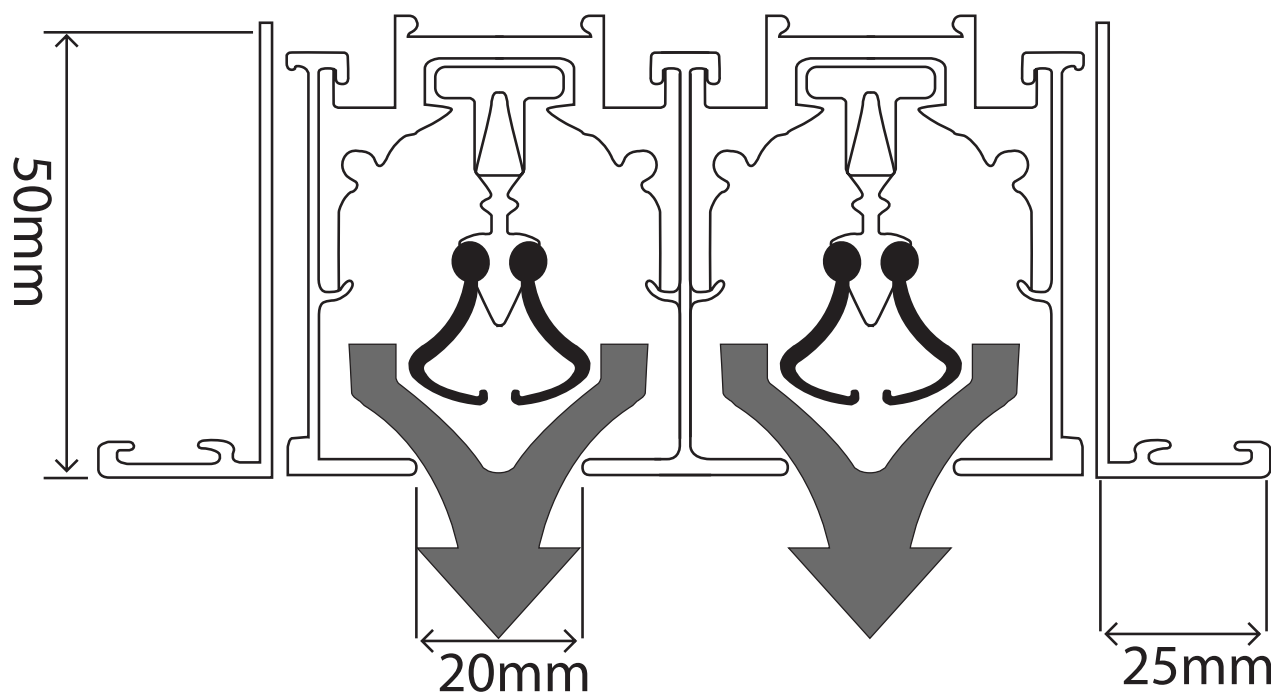
Quality System  
Quality  
Endorsed  
Company  
ISO 9001  
SAI GLOBAL

# AIRFOIL



GRILLES  
DUCT  
FITTINGS

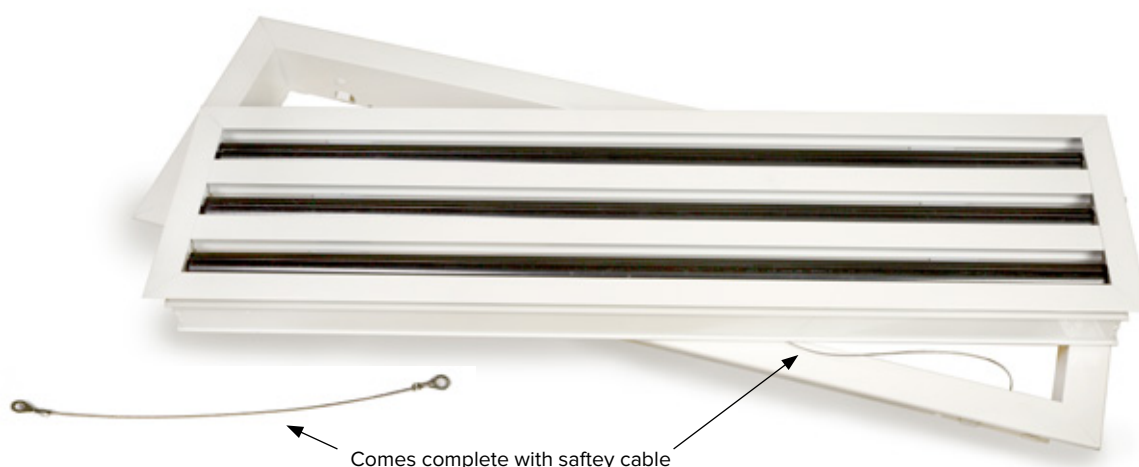
*making it happen sooner...*



Product Code		Supply Air Volume m/s							
		45	60	75	100	125	150	175	200
RCLS595F	Throw H	2.3-6.9	2.7-8.2	3.7-9.7	4.8-10.9	5.8-12.4			
	Throw V	3.4	4.2	5.0	6.9	8.0			
	PA	15	26	41	72	113			
	NC	24	27	30	40	48			
RCLS600	Throw H	2.2-6.7	2.5-8.0	3.6-9.5	4.7-10.6	5.6-12.1			
	Throw V	3.3	4.1	4.9	6.7	7.8			
	PA	14	24	38	67	104			
	NC	23	26	29	38	46			
RCLS900	Throw H	1.8-5.9	2.4-7.1	2.8-8.4	3.8-9.9	4.9-11.1	5.9-12.6		
	Throw V	2.7	3.5	4.2	5.2	6.8	7.7		
	PA	9	16	25	44	69	100		
	NC	20	24	26	32	39	45		
RCLS1000	Throw H	1.7-5.4	2.2-6.5	2.5-7.6	3.5-9.0	4.5-10.1	5.4-11.5		
	Throw V	2.5	3.2	3.8	4.7	6.2	7.1		
	PA	8	14	22	40	62	90		
	NC	19	23	25	30	36	42		
RCLS1195F	Throw H	1.5-4.9	2.0-5.8	2.3-6.8	3.1-8.1	4.1-9.0	4.9-10.3	5.6-11.4	
	Throw V	2.3	2.9	3.4	4.2	5.6	6.4	7.3	
	PA	7	12	19	34	54	77	105	
	NC	18	22	24	28	34	40	44	
RCLS1200	Throw H	1.4-4.8	1.9-5.7	2.2-6.7	3.0-8.0	4.1-8.9	4.8-10.2	5.5-11.3	
	Throw V	2.2	2.8	3.3	4.1	5.5	6.3	7.2	
	PA	7	12	19	33	52	75	101	
	NC	18	22	24	28	33	39	43	

Airfoil's Custom Manufactured Removable Core Linear Slot Diffuser is generally ceiling mounted and can be used for both supply and return air functions. The slots can be adjusted to provide a variable air throw pattern from vertical to horizontal. The removable core provides easy installation and cleaning. The product comes complete with safety chain.

Airfoil's superior design delivers greater air volume per slot and less noise for more effective room air circulation.



### Custom Manufactured Removable Core Linear Slot Diffuser Options

- > Slot widths of either 20mm or 25mm
- > Up to 4 slots
- > Recommended single length 4.5m, maximum 6m
- > Specific colours and finishes available on request

### Product specification codes:

<b>RCLS125</b>	One slot linear diffuser with 25mm spacing	<b>RCLS120</b>	One slot linear diffuser with 20mm spacing
<b>RCLS225</b>	Two slot linear diffuser with 25mm spacing	<b>RCLS220</b>	Two slot linear diffuser with 20mm spacing
<b>RCLS325</b>	Three slot linear diffuser with 25mm spacing	<b>RCLS320</b>	Three slot linear diffuser with 20mm spacing
<b>RCLS425</b>	Four slot linear diffuser with 25mm spacing	<b>RCLS420</b>	Four slot linear diffuser with 20mm spacing

Specification: Product code + size.

Example: **RCLS425** Four slot linear diffuser with 25mm spacing and nominal neck size of 1200mm

**Important Note:** Dimensions will be assumed nominal neck size unless otherwise specified.



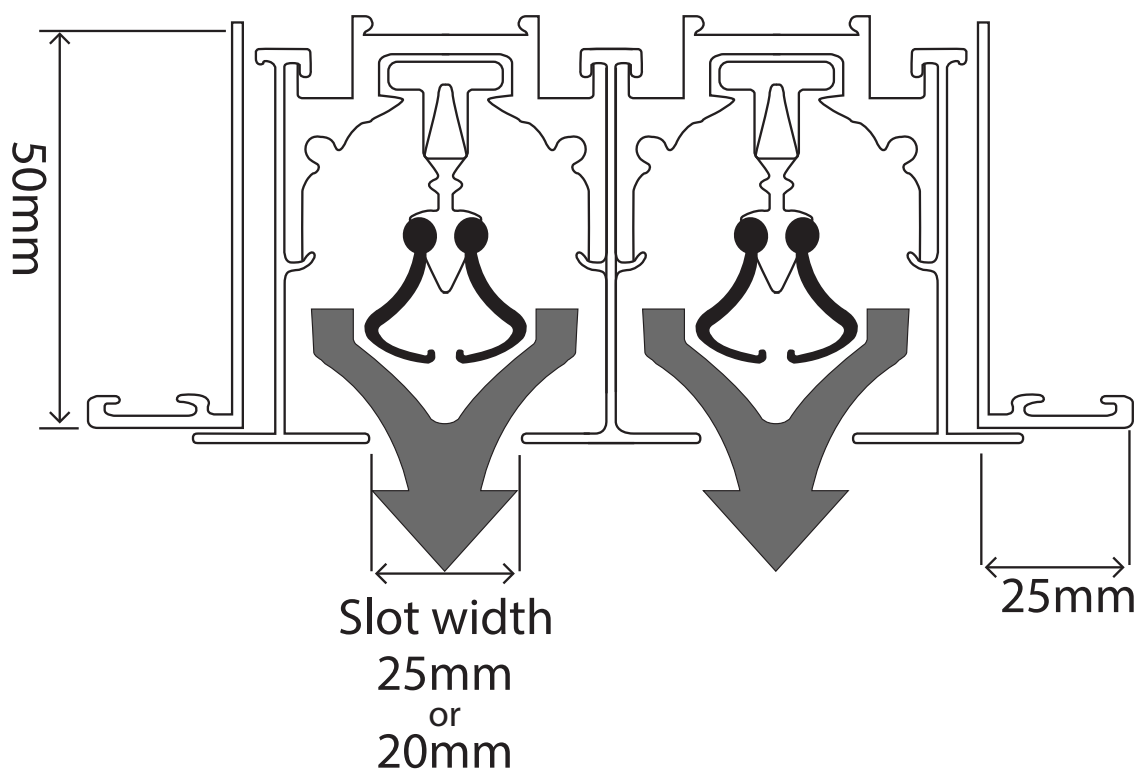
## 2.6 DIFFUSERS

### REMOVABLE CORE LINEAR SLOT DIFFUSER (RCLS) CUSTOM MANUFACTURED

Quality System  
Quality  
Endorsed  
Company  
ISO 9001  
SAI GLOBAL

**AIRFOIL**  
GRILLES  
DUCT  
FITTINGS  
*making it happen sooner...*

Cross sectional diagram



PROJECT: KEMPSEY DISTRICT HOSPITAL, NSW

# 2.6 DIFFUSERS

## REMOVABLE CORE LINEAR SLOT DIFFUSER (RCLS)

### CUSTOM MANUFACTURED 25MM SLOT SPACING

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PRODUCT CODE	SLOT	SLOT WIDTH	EXACT NECK SIZE	FACE SIZE
RCLS125	1	25	60	105
RCLS225	2	25	105	150
RCLS325	3	25	150	195
RCLS425	4	25	195	240
RCLS525	5	25	240	285
RCLS625	6	25	285	330

Performance Data - CRCLSD 25MM Slot width supply application

No. Slots	Total Press. Pascals.	Horiz. Vert.	1 1	4 2	9 6	16 10	24 15	35 21	49 29	62 37
1	Lit / sec / metre		12	25	37	50	65	75	90	100
	NR		-	-	16	25	32	37	42	46
	Throw	Hor.	0.1	1	0.4	3.4	1	4	1.8	4.6
	in metres	Vert.	0.6	2.4	3.8	4.4	4.6	5.2	5.6	5.8
2	Lit / sec / metre		25	50	75	100	125	150	175	200
	NR		-	-	21	30	37	42	47	51
	Throw	Hor.	0.4	1.8	1	4.6	1.8	5.8	3.4	6.8
	in metres	Vert.	1.6	3.4	5	5.8	6.8	7.6	8	8.6
3	Lit / sec / metre		37	75	115	150	185	225	260	300
	NR		-	16	24	33	40	45	50	54
	Throw	Hor.	0.4	3.2	1.2	5.8	3.2	7	4	8.2
	in metres	Vert.	2.2	4	6.2	7.4	8.2	8.8	9.8	10.4
4	Lit / sec / metre		50	100	150	200	250	300	350	400
	NR		-	13	26	35	42	47	52	56
	Throw	Hor.	0.6	3.4	1.8	6.8	3.8	8.2	4.6	9.6
	in metres	Vert.	-	13	26	35	42	47	52	56
5	Lit / sec / metre		65	125	185	250	310	375	435	495
	NR		-	14	27	36	43	48	53	57
	Throw	Hor.	0.6	4	2.4	7.4	4	9.2	5.6	10.4
	in metres	Vert.	2.8	5.2	7.6	9.6	10.4	11.6	12.6	13.2
6	Lit / sec / metre		75	150	225	300	375	445	520	595
	NR		-	15	28	37	44	49	54	58
	Throw	Hor.	1	4.4	2.8	8.2	4.6	9.8	5.8	11.4
	in metres	Vert.	2.8	5.8	8.6	10.4	11.6	12.6	13.8	14.6
7	Lit / sec / metre		90	175	260	350	435	520	610	695
	NR		-	16	29	38	45	50	55	59
	Throw	Hor.	1	4.6	3.2	8.6	4.6	10.8	6.4	12.2
	in metres	Vert.	3.2	6.2	9.2	11	12.6	13.8	14.6	16
8	Lit / sec / metre		100	200	300	400	495	595	695	795
	NR		-	17	30	39	46	51	56	60
	Throw	Hor.	1.2	5	3.4	9.6	5	11.4	6.8	13.2
	in metres	Vert.	3.4	6.8	9.8	12	13.2	14.6	16	16.8

Performance Data - CRCLSD 25MM Slot width return application

No. Slot	Negative Static Pressure in Pascals	5	10	18	27	40	54	70	112
1	Lit / sec / metre	31	47	65	80	95	110	125	155
	NR	-	14	22	28	33	37	41	47
2	Lit / sec / metre	65	95	125	155	185	220	250	310
	NR	-	17	25	31	36	40	44	50
3	Lit / sec / metre	95	140	185	235	280	325	375	465
	NR	-	19	27	33	38	42	46	52
4	Lit / sec / metre	125	185	250	310	375	435	495	620
	NR	-	20	28	34	39	43	47	53
5	Lit / sec / metre	155	235	310	390	465	545	620	775
	NR	-	21	29	35	40	44	48	54
6	Lit / sec / metre	185	280	375	465	560	650	745	930
	NR	-	22	30	36	41	45	49	55
7	Lit / sec / metre	220	325	435	545	650	760	870	1085
	NR	-	23	31	37	42	46	50	56
8	Lit / sec / metre	250	375	495	620	745	870	995	1240
	NR	-	23	31	37	42	46	50	56

# 2.6 DIFFUSERS

## REMOVABLE CORE LINEAR SLOT DIFFUSER (RCLS) CUSTOM MANUFACTURED 20MM SLOT SPACING



PRODUCT CODE	SLOT	SLOT WIDTH	EXACT NECK SIZE	FACE SIZE
RCLS120	1	20	55	100
RCLS220	2	20	95	140
RCLSD320	3	20	135	180
RCLS420	4	20	175	220
RCLS520	5	20	215	260
RCLS620	6	20	255	300

Performance Data - RCLS 20MM Slot width supply application

No. Slots	Total Press. Pascals.	Horiz.	1.5		4		8		14		23		31		44		58	
		Vert.	1		3		6		11		17		24		31		42	
1	Lit / sec / metre		9		19		28		37		47		55		65		75	
	NR		-		-		-		21		27		33		38		42	
	Throw	Hor.	0.4	1	0.4	2.8	1	3.4	1.6	4	2.4	4.6	2.8	5	3.2	5.2	3.4	8
	in metres		Vert		0.6		1.8		3.2		4.4		4.6		5		5.2	
2	Lit / sec / metre		19		37		55		75		95		115		130		150	
	NR		-		-		16		26		32		38		43		47	
	Throw	Hor.	0.4	1.6	0.6	4	1.6	5	2.8	8	3.4	6.4	4	7	4.4	6	4.6	82
	in metres		Vert		1.2		2.8		4.4		5.2		5.8		6.4		7.4	
3	Lit / sec / metre		28		55		85		115		140		170		195		225	
	NR		-		-		19		29		35		41		46		50	
	Throw	Hor.	0.4	2.4	1.2	5	2.2	6.2	3.4	7	4.4	8	5	8.6	5.6	9.2	5.8	9.8
	in metres		Vert		1.8		3.4		5.2		6.4		7		8		9.2	
4	Lit / sec / metre		37		75		115		150		185		225		260		300	
	NR		-		-		21		31		37		43		48		52	
	Throw	Hor.	0.4	3.2	1.6	5.8	3.2	7	4	8.2	5	9.2	5.8	9.8	6.4	10.8	6.8	11.4
	in metres		Vert		1.8		4		5.8		7.4		8.2		9.2		10.4	
5	Lit / sec / metre		47		95		140		185		235		280		325		375	
	NR		-		-		22		32		38		44		49		53	
	Throw	Hor.	0.6	3.4	1.8	6.4	3.4	8	4.6	9.2	5.6	10.2	6.4	11	7	12	7.6	12.8
	in metres		Vert		2.2		4.4		6.4		8.2		9.2		10.2		11.6	
6	Lit / sec / metre		55		115		170		225		280		335		390		445	
	NR		-		-		23		33		39		45		50		54	
	Throw	Hor.	0.6	3.8	2.4	7	3.8	8.6	5	9.8	6.2	11	7	12.2	7.6	12.2	8	13.8
	in metres		Vert		2.4		4.6		7.4		9.2		10.2		11		12.8	
7	Lit / sec / metre		65		130		195		260		325		390		455		520	
	NR		-		13		24		34		40		46		51		55	
	Throw	Hor.	1	3.8	2.8	7.6	4	9.2	5.6	10.8	6.8	12	7.6	13.2	8.2	14	8.8	15
	in metres		Vert		2.4		5		7.4		9.8		11		12		13.8	
8	Lit / sec / metre		75		150		225		300		375		445		520		595	
	NR		-		14		25		35		41		47		52		56	
	Throw	Hor.	1.2	4.4	2.8	8.2	4.4	9.8	5.8	11.4	7.4	12.8	8	13.8	8.8	15	9.2	16
	in metres		Vert		2.4		5		7.4		10.2		11.6		12.8		14.6	

Performance Data - RCLS 20MM Slot width return application

No. Slot	Negative Static Pressure in Pascals	2	7	16	27	42	62	86	112
1	Lit / sec / metre	15	31	47	65	80	95	110	125
	NR	-	-	21	29	35	40	44	48
2	Lit / sec / metre	31	65	95	125	155	185	220	250
	NR	-	13	24	32	38	43	47	51
3	Lit / sec / metre	47	95	140	185	235	280	325	375
	NR	-	15	26	34	40	45	49	53
4	Lit / sec / metre	65	125	185	250	310	375	435	495
	NR	-	16	27	35	41	46	50	54
5	Lit / sec / metre	80	155	235	310	390	465	545	620
	NR	-	17	28	36	42	47	51	55
6	Lit / sec / metre	95	185	280	375	465	560	650	745
	NR	-	18	29	37	43	48	52	56
7	Lit / sec / metre	110	220	325	435	545	650	760	870
	NR	-	19	30	38	44	49	53	57
8	Lit / sec / metre	125	250	375	495	620	745	870	995
	NR	-	19	30	38	44	49	53	57



Airfoil's Circular Diffuser is manufactured from high-grade aluminium. Its sleek and sophisticated appearance makes it ideal for ceiling mounted supply applications.

The core of the diffuser can be adjusted to suit specific requirements, for example, the Circular Diffuser allows for variable horizontal airflow patterns. The attractive white powder coat finish is standard.



#### Circular Diffuser Options

> *Specific colours and finishes available on request*

#### Product specification codes:

<b>CD20</b>	Circular Diffuser with 200 mm neck	<b>CD35</b>	Circular Diffuser with 350 mm neck
<b>CD25</b>	Circular Diffuser with 250 mm neck	<b>CD40</b>	Circular Diffuser with 400 mm neck
<b>CD30</b>	Circular Diffuser with 300 mm neck		

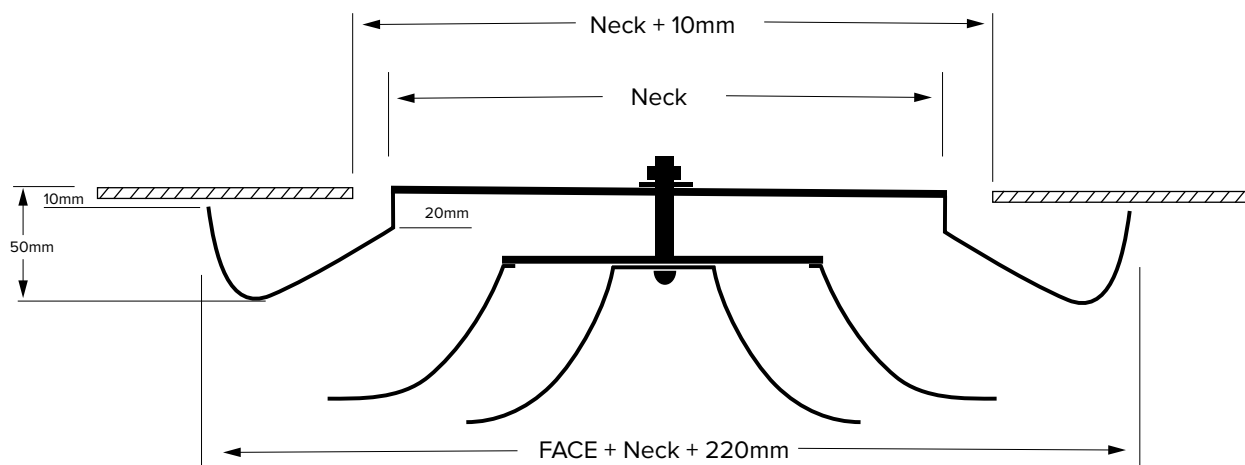
## 2.7 DIFFUSERS

### CIRCULAR DIFFUSER (CD)

39



Cross sectional diagram



Performance Data

Nike dia	Neck Vel. m/s	2	2.5	3	3.5	4	4.5	5	6
200 mm	Lit/sec	66	83	99	110	130	150	160	190
	NR	-	-	16	24	29	34	37	40
	Tot. Press (Pa)								
	Rad. Of diffusion/m	0.6 - 1.8	0.8 - 2	1.2 - 2.6	1.2 - 3	1.4 - 3.4	1.4 - 4	1.8 - 4.2	2 - 5.2
250 mm	Lit/sec	100	120	150	170	200	230	250	300
	NR	-	14	20	24	29	33	36	41
	Tot. Press (Pa)	7	11	16	21	27	35	43	60
	Rad. Of diffusion/m	0.8 - 2	0.8 - 2.4	1.2 - 3	1.4 - 3.4	1.4 - 4	1.8 - 4.6	2 - 5	2.4 - 6
300 mm	Lit/sec	140	180	220	260	290	330	370	440
	NR	-	14	20	25	29	33	36	42
	Tot. Press (Pa)	7	11	15	21	27	34	42	58
	Rad. Of diffusion/m	0.8 - 2.4	1.2 - 3	1.4 - 3.6	1.8 - 4	1.8 - 4.6	2 - 5.2	2.4 - 5.8	3 - 7
350 mm	Lit/sec	200	250	300	350	400	450	500	600
	NR	14	21	26	31	35	39	43	49
	Tot. Press (Pa)	10	16	22	30	38	48	59	85
	Rad. Of diffusion/m	1.2 - 3	1.4 - 3.6	1.8 - 4.6	2 - 5.2	2.4 - 6	2.6 - 6.6	3 - 7.2	3.6 - 8.8
400 mm	Lit/sec	260	330	400	460	520	580	640	720
	NR	10	21	26	31	35	39	43	49
	Tot. Press (Pa)	10	17	24	33	41	52	63	89
	Rad. Of diffusion/m	1.4 - 3.2	1.7 - 4.2	2.1 - 5.1	2.4 - 5.9	2.7 - 6.8	3.2 - 7.5	3.6 - 8.2	3.9 - 9.8

Sound values are based on a room absorption of 8dB

Radii of diffusion indicated are at a terminal velocity of 0.75 and 0.25 metres per sec set against flat ceilings

For exposed duct installations multiply radii of diffusion shown in table by 0.7

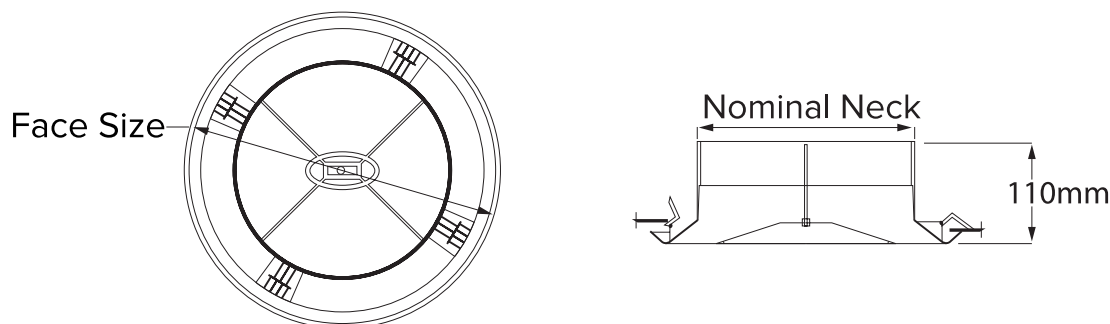
Airfoil's Plastic Round is an attractive and high quality ceiling mounted diffuser used predominantly for domestic supply and exhaust applications.

Airfoil's Plastic Round is manufactured from high quality ABS polymers, which will ensure long term strength and rigidity. This will ensure that the surface will not discolour over time. The centre of the diffuser can be adjusted which will enable the user to conveniently and accurately balance the airflow.

The finish is standard ceiling white with an etched surface, which will act to minimise light reflections.



Cross sectional diagram



PRODUCT CODE	FACE SIZE	NECK SIZE	CUT SIZE
RND150	260 mm	150 mm	230 mm
RND200	320 mm	200 mm	290 mm
RND250	395 mm	250 mm	360 mm
RND300	440 mm	300 mm	400 mm

Performance Data

			Flowrate (l/s)													
			25	50	75	100	125	150	175	200	225	250	275	300	350	
RND150	Throw (m)	0.50m/s	1.1	1.5	2.2	2.5	2.7									
	NC		-	15	16	27	35									
	Pstatic (Pa)		7	23	50	84	133									
RND200	Throw (m)	0.50m/s	-	1.4	1.8	2.1	2.4	2.8	3.0							
	NC		-	-	15	24	30	40	42							
	Pstatic (Pa)		-	9	20	36	54	76	103							
RND250	Throw (m)	0.50m/s	-	1.1	1.7	1.6	2.1	2.6	2.8	3.1	3.3	3.5	3.7			
	NC		-	-	-	-	-	15	17	26	29	32	33			
	Pstatic (Pa)			8	17	25	35	44	56	70	85	102	123			
RND300	Throw (m)	0.50m/s	-	.9	1.3	1.5	1.9	2.2	2.5	2.7	2.9	3.1	3.2	3.5	3.9	
	NC		-								15	17	22	26	33	
	Pstatic (Pa)			3	5	9	11	18	25	32	39	46	59	72	103	

**Product specification codes:**

**RND150** Plastic Round with 150 mm neck  
**RND200** Plastic Round with 200 mm neck

**RND250** Plastic Round with 250 mm neck  
**RND300** Plastic Round with 300 mm neck



## 2.9 DIFFUSERS

### JET DIFFUSER (JD)

41



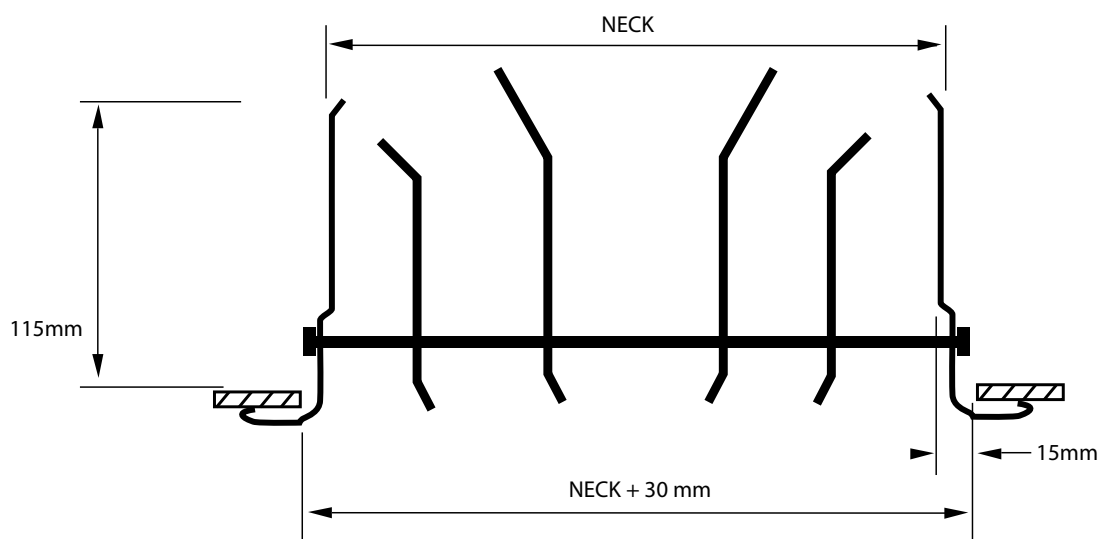
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Airfoil's Jet Diffuser is manufactured from high-grade spun aluminium, and can supply air in either a "jet" or "diffused" air pattern by rotating the cone assembly on its own axis.

Airfoil's Jet Diffuser is perfect for long throw, short throw, or diffused air control. It's ideal for high volume applications such as high ceiling auditoriums and shopping centres. Comes standard in white.

Cross Sectional Diagram: Jet Mode



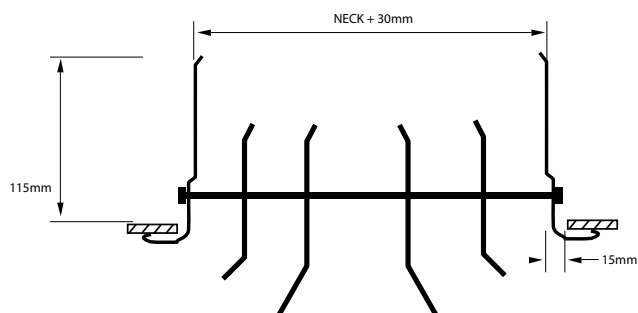
#### Jet Diffuser Options

- > Specific colours and finishes available on request
- > Can be supplied without housing
- > Can be supplied mounted with multiple units
- > Jet mode or diffuser mode

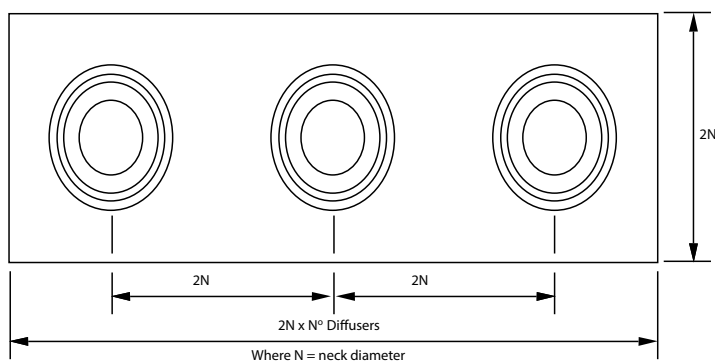
#### Product specification codes:

<b>JD150</b>	Jet Diffuser with 150 diameter	<b>JD300</b>	Jet Diffuser with 300 diameter
<b>JD200</b>	Jet Diffuser with 200 diameter	<b>JD350</b>	Jet Diffuser with 350 diameter
<b>JD250</b>	Jet Diffuser with 250 diameter	<b>JD400</b>	Jet Diffuser with 400 diameter

Cross Sectional Diagram: Diffusing mode



Mounted Jet Diffusers on plate



Custom Size Plate Available

Performance Data

NECK DIA	Lit / sec	50	75	100	125	150
	NR	28	34	38	45	>50
150 mm	Static Pressure Pascals	15	28	38	55	70
	Throw JET	3	4.2	6	7.3	8.6
	metres DIFFUSION	1.5	2.1	3	3.7	4.3
200 mm	Lit / sec	100	125	150	175	200
	NR	26	30	34	39	43
	Static Pressure Pascals	15	23	33	45	60
250 mm	Throw JET	4.5	5.5	6.5	8	9
	metres DIFFUSION	2.3	2.8	3.3	4	4.5
	Lit / sec	150	200	250	300	400
300 mm	NR	20	27	33	37	46
	Static Pressure Pascals	8	15	23	33	60
	Throw JET	5	7	8.3	10.2	12.7
350 mm	metres DIFFUSION	2.5	3.5	4.2	5.1	4.6
	Lit / sec	250	300	400	500	600
	NR	27	28	34	39	45
400 mm	Static Pressure Pascals	10	15	25	40	58
	Throw JET	6.3	7	10.2	13.3	16
	metres DIFFUSION	3.2	3.8	5.1	6.7	8
450 mm	Lit / sec	300	400	600	800	1000
	NR	-	25	35	43	> 50
	Static Pressure Pascals	5	12	32	60	103
500 mm	Throw JET	6.5	8.8	13.8	18	23
	metres DIFFUSION	3.3	4.4	6.9	9	11.5
	Lit / sec	400	600	800	1000	1200
	NR	-	28	35	43	> 50
	Static Pressure Pascals	5	15	33	60	145
	Throw JET	7.8	12	16	20	24
	metres DIFFUSION	3.9	6	8	10	12

Sound values are based on a room absorption of 8 dB , re 10<sup>-12</sup> watts.

Radii of diffusion indicated are at a terminal velocity of 0.5 metres per sec.

## 2.10 DIFFUSERS

### JET NOZZLE DIFFUSER (EBJD)

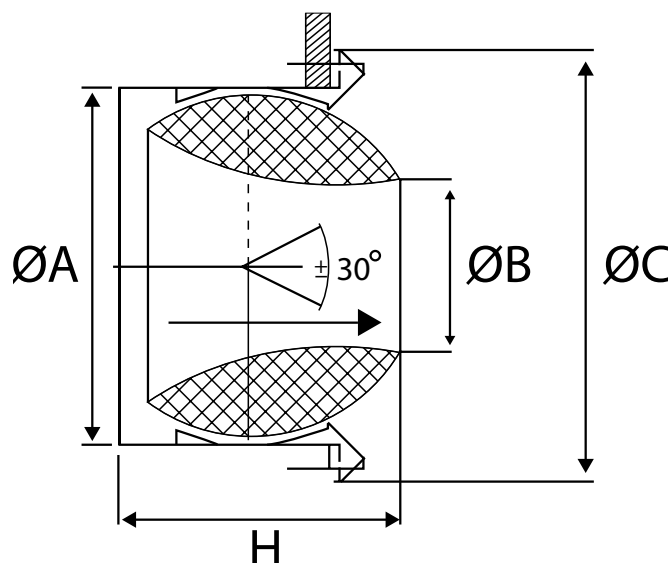
43



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Airfoil's Jet Nozzle Diffuser is manufactured from lightweight sturdy aluminium and is ideal for use in long throw applications. The 360° rotating eyeball allows for precise directional airflow. The front frame fascia is removable for ease of installation and cleaning.



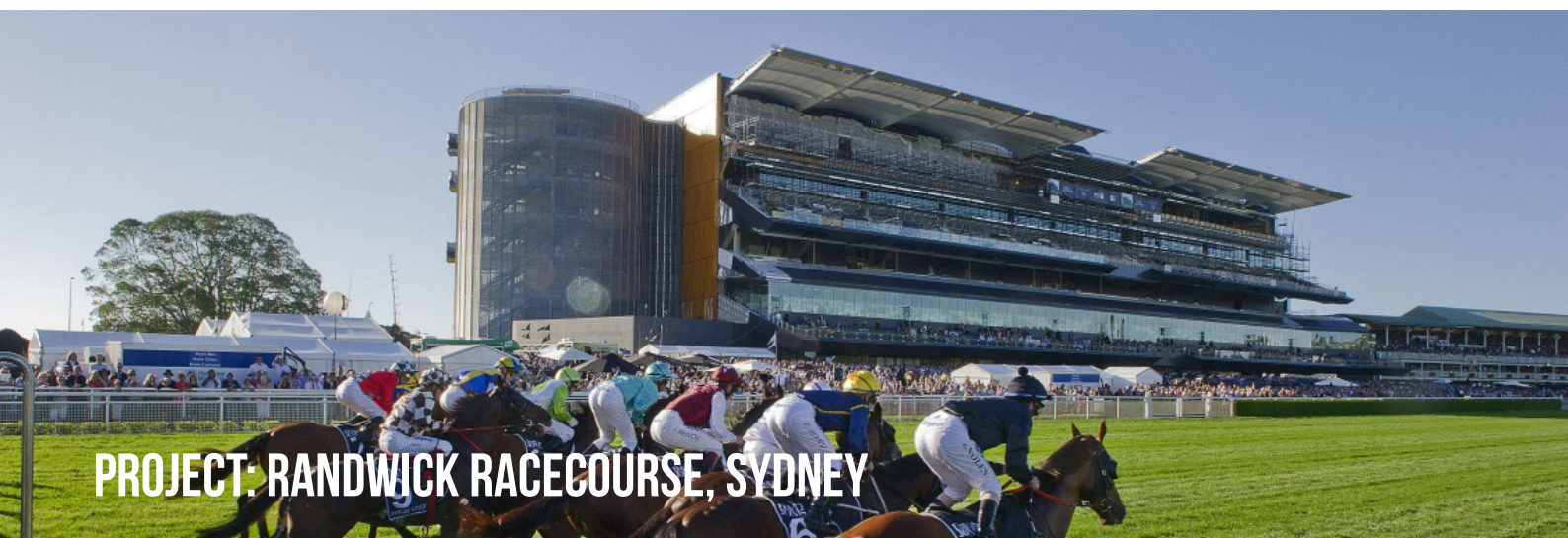
#### Jet Nozzle Diffuser Options

- > *Standard diameter sizes: 150mm, 200mm, 250mm, 315mm, 350mm, 400mm.*
- > *Specific colours and finishes available on request*
- > *Optional mounting plate on request*

#### Product specification codes:

<b>EBJD150</b>	Jet Nozzle Diffuser 150mm in diameter	<b>EBJD315</b>	Jet Nozzle Diffuser 315mm in diameter
<b>EBJD200</b>	Jet Nozzle Diffuser 200mm in diameter	<b>EBJD350</b>	Jet Nozzle Diffuser 350mm in diameter
<b>EBJD250</b>	Jet Nozzle Diffuser 250mm in diameter	<b>EBJD400</b>	Jet Nozzle Diffuser 400mm in diameter

**PROJECT: RANDWICK RACECOURSE, SYDNEY**





Product Code	Exact Neck Metric ØA	Face Opening ØB	Face Size Metric ØC	Height Metric H
EBJD150	147	75	200	113
EBJD200	197	105	266	133
EBJD250	247	128	315	185
EBJD315	312	165	395	230
EBJD350	347	185	433	251
EBJD400	397	210	495	285

Performance Data

Size (mm)	Air Volume (l/s)	Pressure lost (Pa)	Noise db (A)	Length of air stream Ln (m)	End air velocity (m/s)
160mm	35	26	<20	6.5	0.5
	44	45	22	8.5	
	56	55	26	11	
	70	110	35	13.5	
	89	144	48	16.5	
200mm	56	21	<20	8	0.5
	70	35	21	10	
	89	70	30	12.5	
	111	85	34	16	
	139	142	49	18.5	
250mm	89	23	<20	8.5	0.5
	111	45	24	12.5	
	139	55	28	15.5	
	175	90	37	18.5	
	222	142	50	21.5	
315mm	139	35	23	10	0.5
	175	46	34	12.5	
	222	80	36	15	
	278	94	40	18.5	
	347	148	50	21.5	
400mm	222	17	<20	11	0.5
	278	31	23	14	
	347	45	28	17	
	444	75	35	19.5	
	556	102	49	23	

## 2.11 DIFFUSERS

### DOWN JET DIFFUSER (DJD)

45



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Airfoil's Down Jet Diffuser is suitable for ceiling mounted heating, cooling or ventilation applications. Available in 3 sizes, all models are constructed from A.B.S polymers providing long term strength and rigidity. The diffusers consist of a series of concentric rings that deliver the air downwards at a slight angle to the vertical. A centre knob is adjusted to control the airflow including a total shut-off.

The airflow pattern is ideal for ceiling mounted heating applications where warm air is directed downwards from the down jet. The directional nature of the airflow improves the mixing of cooler air at lower levels. The down jet is regularly used in ducted heating applications where under floor ductwork is not available, such as solid concrete floors.

Standard finish is off-white and the surface has an etched face. This lowers light reflections and ensures an unobtrusive finish.

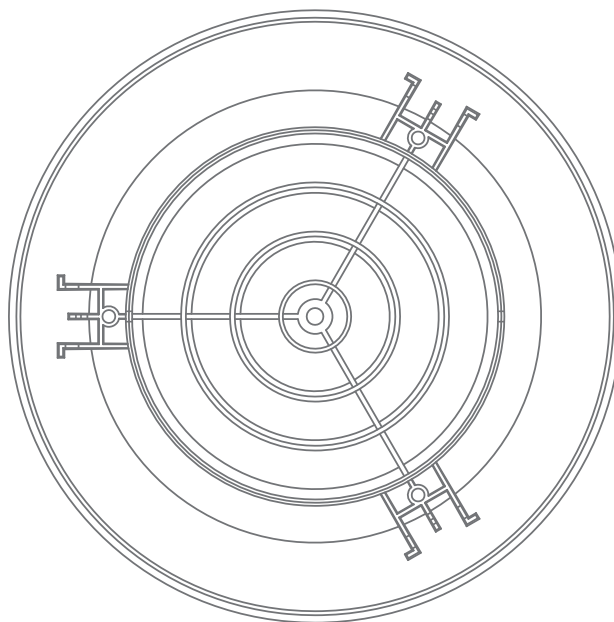
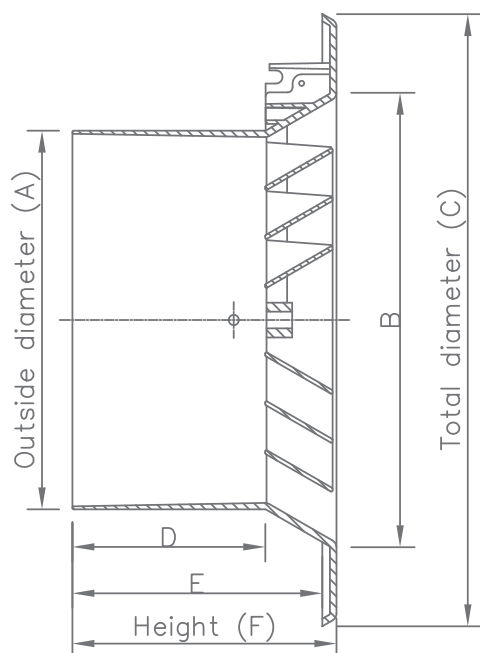
#### Product specification codes:

<b>DJD150</b>	Down Jet Diffuser 150mm diameter
<b>DJD200</b>	Down Jet Diffuser 200mm diameter
<b>DJD250</b>	Down Jet Diffuser 250mm diameter

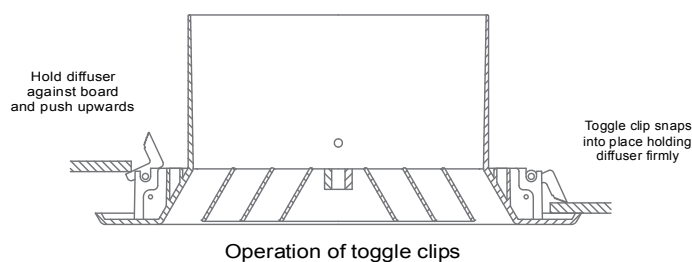
**PROJECT: LIFESTYLE MANOR BONDI, SYDNEY**



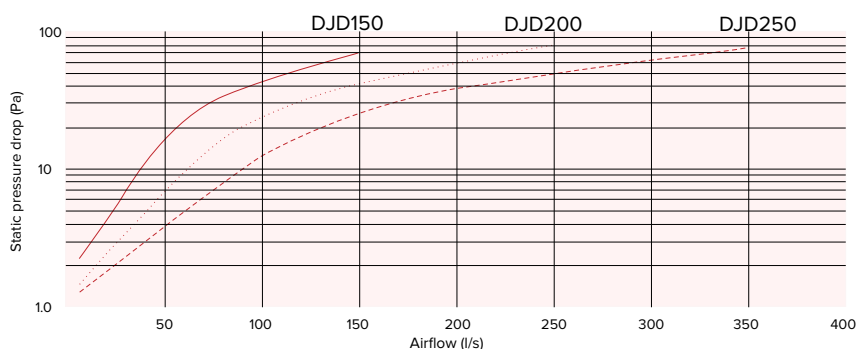
### Cross Sectional Diagram



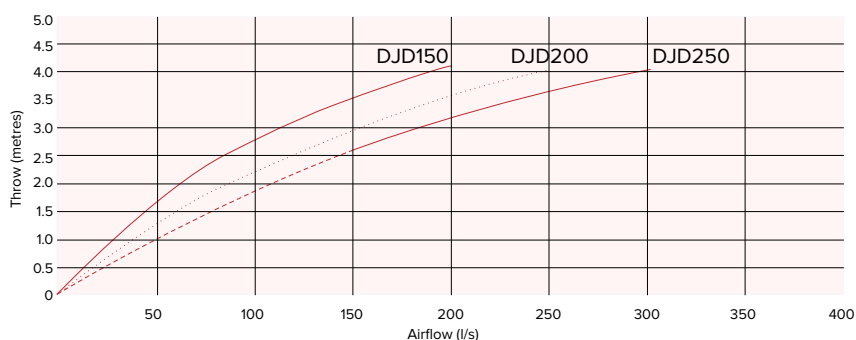
Model	A	B	C	D	E	F
DJD150	147	173	237	74	96	101
DJD200	196	224	288	92	115	120
DJD250	248	274	338	118	138	143



### Static pressure drop vs Airflow



### Throw vs Airflow





## 2.12 DIFFUSERS

### MULTI DIRECTIONAL OUTLET (MDO)

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Airfoil's Multi Directional Outlet is a plastic diffuser that comes complete with reducing neck and clips to attach to a gyprock ceiling. The diffuser is easy to install and cost effective. Commonly used in domestic applications the diffuser allows for the four biscuits which lay in its core to be interchanged. This allows the diffuser to direct air flows in a multitude of patterns depending on the room requirements.

The Multi Directional Outlet has a flushed faced appearance, which gives a contemporary look and feel.

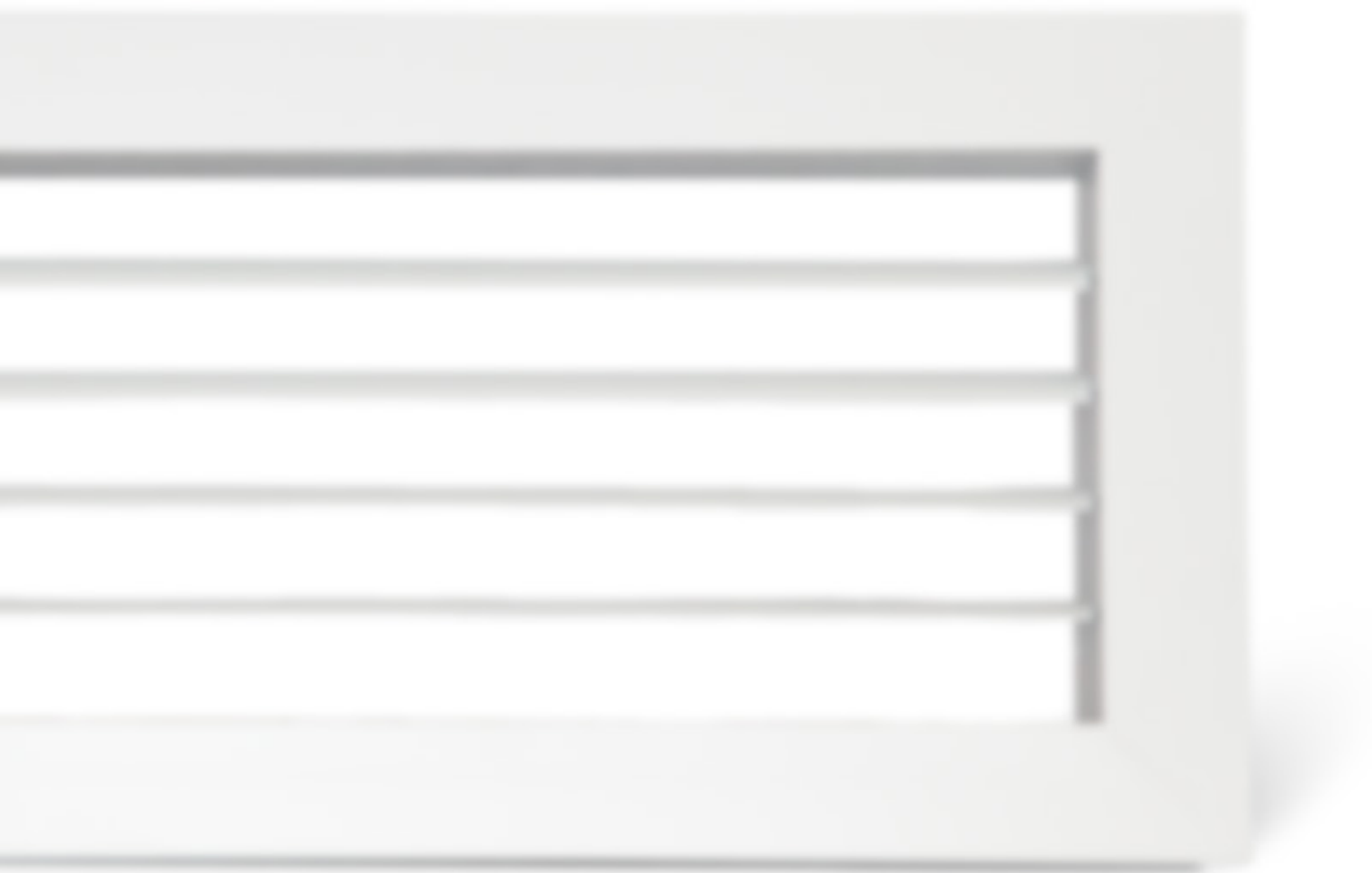


#### Product specification codes:

<b>MDO200</b>	Multi Directional Outlet 300mmx300mm with 200mm diameter neck
<b>MDO250</b>	Multi Directional Outlet 300mmx300mm with 250mm diameter neck
<b>MDO300</b>	Multi Directional Outlet 300mmx300mm with 300mm diameter neck

**PROJECT: PARKROYAL HOTEL PARRAMATTA, SYDNEY**

# 3.0 REGISTERS



## 3.1 REGISTERS

### DOUBLE DEFLECTION REGISTER (2AR) WITH FIXED CORE

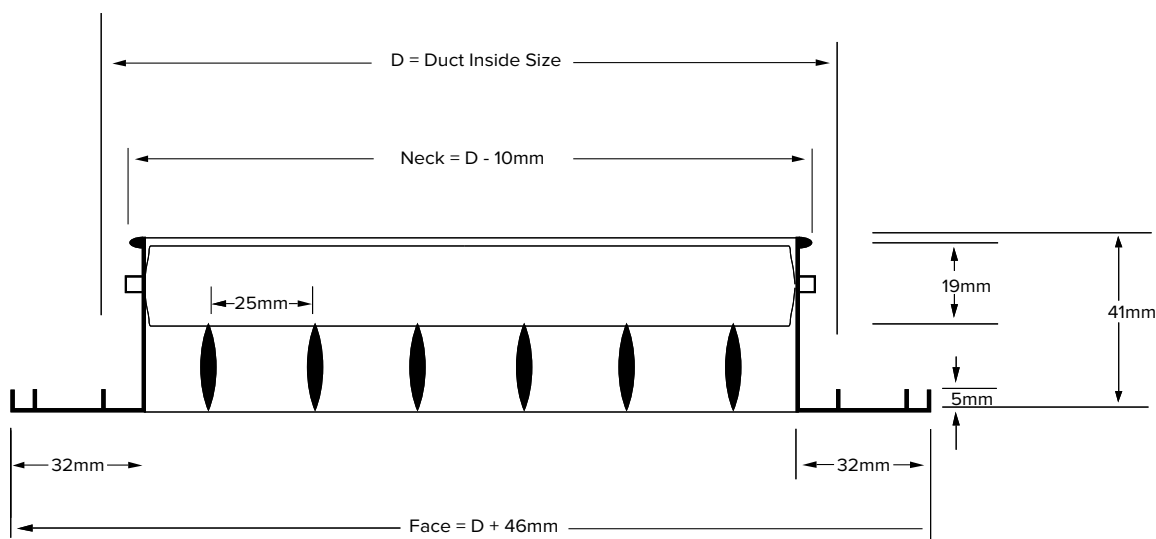
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Airfoil's Double Deflection Register with Fixed Core is used for supply air functions. The double set of fully adjustable blades gives a high level of control of the air pattern across four directions. Incorporating two sets of individually adjustable blades, the front blades may be adjusted up or down and the rear blades are adjusted side to side.

Made from high-grade extruded aluminium sections to ensure functional strength and performance, Airfoil's Double Deflection Register provides a contemporary attractive feel and modern look. It comes in standard powder coated white with optional colours and finishes available on request.

Cross Sectional Diagram: Model 2ARH



#### Double Deflection with Fixed Core Options

- > Flange size: 32mm standard with optional 25mm or 38mm
- > Blade spacing: 19mm or 25mm
- > Custom-made to any size dimensions
- > Horizontal blades or vertical blades at the front
- > Specific colours and finishes available on request

#### Product specification codes:

- 2ARH** Fixed core double deflection register with front horizontal blades
- 2ARV** Fixed core double deflection register with front vertical blades

Specification: Product code + size.

Example:

- 2ARH200x150** Fixed core double deflection register with front horizontal blades; width 200mm x height 150mm
- 2ARV150x200** Fixed core double deflection register with front vertical blades; height 150mm x width 200mm



Performance Data 25mm Centres

AREA FACTOR		0.17			0.33			0.5			0.66			1.0			1.25		
NECK AREA — M <sup>2</sup>		0.023			0.045			0.068			0.090			0.135			0.169		
TYPICAL SIZES		150 X 150 225 X 100			225 X 200 300 X 150 450 X 100			300 X 225 450 X 150 675 X 100			300 X 300 400 X 225 600 X 150			450 X 300 600 X 225 900 X 150			450 X 375 675 X 250 750 X 225		
SPREAD ANGLE		0° 22½° 45°			0° 22½° 45°			0° 22½° 45°			0° 22½° 45°			0° 22½° 45°			0° 22½° 45°		
47	Throw Metres — min	3.2	2.2	2.0	2.2	1.7	1.4												
	Throw Metres — max	5.1	3.4	2.2	3.4	2.5	2.0												
	Static Pressure — (Pa)	2.5	5.0	7.5	—	—	—												
94	Throw Metres — min	6.2	4.8	3.7	4.3	3.2	2.5	3.4	2.5	2.0	3.2	2.2	1.4						
	Throw Metres — max	9.3	7.1	5.4	6.8	4.8	3.7	5.4	4.0	2.8	4.8	3.4	2.8						
	Static Pressure — (Pa)	10	22.5	32.5	2.5	5	10	—	—	2.5	—	—	—						
141	Throw Metres — min				6.5	4.5	3.7	5.4	3.7	2.8	4.5	3.4	2.2	4.0	2.5	2.0			
	Throw Metres — max				10.3	7.3	5.7	8.2	5.9	4.5	7.3	5.1	4.0	5.7	4.3	3.2			
	Static Pressure — (Pa)				7.5	12.5	20	2.5	5	7.5	—	2.5	5	—	—	—			
189	Throw Metres — min				8.4	6.2	5.1	7.1	5.1	3.7	6.2	4.8	3.4	5.1	3.7	2.5	4.5	3.4	2.4
	Throw Metres — max				13.5	9.8	7.3	10.2	7.9	5.9	9.8	7.1	5.1	7.6	5.7	4.0	7.3	5.3	3.9
	Static Pressure — (Pa)				10	22.5	32.5	5	7.5	12.5	2.5	5	10	—	—	2.5	—	—	—
236	Throw Metres — min							8.1	6.2	5.2	7.6	5.7	4.3	6.2	4.5	3.4	5.7	4.3	3.3
	Throw Metres — max							13.5	9.8	7.3	12.4	9.0	6.5	9.6	7.1	5.4	8.7	6.8	5.1
	Static Pressure — (Pa)							7.5	12.5	20	5	10	12.5	—	2.5	5	—	—	3.5
283	Throw Metres — min							10.4	7.6	5.7	9.3	6.8	4.8	7.6	5.4	4.0	7.1	4.9	3.9
	Throw Metres — max							16.3	11.9	8.7	14.7	10.1	7.9	11.5	7.9	6.2	10.9	7.5	6.0
	Static Pressure — (Pa)							10	17.5	25	7.5	12.5	20	2.5	5	7.5	1.5	4	6
330	Throw Metres — min										11.3	7.9	5.9	8.4	6.2	4.8	8.2	5.9	4.5
	Throw Metres — max										16.9	12.4	9.3	14.1	9.8	7.2	12.7	9.0	6.8
	Static Pressure — (Pa)										10	17.5	25	5	7.5	10	3.5	60	9
375	Throw Metres — min										12.4	9.3	6.8	9.6	7.1	5.1	9.3	6.8	4.8
	Throw Metres — max										19.7	14.1	10.3	15.2	10.4	8.2	14.4	10.1	7.7
	Static Pressure — (Pa)										12.5	22.5	32.5	5	7.5	12.5	3.5	6	11
425	Throw Metres — min										14.1	10.1	7.6	10.4	7.6	5.9	10.1	7.3	5.7
	Throw Metres — max										22.3	15.2	11.9	16.9	12.4	9.3	15.8	11.3	8.7
	Static Pressure — (Pa)										15	27.5	40	5	10	15	5	8.5	12.5
472	Throw Metres — min													12.4	8.7	6.5	11.3	8.2	6.2
	Throw Metres — max													18.5	14.1	10.4	17.6	13.1	9.8
	Static Pressure — (Pa)													7.5	12.5	20	6.5	11	15
566	Throw Metres — min													15.8	10.4	7.9	13.9	9.8	7.5
	Throw Metres — max													22.6	16.9	12.2	20.8	15.8	11.9
	Static Pressure — (Pa)													10	17.5	25	8.5	14	22.5
660	Throw Metres — min													16.9	12.2	9.3	16.6	11.6	8.7
	Throw Metres — max													27.3	19.7	14.1	25.2	18.2	13.6
	Static Pressure — (Pa)													12.5	25	35	11	20	30
755	Throw Metres — min																17.8	13.4	10.1
	Throw Metres — max																29.8	21.8	15.9
	Static Pressure — (Pa)																14	25	37.5
850	Throw Metres — min																		
	Throw Metres — max																		
	Static Pressure — (Pa)																		
944	Throw Metres — min																		
	Throw Metres — max																		
	Static Pressure — (Pa)																		
1180	Throw Metres — min																		
	Throw Metres — max																		
	Static Pressure — (Pa)																		
1416	Throw Metres — min																		
	Throw Metres — max																		
	Static Pressure — (Pa)																		
1888	Throw Metres — min																		
	Throw Metres — max																		
	Static Pressure — (Pa)																		
	Throw Metres — min																		
	Throw Metres — max																		
	Static Pressure — (Pa)																		

Throw measurements are at 1.5mls min and .65mls max terminal velocity.

# 3.1 REGISTERS

## DOUBLE DEFLECTION REGISTER (2AR) WITH FIXED CORE

Performance Data 25mm Centres

AREA FACTOR		1.33	1.5	1.66	2.0	2.5	2.66
NECK AREA — M <sup>2</sup>		0.180	0.203	0.225	0.270	0.338	0.360
TYPICAL SIZES		600 x 300	450 x 450	600 x 375	600 x 450	750 x 450	600 x 600
		900 x 200	675 x 300	750 x 300	900 x 300	900 x 375	800 x 450
		1200 x 150	900 x 225	1500 x 150	1200 x 225	1125 x 300	1200 x 300
SPREAD ANGLE		0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°
141	Throw Metres — max						
	Static Pressure — (Pa)						
189	Throw Metres — min	4.3 3.2 2.2					
	Throw Metres — max	6.8 5.0 3.8					
	Static Pressure — (Pa)	— — —					
236	Throw Metres — min	5.4 4.0 3.2	4.3 3.2 2.5				
	Throw Metres — max	8.7 6.2 5.2	6.8 4.8 3.7				
	Static Pressure — (Pa)	— — 2.5	— — —				
283	Throw Metres — min	6.5 4.5 3.7	5.9 4.3 3.2	5.3 3.8 3.0	4.8 3.7 2.8		
	Throw Metres — max	10.4 7.3 4.8	9.3 7.1 4.8	8.4 5.8 4.5	7.9 5.4 4.3		
	Static Pressure — (Pa)	— 2.5 5	— — 2.5	— — —	— — —		
330	Throw Metres — min	7.6 5.7 4.3	6.8 4.8 3.7	6.2 4.5 3.4	5.9 4.3 3.2		
	Throw Metres — max	11.9 8.7 6.5	10.4 7.6 5.9	9.8 6.5 5.1	9.3 7.1 4.8		
	Static Pressure — (Pa)	2.5 5 7.5	— 2.5 5	— — 2.5	— — 2.5		
375	Throw Metres — min	9.0 6.5 4.5	8.2 5.7 4.3	7.3 5.4 4.0	6.8 4.8 3.7	6.2 4.3 3.3	5.9 4.0 3.2
	Throw Metres — max	13.5 9.8 7.4	12.9 9.0 6.8	11.2 7.9 6.4	10.4 6.6 5.7	9.4 6.6 5.1	8.7 6.2 4.8
	Static Pressure — (Pa)	2.5 5 10	1.5 4 6	— 2.5 5	— — 2.5	— — —	— — —
425	Throw Metres — min	9.8 7.1 5.4	9.0 6.2 4.8	8.2 5.7 4.3	7.6 5.7 4.0	6.9 4.9 3.6	6.5 4.5 3.4
	Throw Metres — max	15.2 10.8 8.4	14.1 9.8 7.3	12.9 9.0 6.8	11.9 8.7 6.5	10.8 7.7 5.8	10.4 7.1 5.4
	Static Pressure — (Pa)	5 7.5 10	2.5 5 7.5	1.5 4 6	— 2.5 5	— — 3	— — 2.5
472	Throw Metres — min	10.8 7.9 5.9	9.8 7.1 5.4	9.0 6.5 4.9	8.4 6.2 4.5	8.0 6.2 4.5	7.6 5.1 3.7
	Throw Metres — max	17.1 12.4 9.3	15.2 11.3 8.4	14.4 10.4 7.9	13.5 9.6 7.1	13.5 9.6 7.1	11.9 8.2 6.5
	Static Pressure — (Pa)	5 10 12.5	1.5 5 10	2.5 5 7	— 2.5 5	— 2.5 5	— — 2.5
566	Throw Metres — min	13.0 9.6 7.3	11.9 8.7 6.5	10.9 8.2 6.2	10.1 7.6 5.7	9.7 7.1 5.3	9.6 6.8 5.1
	Throw Metres — max	20.2 15.2 11.3	18.5 13.5 9.9	17.2 12.1 9.1	15.8 11.3 8.4	14.7 10.6 8.1	14.1 10.1 7.8
	Static Pressure — (Pa)	7.5 12.5 20	5 7.5 12.5	2.5 5 10	2.5 5 7.5	1.5 4 6	— 2.5 5
660	Throw Metres — min	16.3 11.3 8.4	14.1 9.8 7.3	13.8 9.6 7.1	13.5 9.6 6.9	11.7 8.4 6.6	10.6 7.9 6.2
	Throw Metres — max	23.7 17.4 13.0	21.3 15.2 11.9	20.8 15.0 11.6	20.2 14.8 11.3	18.0 13.2 10.1	16.9 12.1 9.3
	Static Pressure — (Pa)	10 17.5 25	5 10 15	5 7.5 12.5	5 7.5 10	3.5 6 9	2.5 5 7.5
755	Throw Metres — min	17.4 13.0 9.6	15.2 11.9 8.2	14.1 10.1 7.7	13.5 9.6 7.3	12.8 9.4 6.9	12.4 8.9 6.8
	Throw Metres — max	28.4 19.7 15.2	24.9 18.0 13.5	22.2 16.3 12.1	20.8 15.2 11.3	20.2 14.6 10.6	19.7 14.1 10.1
	Static Pressure — (Pa)	12.5 22.5 32.5	7.5 12.5 20	5 10 15	5 7.5 12.5	3.5 6 11	2.5 5 7.5
850	Throw Metres — min	19.7 14.7 10.6	17.4 13.0 9.6	16.0 12.1 8.7	15.2 10.8 8.2	14.7 10.4 7.7	14.1 10.1 7.4
	Throw Metres — max	30.4 22.6 16.9	28.9 19.7 14.7	25.5 17.7 13.8	23.7 16.9 13.0	23.1 16.1 12.4	22.6 15.6 11.7
	Static Pressure — (Pa)	15 27.5 40	10 17.5 25	7.5 12.5 20	7.5 10 15	5 8.5 12.5	5 7.5 10
944	Throw Metres — min		19.7 14.1 10.8	18.0 13.0 9.9	16.9 11.9 9.0	15.9 11.3 8.7	15.4 11.0 8.4
	Throw Metres — max		31.3 22.6 16.7	27.9 20.4 15.2	26.1 18.5 14.1	25.1 16.8 13.6	24.5 16.9 13.3
	Static Pressure — (Pa)		12.5 22.5 32.5	10 17.5 25	17.5 12.5 20	6.5 11 15	5 7.5 12.5
1180	Throw Metres — min			21.4 15.8 11.9	20.8 15.2 11.3	20.1 14.6 11.0	18.4 13.9 10.7
	Throw Metres — max			32.6 25.2 19.5	31.5 23.7 18.1	30.5 22.9 16.9	29.8 22.6 16.3
	Static Pressure — (Pa)			12.5 22.5 32.5	10 20 30	8.5 14 22.5	7.5 12.5 20
1416	Throw Metres — min				24.7 18.4 13.4	23.4 17.2 13.1	22.6 16.6 12.5
	Throw Metres — max				38.2 28.2 20.8	35.2 26.8 19.5	33.7 26.1 18.7
	Static Pressure — (Pa)				15 27.5 40	12.5 22.5 32.5	10 17.5 25
1888	Throw Metres — min						29.9 17.8 13.4
	Throw Metres — max						42.9 31.7 25.4
	Static Pressure — (Pa)						15 27.5 40
2360	Throw Metres — min						
	Throw Metres — max						
	Static Pressure — (Pa)						

Throw measurements are at 1.5mls min and .65mls max terminal velocity.

Performance Data 25mm Centres

AREA FACTOR		3.0	4.0	5.0	6.0	8.15
NECK AREA — M <sup>2</sup>		0.405	0.540	0.675	0.810	1.10
TYPICAL SIZES		675 x 600 900 x 450	900 x 600 1200 x 450 1800 x 300	900 x 750 1500 x 450	900 x 900 1350 x 600 1800 x 450	1050 x 1050
SPREAD ANGLE		0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°
189	Throw Metres — max Static Pressure — (Pa)					
236	Throw Metres — min Throw Metres — max Static Pressure — (Pa)					
283	Throw Metres — min Throw Metres — max Static Pressure — (Pa)					
330	Throw Metres — min Throw Metres — max Static Pressure — (Pa)					
375	Throw Metres — min Throw Metres — max Static Pressure — (Pa)					
425	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	6.2 4.3 3.4 9.8 6.8 5.1 — — —				
472	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	7.1 4.8 3.4 10.6 7.6 5.9 — — —				
566	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	8.2 6.2 4.5 13.0 9.3 7.1 — — 2.5	6.8 4.8 3.7 10.4 7.6 5.7 — — —			
660	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	9.8 7.1 5.1 15.2 11.3 8.4 — 2.5 5	7.6 5.7 4.3 12.4 8.7 6.5 — — 2.5			
755	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	11.3 8.2 6.2 17.4 13.0 9.6 — 2.5 5	8.7 6.5 4.8 14.1 9.8 7.6 — — 2.5			
850	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	13.0 9.0 6.8 19.7 14.1 10.4 2.5 5 7.5	10.1 7.3 5.7 15.2 11.3 8.5 — 2.5 5	8.9 6.8 5.1 14.1 10.4 8.2 — — 2.5	8.4 6.2 4.0 13.5 9.8 7.6 — — —	
944	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	14.1 10.1 7.3 21.1 15.8 11.9 2.5 5 10	11.9 7.9 5.9 16.9 12.4 9.3 — 2.5 5	10.6 7.5 5.7 15.7 11.5 8.9 — — 2.5	9.8 7.1 5.4 15.2 10.9 8.4 — — —	
1180	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	17.4 12.6 9.6 27.1 19.7 14.7 5 10 12.5	14.1 9.8 7.6 21.7 15.2 11.9 2.5 5 7.5	13.1 9.6 7.3 20.1 14.3 10.9 — 2.5 5	12.4 9.2 7.1 18.4 13.4 10.4 — — 2.5	10.1 7.1 5.4 15.2 10.1 8.1 — — —
1416	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	20.2 15.5 13.3 31.5 23.7 17.4 7.5 12.5 20	16.9 11.9 9.0 24.3 19.3 14.1 5 10 12.5	15.9 11.2 8.4 23.5 17.7 13.5 2.5 5 7.5	14.7 10.6 8.2 22.6 16.9 13.0 — 2.5 5	11.9 8.4 6.5 18.5 13.5 9.8 — — 2.5
1888	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	28.2 17.4 12.7 40.8 30.4 23.7 12.5 22.5 32.5	23.0 15.8 11.9 34.1 24.8 18.5 9.5 12.5 20	20.2 14.9 11.0 32.2 22.9 17.7 5 7.5 12.5	18.5 14.1 10.6 30.4 21.1 16.9 2.5 5 7.5	15.6 11.3 8.4 24.5 18.0 14.5 — 2.5 5
2360	Throw Metres — min Throw Metres — max Static Pressure — (Pa)		28.2 17.8 15.2 42.6 30.6 23.2 12.5 22.5 32.5	27.0 17.4 14.6 38.8 28.7 21.4 7.5 12.5 20	26.1 16.8 14.1 34.8 28.2 20.2 5 10 12.5	19.7 14.1 10.6 30.4 22.6 16.9 2.5 5 7.5

Throw measurements are at 1.5mls min and .65mls max terminal velocity.



# 3.1 REGISTERS

## DOUBLE DEFLECTION REGISTER (2AR) WITH FIXED CORE



Neck areas for supply registers

Nominal Height mm	150	225	300	375	450	525	600	675	750	825	900	975	1050
Nominal Length mm													
150	.023												
225	.038	.051											
300	.045	.068	.090										
375	.056	.084	.113	.141									
450	.068	.101	.136	.169	.203								
525	.079	.118	.158	.197	.236	.276							
600	.090	.135	.180	.225	.270	.315	.360						
675	.101	.152	.203	.253	.304	.354	.405	.456					
750	.113	.169	.225	.281	.338	.393	.450	.506	.563				
825	.124	.186	.248	.309	.371	.433	.495	.557	.618	.681			
900	.135	.203	.270	.338	.405	.473	.540	.607	.675	.743	.810		
975	.146	.219	.293	.366	.439	.512	.585	.658	.731	.804	.878	.951	
1050	.158	.236	.315	.394	.473	.551	.630	.709	.788	.866	.945	1.024	1.100

Core areas for supply registers

Nominal Height mm	150	225	300	375	450	525	600	675	750	825	900	975	1050
Nominal Length mm													
150	.017												
225	.027	.042											
300	.037	.058	.079										
375	.047	.073	.100	.127									
450	.056	.089	.121	.153	.186								
525	.066	.104	.142	.180	.218	.256							
600	.076	.120	.163	.207	.250	.294	.338						
675	.086	.135	.184	.233	.283	.332	.381	.456					
750	.096	.150	.205	.260	.315	.370	.425	.506	.534				
825	.106	.166	.226	.290	.347	.408	.468	.557	.589	.650			
900	.115	.181	.248	.314	.380	.446	.512	.607	.644	.710	.776		
975	.125	.197	.269	.340	.412	.484	.555	.658	.699	.771	.842	.913	
1050	.135	.212	.290	.367	.444	.522	.609	.709	.754	.831	.908	.986	1.063

Core areas for supply registers

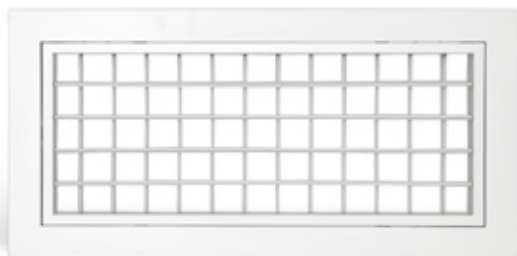
Neck Area	.02	.03	.038	.045	.053	.068	.075	.09	.10	.113	.12	.135	.15	.18	.225	.27	.36	.405	.45	.54	.675	.81
L/S																						
50	A	A																				
100	A	A																				
150	B	B	A																			
200	C	B	B	A	A																	
250	D	C	C	B	B	A	A															
300	E	D	D	C	B	B	B	A														
350		E	D	D	C	C	B	B	A													
400			E	E	D	C	C	B	B	A												
450				E	D	D	C	B	B	A												
500					E	E	C	C	B	B	A											
600						E	D	C	C	B	B	A										
700							E	D	C	C	C	B	A									
800								E	D	C	C	C	B	A								
900									E	D	D	D	C	B	A							
1000									E	D	D	D	C	B	B	A						
1250										E	D	D	B	A								
1500											E	E	C	B	A	A						
1750														D	C	B	A					

NRdb Ratings at 22 1/2° A = 20 - 25 B = 25 - 30 C = 30 - 35 D = 35 - 40 E = 40 - 45

## 3.2 REGISTERS

### DOUBLE DEFLECTION REGISTER (RC2AR) WITH REMOVABLE CORE

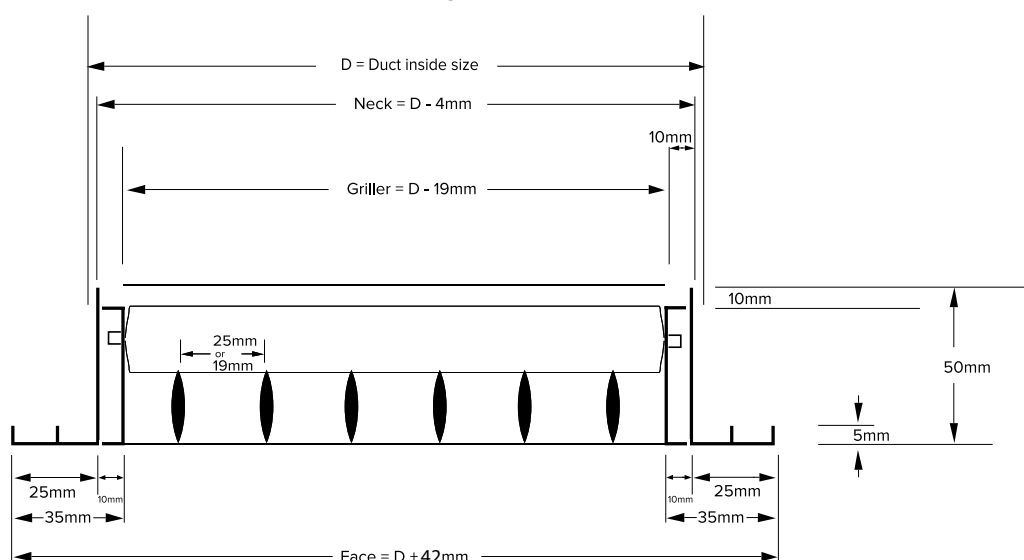
55



Airfoil's Double Deflection Register with Removable Core is used for supply air functions. The double set of fully adjustable blades gives a high level of control of the air pattern across four directions. Incorporating two sets of individually adjustable blades, the front blades may be adjusted up or down and the rear blades are adjusted side to side.

Made from high-grade extruded aluminium sections to ensure functional strength and performance, Airfoil's Double Deflection Register provides a contemporary attractive feel and modern look. It comes in standard powder coated white with optional colours and finishes available on request.

Cross Sectional Diagram: Model RC2ARH



#### Double Deflection Register with Removable Core Options

- > Flange size: 32mm standard with optional 25mm or 38mm
- > Blade spacing: 19mm or 25mm
- > Custom-made to any size dimensions
- > Horizontal blades or vertical blades at the front
- > Specific colours and finishes available on request

#### Product specification codes:

**RC2ARH** Removable core double deflection register with front horizontal blades

**RC2ARV** Removable core double deflection register with front vertical blades

Specification: Product code + size.

Example:

**RC2ARH200x150** Removable Core Double Deflection Register with front horizontal blades width 200mm x height 150mm

**RC2ARV150x200** Removable Core Double Deflection Register with front vertical blades height 150mm x width 200mm



### Performance Data 25mm Centres

AREA FACTOR		0.17			0.33			0.5			0.66			1.0			1.25		
NECK AREA — M <sup>2</sup>		0.023			0.045			0.068			0.090			0.135			0.169		
TYPICAL SIZES		150 X 150 225 X 100			225 X 200 300 X 150 450 X 100			300 X 225 450 X 150 675 X 100			300 X 300 400 X 225 600 X 150			450 X 300 600 X 225 900 X 150			450 X 375 675 X 250 750 X 225		
SPREAD ANGLE		0° 22½° 45°			0° 22½° 45°			0° 22½° 45°			0° 22½° 45°			0° 22½° 45°			0° 22½° 45°		
l/s	Throw Metres — min	3.2	2.2	2.0	2.2	1.7	1.4												
	Throw Metres — max	5.1	3.4	2.2	3.4	2.5	2.0												
	Static Pressure — (Pa)	2.5	5.0	7.5	—	—	—												
47	Throw Metres — min	6.2	4.8	3.7	4.3	3.2	2.5	3.4	2.5	2.0	3.2	2.2	1.4						
	Throw Metres — max	9.3	7.1	5.4	6.8	4.8	3.7	5.4	4.0	2.8	4.8	3.4	2.8						
	Static Pressure — (Pa)	10	22.5	32.5	2.5	5	10	—	—	2.5	—	—	—						
94	Throw Metres — min				6.5	4.5	3.7	5.4	3.7	2.8	4.5	3.4	2.2	4.0	2.5	2.0			
	Throw Metres — max				10.3	7.3	5.7	8.2	5.9	4.5	7.3	5.1	4.0	5.7	4.3	3.2			
	Static Pressure — (Pa)				7.5	12.5	20	2.5	5	7.5	—	2.5	5	—	—	—			
141	Throw Metres — min				8.4	6.2	5.1	7.1	5.1	3.7	6.2	4.8	3.4	5.1	3.7	2.5	4.5	3.4	2.4
	Throw Metres — max				13.5	9.8	7.3	10.2	7.9	5.9	9.8	7.1	5.1	7.6	5.7	4.0	7.3	5.3	3.9
	Static Pressure — (Pa)				10	22.5	32.5	5	7.5	12.5	2.5	5	10	—	—	2.5	—	—	—
189	Throw Metres — min							8.1	6.2	5.2	7.6	5.7	4.3	6.2	4.5	3.4	5.7	4.3	3.3
	Throw Metres — max							13.5	9.8	7.3	12.4	9.0	6.5	9.6	7.1	5.4	8.7	6.8	5.1
	Static Pressure — (Pa)							7.5	12.5	20	5	10	12.5	—	2.5	5	—	—	3.5
236	Throw Metres — min							10.4	7.6	5.7	9.3	6.8	4.8	7.6	5.4	4.0	7.1	4.9	3.9
	Throw Metres — max							16.3	11.9	8.7	14.7	10.1	7.9	11.5	7.9	6.2	10.9	7.5	6.0
	Static Pressure — (Pa)							10	17.5	25	7.5	12.5	20	2.5	5	7.5	1.5	4	6
283	Throw Metres — min										11.3	7.9	5.9	8.4	6.2	4.8	8.2	5.9	4.5
	Throw Metres — max										16.9	12.4	9.3	14.1	9.8	7.2	12.7	9.0	6.8
	Static Pressure — (Pa)										10	17.5	25	5	7.5	10	3.5	60	9
330	Throw Metres — min										12.4	9.3	6.8	9.6	7.1	5.1	9.3	6.8	4.8
	Throw Metres — max										19.7	14.1	10.3	15.2	10.4	8.2	14.4	10.1	7.7
	Static Pressure — (Pa)										12.5	22.5	32.5	5	7.5	12.5	3.5	6	11
375	Throw Metres — min										14.1	10.1	7.6	10.4	7.6	5.9	10.1	7.3	5.7
	Throw Metres — max										22.3	15.2	11.9	16.9	12.4	9.3	15.8	11.3	8.7
	Static Pressure — (Pa)										15	27.5	40	5	10	15	5	8.5	12.5
425	Throw Metres — min													12.4	8.7	6.5	11.3	8.2	6.2
	Throw Metres — max													18.5	14.1	10.4	17.6	13.1	9.8
	Static Pressure — (Pa)													7.5	12.5	20	6.5	11	15
472	Throw Metres — min													15.8	10.4	7.9	13.9	9.8	7.5
	Throw Metres — max													22.6	16.9	12.2	20.8	15.8	11.9
	Static Pressure — (Pa)													10	17.5	25	8.5	14	22.5
566	Throw Metres — min													16.9	12.2	9.3	16.6	11.6	8.7
	Throw Metres — max													27.3	19.7	14.1	25.2	18.2	13.6
	Static Pressure — (Pa)													12.5	25	35	11	20	30
660	Throw Metres — min																17.8	13.4	10.1
	Throw Metres — max																29.8	21.8	15.9
	Static Pressure — (Pa)																14	25	37.5
755	Throw Metres — min																		
	Throw Metres — max																		
	Static Pressure — (Pa)																		
850	Throw Metres — min																		
	Throw Metres — max																		
	Static Pressure — (Pa)																		
944	Throw Metres — min																		
	Throw Metres — max																		
	Static Pressure — (Pa)																		
1180	Throw Metres — min																		
	Throw Metres — max																		
	Static Pressure — (Pa)																		
1416	Throw Metres — min																		
	Throw Metres — max																		
	Static Pressure — (Pa)																		
1416	Throw Metres — min																		
	Throw Metres — max																		
	Static Pressure — (Pa)																		

Throw measurements are at 1.5mls min and .65mls max terminal velocity.

## 3.2 REGISTERS

### DOUBLE DEFLECTION REGISTER (RC2AR) WITH REMOVABLE CORE



Performance Data 25mm Centres

AREA FACTOR		1.33	1.5	1.66	2.0	2.5	2.66
NECK AREA — M <sup>2</sup>		0.180	0.203	0.225	0.270	0.338	0.360
TYPICAL SIZES		600 x 300	450 x 450	600 x 375	600 x 450	750 x 450	600 x 600
		900 x 200	675 x 300	750 x 300	900 x 300	900 x 375	800 x 450
		1200 x 150	900 x 225	1500 x 150	1200 x 225	1125 x 300	1200 x 300
SPREAD ANGLE		0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°
94	Throw Metres — max						
	Static Pressure — (Pa)						
141	Throw Metres — min						
	Throw Metres — max						
	Static Pressure — (Pa)						
189	Throw Metres — min	4.3 3.2 2.2					
	Throw Metres — max	6.8 5.0 3.8					
	Static Pressure — (Pa)	— — —					
236	Throw Metres — min	5.4 4.0 3.2	4.3 3.2 2.5				
	Throw Metres — max	8.7 6.2 5.2	6.8 4.8 3.7				
	Static Pressure — (Pa)	— — 2.5	— — —				
283	Throw Metres — min	6.5 4.5 3.7	5.9 4.3 3.2	5.3 3.8 3.0	4.8 3.7 2.8		
	Throw Metres — max	10.4 7.3 4.8	9.3 7.1 4.8	8.4 5.8 4.5	7.9 5.4 4.3		
	Static Pressure — (Pa)	— 2.5 5	— — 2.5	— — —	— — —		
330	Throw Metres — min	7.6 5.7 4.3	6.8 4.8 3.7	6.2 4.5 3.4	5.9 4.3 3.2		
	Throw Metres — max	11.9 8.7 6.5	10.4 7.6 5.9	9.8 6.5 5.1	9.3 7.1 4.8		
	Static Pressure — (Pa)	2.5 5 7.5	— 2.5 5	— — 2.5	— — 2.5		
375	Throw Metres — min	9.0 6.5 4.5	8.2 5.7 4.3	7.3 5.4 4.0	6.8 4.8 3.7	6.2 4.3 3.3	5.9 4.0 3.2
	Throw Metres — max	13.5 9.8 7.4	12.9 9.0 6.8	11.2 7.9 6.4	10.4 6.6 5.7	9.4 6.6 5.1	8.7 6.2 4.8
	Static Pressure — (Pa)	2.5 5 10	1.5 4 6	— 2.5 5	— — 2.5	— — —	— — —
425	Throw Metres — min	9.8 7.1 5.4	9.0 6.2 4.8	8.2 5.7 4.3	7.6 5.7 4.0	6.9 4.9 3.6	6.5 4.5 3.4
	Throw Metres — max	15.2 10.8 8.4	14.1 9.8 7.3	12.9 9.0 6.8	11.9 8.7 6.5	10.8 7.7 5.8	10.4 7.1 5.4
	Static Pressure — (Pa)	5 7.5 10	2.5 5 7.5	1.5 4 6	— 2.5 5	— — 3	— — 2.5
472	Throw Metres — min	10.8 7.9 5.9	9.8 7.1 5.4	9.0 6.5 4.9	8.4 6.2 4.5	8.0 6.2 4.5	7.6 5.1 3.7
	Throw Metres — max	17.1 12.4 9.3	15.2 11.3 8.4	14.4 10.4 7.9	13.5 9.6 7.1	13.5 9.6 7.1	11.9 8.2 6.5
	Static Pressure — (Pa)	5 10 12.5	1.5 5 10	2.5 5 7	— 2.5 5	— 2.5 5	— — 2.5
566	Throw Metres — min	13.0 9.6 7.3	11.9 8.7 6.5	10.9 8.2 6.2	10.1 7.6 5.7	9.7 7.1 5.3	9.6 6.8 5.1
	Throw Metres — max	20.2 15.2 11.3	18.5 13.5 9.9	17.2 12.1 9.1	15.8 11.3 8.4	14.7 10.6 8.1	14.1 10.1 7.8
	Static Pressure — (Pa)	7.5 12.5 20	5 7.5 12.5	2.5 5 10	2.5 5 7.5	1.5 4 6	— 2.5 5
660	Throw Metres — min	16.3 11.3 8.4	14.1 9.8 7.3	13.8 9.6 7.1	13.5 9.6 6.9	11.7 8.4 6.6	10.6 7.9 6.2
	Throw Metres — max	23.7 17.4 13.0	21.3 15.2 11.9	20.8 15.0 11.6	20.2 14.8 11.3	18.0 13.2 10.1	16.9 12.1 9.3
	Static Pressure — (Pa)	10 17.5 25	5 10 15	5 7.5 12.5	5 7.5 10	3.5 6 9	2.5 5 7.5
755	Throw Metres — min	17.4 13.0 9.6	15.2 11.9 8.2	14.1 10.1 7.7	13.5 9.6 7.3	12.8 9.4 6.9	12.4 8.9 6.8
	Throw Metres — max	28.4 19.7 15.2	24.9 18.0 13.5	22.2 16.3 12.1	20.8 15.2 11.3	20.2 14.6 10.6	19.7 14.1 10.1
	Static Pressure — (Pa)	12.5 22.5 32.5	7.5 12.5 20	5 10 15	5 7.5 12.5	3.5 6 11	2.5 5 7.5
850	Throw Metres — min	19.7 14.7 10.6	17.4 13.0 9.6	16.0 12.1 8.7	15.2 10.8 8.2	14.7 10.4 7.7	14.1 10.1 7.4
	Throw Metres — max	30.4 22.6 16.9	28.9 19.7 14.7	25.5 17.7 13.8	23.7 16.9 13.0	23.1 16.1 12.4	22.6 15.6 11.7
	Static Pressure — (Pa)	15 27.5 40	10 17.5 25	7.5 12.5 20	7.5 10 15	5 8.5 12.5	5 7.5 10
944	Throw Metres — min		19.7 14.1 10.8	18.0 13.0 9.9	16.9 11.9 9.0	15.9 11.3 8.7	15.4 11.0 8.4
	Throw Metres — max		31.3 22.6 16.7	27.9 20.4 15.2	26.1 18.5 14.1	25.1 16.8 13.6	24.5 16.9 13.3
	Static Pressure — (Pa)		12.5 22.5 32.5	10 17.5 25	17.5 12.5 20	6.5 11 15	5 7.5 12.5
1180	Throw Metres — min			21.4 15.8 11.9	20.8 15.2 11.3	20.1 14.6 11.0	18.4 13.9 10.7
	Throw Metres — max			32.6 25.2 19.5	31.5 23.7 18.1	30.5 22.9 16.9	29.8 22.6 16.3
	Static Pressure — (Pa)			12.5 22.5 32.5	10 20 30	8.5 14 22.5	7.5 12.5 20
1416	Throw Metres — min				24.7 18.4 13.4	23.4 17.2 13.1	22.6 16.6 12.5
	Throw Metres — max				38.2 28.2 20.8	35.2 26.8 19.5	33.7 26.1 18.7
	Static Pressure — (Pa)				15 27.5 40	12.5 22.5 32.5	10 17.5 25
1888	Throw Metres — min						29.9 17.8 13.4
	Throw Metres — max						42.9 31.7 25.4
	Static Pressure — (Pa)						15 27.5 40
2360	Throw Metres — min						
	Throw Metres — max						
	Static Pressure — (Pa)						

Throw measurements are at 1.5mls min and .65mls max terminal velocity.

Performance Data 25mm Centres

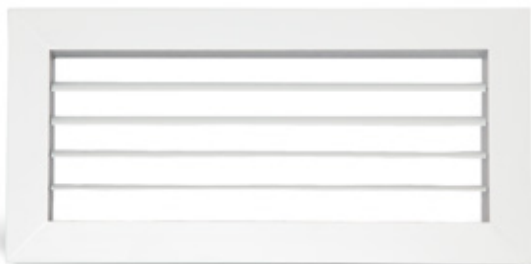
AREA FACTOR		3.0	4.0	5.0	6.0	8.15
NECK AREA — M <sup>2</sup>		0.405	0.540	0.675	0.810	1.10
TYPICAL SIZES		675 x 600 900 x 450	900 x 600 1200 x 450 1800 x 300	900 x 750 1500 x 450	900 x 900 1350 x 600 1800 x 450	1050 x 1050
SPREAD ANGLE		0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°
141	Throw Metres — max Static Pressure — (Pa)					
189	Throw Metres — min Throw Metres — max Static Pressure — (Pa)					
236	Throw Metres — min Throw Metres — max Static Pressure — (Pa)					
283	Throw Metres — min Throw Metres — max Static Pressure — (Pa)					
330	Throw Metres — min Throw Metres — max Static Pressure — (Pa)					
375	Throw Metres — min Throw Metres — max Static Pressure — (Pa)					
425	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	6.2 4.3 3.4 9.8 6.8 5.1 — — —				
472	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	7.1 4.8 3.4 10.6 7.6 5.9 — — —				
566	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	8.2 6.2 4.5 13.0 9.3 7.1 — — 2.5	6.8 4.8 3.7 10.4 7.6 5.7 — — —			
660	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	9.8 7.1 5.1 15.2 11.3 8.4 — 2.5 5	7.6 5.7 4.3 12.4 8.7 6.5 — — 2.5			
755	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	11.3 8.2 6.2 17.4 13.0 9.6 — 2.5 5	8.7 6.5 4.8 14.1 9.8 7.6 — — 2.5			
850	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	13.0 9.0 6.8 19.7 14.1 10.4 2.5 5 7.5	10.1 7.3 5.7 15.2 11.3 8.5 — 2.5 5	8.9 6.8 5.1 14.1 10.4 8.2 — — 2.5	8.4 6.2 4.0 13.5 9.8 7.6 — — —	
944	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	14.1 10.1 7.3 21.1 15.8 11.9 2.5 5 10	11.9 7.9 5.9 16.9 12.4 9.3 — 2.5 5	10.6 7.5 5.7 15.7 11.5 8.9 — — 2.5	9.8 7.1 5.4 15.2 10.9 8.4 — — —	
1180	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	17.4 12.6 9.6 27.1 19.7 14.7 5 10 12.5	14.1 9.8 7.6 21.7 15.2 11.9 2.5 5 7.5	13.1 9.6 7.3 20.1 14.3 10.9 — 2.5 5	12.4 9.2 7.1 18.4 13.4 10.4 — — 2.5	10.1 7.1 5.4 15.2 10.1 8.1 — — —
1416	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	20.2 15.5 13.3 31.5 23.7 17.4 7.5 12.5 20	16.9 11.9 9.0 24.3 19.3 14.1 5 10 12.5	15.9 11.2 8.4 23.5 17.7 13.5 2.5 5 7.5	14.7 10.6 8.2 22.6 16.9 13.0 — 2.5 5	11.9 8.4 6.5 18.5 13.5 9.8 — — 2.5
1888	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	28.2 17.4 12.7 40.8 30.4 23.7 12.5 22.5 32.5	23.0 15.8 11.9 34.1 24.8 18.5 9.5 12.5 20	20.2 14.9 11.0 32.2 22.9 17.7 5 7.5 12.5	18.5 14.1 10.6 30.4 21.1 16.9 2.5 5 7.5	15.6 11.3 8.4 24.5 18.0 14.5 — 2.5 5
2360	Throw Metres — min Throw Metres — max Static Pressure — (Pa)		28.2 17.8 15.2 42.6 30.6 23.2 12.5 22.5 32.5	27.0 17.4 14.6 38.8 28.7 21.4 7.5 12.5 20	26.1 16.8 14.1 34.8 28.2 20.2 5 10 12.5	19.7 14.1 10.6 30.4 22.6 16.9 2.5 5 7.5

Throw measurements are at 1.5mls min and .65mls max terminal velocity.

## 3.3 REGISTERS

### SINGLE DEFLECTION REGISTER (1AR) WITH FIXED CORE

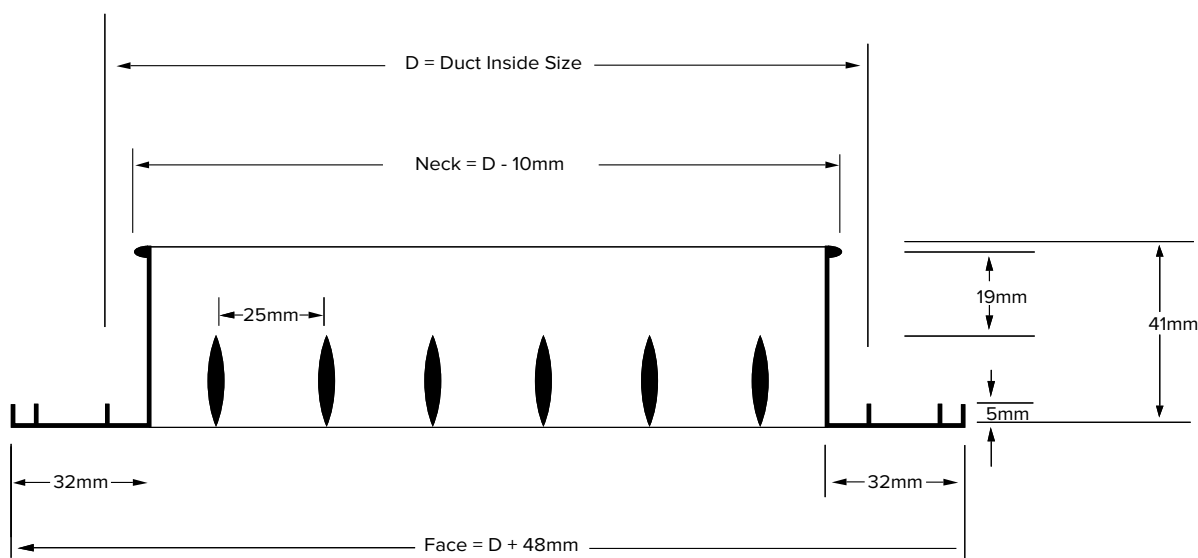
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Airfoil's Single Deflection Register with Fixed Core is manufactured with a single set of fully adjustable blades to give a high level of control of the air pattern across two directions. The blades may be ordered in either horizontal or vertical as required.

Made from high-grade extruded aluminium sections to ensure functional strength and performance, Airfoil's Single Deflection Register provides a contemporary attractive feel and modern look. It comes in standard powder coated white with optional colours and finishes available on request.

Cross Sectional Diagram



#### Single Deflection Register Options

- > Flange size: 32mm standard with optional 25mm or 38mm
- > Blade spacing: 19mm or 25mm
- > Custom-made to any size dimensions
- > Specific colours and finishes available on request
- > Horizontal blades at front or vertical blades at front

#### Product specification codes:

- 1ARH** Fixed core single deflection register with horizontal blades at front.  
**1ARV** Fixed core single deflection register with vertical blades at front.  
Specification: Product code + size.  
Example:  
**1ARH200x150** Fixed Core Single Deflection Register with front horizontal blades width 200mm x height 150mm



### Performance Data 25mm Centres

AREA FACTOR		0.17			0.33			0.5			0.66			1.0			1.25		
NECK AREA — M <sup>2</sup>		0.023			0.045			0.068			0.090			0.135			0.169		
TYPICAL SIZES		150 X 150			225 X 200			300 X 225			300 X 300			450 X 300			450 X 375		
		225 X 100			300 X 150			450 X 150			400 X 225			600 X 225			675 X 250		
					450 X 100			675 X 100			600 X 150			900 X 150			750 X 225		
SPREAD ANGLE		0° 22½° 45°			0° 22½° 45°			0° 22½° 45°			0° 22½° 45°			0° 22½° 45°			0° 22½° 45°		
47	Throw Metres — min	3.2	2.2	2.0	2.2	1.7	1.4												
	Throw Metres — max	5.1	3.4	2.2	3.4	2.5	2.0												
	Static Pressure — (Pa)	2.5	5.0	7.5	—	—	—												
94	Throw Metres — min	6.2	4.8	3.7	4.3	3.2	2.5	3.4	2.5	2.0	3.2	2.2	1.4						
	Throw Metres — max	9.3	7.1	5.4	6.8	4.8	3.7	5.4	4.0	2.8	4.8	3.4	2.8						
	Static Pressure — (Pa)	10	22.5	32.5	2.5	5	10	—	—	2.5	—	—	—						
141	Throw Metres — min				6.5	4.5	3.7	5.4	3.7	2.8	4.5	3.4	2.2	4.0	2.5	2.0			
	Throw Metres — max				10.3	7.3	5.7	8.2	5.9	4.5	7.3	5.1	4.0	5.7	4.3	3.2			
	Static Pressure — (Pa)				7.5	12.5	20	2.5	5	7.5	—	2.5	5	—	—	—			
189	Throw Metres — min				8.4	6.2	5.1	7.1	5.1	3.7	6.2	4.8	3.4	5.1	3.7	2.5	4.5	3.4	2.4
	Throw Metres — max				13.5	9.8	7.3	10.2	7.9	5.9	9.8	7.1	5.1	7.6	5.7	4.0	7.3	5.3	3.9
	Static Pressure — (Pa)				10	22.5	32.5	5	7.5	12.5	2.5	5	10	—	—	2.5	—	—	—
236	Throw Metres — min							8.1	6.2	5.2	7.6	5.7	4.3	6.2	4.5	3.4	5.7	4.3	3.3
	Throw Metres — max							13.5	9.8	7.3	12.4	9.0	6.5	9.6	7.1	5.4	8.7	6.8	5.1
	Static Pressure — (Pa)							7.5	12.5	20	5	10	12.5	—	2.5	5	—	—	3.5
283	Throw Metres — min							10.4	7.6	5.7	9.3	6.8	4.8	7.6	5.4	4.0	7.1	4.9	3.9
	Throw Metres — max							16.3	11.9	8.7	14.7	10.1	7.9	11.5	7.9	6.2	10.9	7.5	6.0
	Static Pressure — (Pa)							10	17.5	25	7.5	12.5	20	2.5	5	7.5	1.5	4	6
330	Throw Metres — min										11.3	7.9	5.9	8.4	6.2	4.8	8.2	5.9	4.5
	Throw Metres — max										16.9	12.4	9.3	14.1	9.8	7.2	12.7	9.0	6.8
	Static Pressure — (Pa)										10	17.5	25	5	7.5	10	3.5	60	9
375	Throw Metres — min										12.4	9.3	6.8	9.6	7.1	5.1	9.3	6.8	4.8
	Throw Metres — max										19.7	14.1	10.3	15.2	10.4	8.2	14.4	10.1	7.7
	Static Pressure — (Pa)										12.5	22.5	32.5	5	7.5	12.5	3.5	6	11
425	Throw Metres — min										14.1	10.1	7.6	10.4	7.6	5.9	10.1	7.3	5.7
	Throw Metres — max										22.3	15.2	11.9	16.9	12.4	9.3	15.8	11.3	8.7
	Static Pressure — (Pa)										15	27.5	40	5	10	15	5	8.5	12.5
472	Throw Metres — min													12.4	8.7	6.5	11.3	8.2	6.2
	Throw Metres — max													18.5	14.1	10.4	17.6	13.1	9.8
	Static Pressure — (Pa)													7.5	12.5	20	6.5	11	15
566	Throw Metres — min													15.8	10.4	7.9	13.9	9.8	7.5
	Throw Metres — max													22.6	16.9	12.2	20.8	15.8	11.9
	Static Pressure — (Pa)													10	17.5	25	8.5	14	22.5
660	Throw Metres — min													16.9	12.2	9.3	16.6	11.6	8.7
	Throw Metres — max													27.3	19.7	14.1	25.2	18.2	13.6
	Static Pressure — (Pa)													12.5	25	35	11	20	30
755	Throw Metres — min																17.8	13.4	10.1
	Throw Metres — max																29.8	21.8	15.9
	Static Pressure — (Pa)																14	25	37.5
850	Throw Metres — min																		
	Throw Metres — max																		
	Static Pressure — (Pa)																		
944	Throw Metres — min																		
	Throw Metres — max																		
	Static Pressure — (Pa)																		
1180	Throw Metres — min																		
	Throw Metres — max																		
	Static Pressure — (Pa)																		
1416	Throw Metres — min																		
	Throw Metres — max																		
	Static Pressure — (Pa)																		

Throw measurements are at 1.5mls min and .65mls max terminal velocity.

# 3.3 REGISTERS

## SINGLE DEFLECTION REGISTER (1AR) WITH FIXED CORE

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Performance Data 25mm Centres

AREA FACTOR		1.33	1.5	1.66	2.0	2.5	2.66
NECK AREA — M <sup>2</sup>		0.180	0.203	0.225	0.270	0.338	0.360
TYPICAL SIZES		600 x 300	450 x 450	600 x 375	600 x 450	750 x 450	600 x 600
		900 x 200	675 x 300	750 x 300	900 x 300	900 x 375	800 x 450
		1200 x 150	900 x 225	1500 x 150	1200 x 225	1125 x 300	1200 x 300
SPREAD ANGLE		0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°
141	Throw Metres — max						
	Static Pressure — (Pa)						
189	Throw Metres — min	4.3 3.2 2.2					
	Throw Metres — max	6.8 5.0 3.8					
	Static Pressure — (Pa)	— — —					
236	Throw Metres — min	5.4 4.0 3.2	4.3 3.2 2.5				
	Throw Metres — max	8.7 6.2 5.2	6.8 4.8 3.7				
	Static Pressure — (Pa)	— — 2.5	— — —				
283	Throw Metres — min	6.5 4.5 3.7	5.9 4.3 3.2	5.3 3.8 3.0	4.8 3.7 2.8		
	Throw Metres — max	10.4 7.3 4.8	9.3 7.1 4.8	8.4 5.8 4.5	7.9 5.4 4.3		
	Static Pressure — (Pa)	— 2.5 5	— — 2.5	— — —	— — —		
330	Throw Metres — min	7.6 5.7 4.3	6.8 4.8 3.7	6.2 4.5 3.4	5.9 4.3 3.2		
	Throw Metres — max	11.9 8.7 6.5	10.4 7.6 5.9	9.8 6.5 5.1	9.3 7.1 4.8		
	Static Pressure — (Pa)	2.5 5 7.5	— 2.5 5	— — 2.5	— — 2.5		
375	Throw Metres — min	9.0 6.5 4.5	8.2 5.7 4.3	7.3 5.4 4.0	6.8 4.8 3.7	6.2 4.3 3.3	5.9 4.0 3.2
	Throw Metres — max	13.5 9.8 7.4	12.9 9.0 6.8	11.2 7.9 6.4	10.4 6.6 5.7	9.4 6.6 5.1	8.7 6.2 4.8
	Static Pressure — (Pa)	2.5 5 10	1.5 4 6	— 2.5 5	— — 2.5	— — —	— — —
425	Throw Metres — min	9.8 7.1 5.4	9.0 6.2 4.8	8.2 5.7 4.3	7.6 5.7 4.0	6.9 4.9 3.6	6.5 4.5 3.4
	Throw Metres — max	15.2 10.8 8.4	14.1 9.8 7.3	12.9 9.0 6.8	11.9 8.7 6.5	10.8 7.7 5.8	10.4 7.1 5.4
	Static Pressure — (Pa)	5 7.5 10	2.5 5 7.5	1.5 4 6	— 2.5 5	— — 3	— — 2.5
472	Throw Metres — min	10.8 7.9 5.9	9.8 7.1 5.4	9.0 6.5 4.9	8.4 6.2 4.5	8.0 6.2 4.5	7.6 5.1 3.7
	Throw Metres — max	17.1 12.4 9.3	15.2 11.3 8.4	14.4 10.4 7.9	13.5 9.6 7.1	13.5 9.6 7.1	11.9 8.2 6.5
	Static Pressure — (Pa)	5 10 12.5	1.5 5 10	2.5 5 7	— 2.5 5	— 2.5 5	— — 2.5
566	Throw Metres — min	13.0 9.6 7.3	11.9 8.7 6.5	10.9 8.2 6.2	10.1 7.6 5.7	9.7 7.1 5.3	9.6 6.8 5.1
	Throw Metres — max	20.2 15.2 11.3	18.5 13.5 9.9	17.2 12.1 9.1	15.8 11.3 8.4	14.7 10.6 8.1	14.1 10.1 7.8
	Static Pressure — (Pa)	7.5 12.5 20	5 7.5 12.5	2.5 5 10	2.5 5 7.5	1.5 4 6	— 2.5 5
660	Throw Metres — min	16.3 11.3 8.4	14.1 9.8 7.3	13.8 9.6 7.1	13.5 9.6 6.9	11.7 8.4 6.6	10.6 7.9 6.2
	Throw Metres — max	23.7 17.4 13.0	21.3 15.2 11.9	20.8 15.0 11.6	20.2 14.8 11.3	18.0 13.2 10.1	16.9 12.1 9.3
	Static Pressure — (Pa)	10 17.5 25	5 10 15	5 7.5 12.5	5 7.5 10	3.5 6 9	2.5 5 7.5
755	Throw Metres — min	17.4 13.0 9.6	15.2 11.9 8.2	14.1 10.1 7.7	13.5 9.6 7.3	12.8 9.4 6.9	12.4 8.9 6.8
	Throw Metres — max	28.4 19.7 15.2	24.9 18.0 13.5	22.2 16.3 12.1	20.8 15.2 11.3	20.2 14.6 10.6	19.7 14.1 10.1
	Static Pressure — (Pa)	12.5 22.5 32.5	7.5 12.5 20	5 10 15	5 7.5 12.5	3.5 6 11	2.5 5 7.5
850	Throw Metres — min	19.7 14.7 10.6	17.4 13.0 9.6	16.0 12.1 8.7	15.2 10.8 8.2	14.7 10.4 7.7	14.1 10.1 7.4
	Throw Metres — max	30.4 22.6 16.9	28.9 19.7 14.7	25.5 17.7 13.8	23.7 16.9 13.0	23.1 16.1 12.4	22.6 15.6 11.7
	Static Pressure — (Pa)	15 27.5 40	10 17.5 25	7.5 12.5 20	7.5 10 15	5 8.5 12.5	5 7.5 10
944	Throw Metres — min		19.7 14.1 10.8	18.0 13.0 9.9	16.9 11.9 9.0	15.9 11.3 8.7	15.4 11.0 8.4
	Throw Metres — max		31.3 22.6 16.7	27.9 20.4 15.2	26.1 18.5 14.1	25.1 16.8 13.6	24.5 16.9 13.3
	Static Pressure — (Pa)		12.5 22.5 32.5	10 17.5 25	17.5 12.5 20	6.5 11 15	5 7.5 12.5
1180	Throw Metres — min			21.4 15.8 11.9	20.8 15.2 11.3	20.1 14.6 11.0	18.4 13.9 10.7
	Throw Metres — max			32.6 25.2 19.5	31.5 23.7 18.1	30.5 22.9 16.9	29.8 22.6 16.3
	Static Pressure — (Pa)			12.5 22.5 32.5	10 20 30	8.5 14 22.5	7.5 12.5 20
1416	Throw Metres — min				24.7 18.4 13.4	23.4 17.2 13.1	22.6 16.6 12.5
	Throw Metres — max				38.2 28.2 20.8	35.2 26.8 19.5	33.7 26.1 18.7
	Static Pressure — (Pa)				15 27.5 40	12.5 22.5 32.5	10 17.5 25
1888	Throw Metres — min						29.9 17.8 13.4
	Throw Metres — max						42.9 31.7 25.4
	Static Pressure — (Pa)						15 27.5 40
2360	Throw Metres — min						
	Throw Metres — max						
	Static Pressure — (Pa)						

Throw measurements are at 1.5mls min and .65mls max terminal velocity.

### Performance Data 25mm Centres

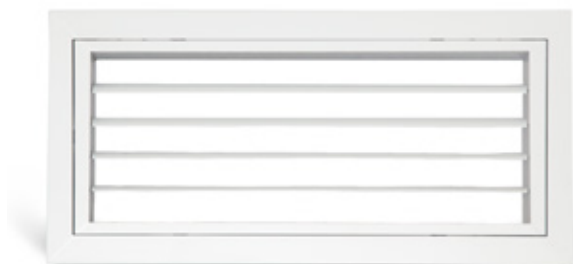
AREA FACTOR		3.0	4.0	5.0	6.0	8.15
NECK AREA — M <sup>2</sup>		0.405	0.540	0.675	0.810	1.10
TYPICAL SIZES		675 x 600	900 x 600	900 x 750	900 x 900	1050 x 1050
		900 x 450	1200 x 450	1500 x 450	1350 x 600	
			1800 x 300		1800 x 450	
SPREAD ANGLE		0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°
141	Throw Metres — max Static Pressure — (Pa)					
189	Throw Metres — min Throw Metres — max Static Pressure — (Pa)					
236	Throw Metres — min Throw Metres — max Static Pressure — (Pa)					
283	Throw Metres — min Throw Metres — max Static Pressure — (Pa)					
330	Throw Metres — min Throw Metres — max Static Pressure — (Pa)					
375	Throw Metres — min Throw Metres — max Static Pressure — (Pa)					
425	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	6.2 4.3 3.4 9.8 6.8 5.1 — — —				
472	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	7.1 4.8 3.4 10.6 7.6 5.9 — — —				
566	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	8.2 6.2 4.5 13.0 9.3 7.1 — — 2.5	6.8 4.8 3.7 10.4 7.6 5.7 — — —			
660	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	9.8 7.1 5.1 15.2 11.3 8.4 — 2.5 5	7.6 5.7 4.3 12.4 8.7 6.5 — — 2.5			
755	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	11.3 8.2 6.2 17.4 13.0 9.6 — 2.5 5	8.7 6.5 4.8 14.1 9.8 7.6 — — 2.5			
850	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	13.0 9.0 6.8 19.7 14.1 10.4 2.5 5 7.5	10.1 7.3 5.7 15.2 11.3 8.5 — 2.5 5	8.9 6.8 5.1 14.1 10.4 8.2 — — 2.5	8.4 6.2 4.0 13.5 9.8 7.6 — — —	
944	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	14.1 10.1 7.3 21.1 15.8 11.9 2.5 5 10	11.9 7.9 5.9 16.9 12.4 9.3 — 2.5 5	10.6 7.5 5.7 15.7 11.5 8.9 — — 2.5	9.8 7.1 5.4 15.2 10.9 8.4 — — —	
1180	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	17.4 12.6 9.6 27.1 19.7 14.7 5 10 12.5	14.1 9.8 7.6 21.7 15.2 11.9 2.5 5 7.5	13.1 9.6 7.3 20.1 14.3 10.9 — 2.5 5	12.4 9.2 7.1 18.4 13.4 10.4 — — 2.5	10.1 7.1 5.4 15.2 10.1 8.1 — — —
1416	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	20.2 15.5 13.3 31.5 23.7 17.4 7.5 12.5 20	16.9 11.9 9.0 24.3 19.3 14.1 5 10 12.5	15.9 11.2 8.4 23.5 17.7 13.5 2.5 5 7.5	14.7 10.6 8.2 22.6 16.9 13.0 — 2.5 5	11.9 8.4 6.5 18.5 13.5 9.8 — — 2.5
1888	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	28.2 17.4 12.7 40.8 30.4 23.7 12.5 22.5 32.5	23.0 15.8 11.9 34.1 24.8 18.5 9.5 12.5 20	20.2 14.9 11.0 32.2 22.9 17.7 5 7.5 12.5	18.5 14.1 10.6 30.4 21.1 16.9 2.5 5 7.5	15.6 11.3 8.4 24.5 18.0 14.5 — 2.5 5
2360	Throw Metres — min Throw Metres — max Static Pressure — (Pa)		28.2 17.8 15.2 42.6 30.6 23.2 12.5 22.5 32.5	27.0 17.4 14.6 38.8 28.7 21.4 7.5 12.5 20	26.1 16.8 14.1 34.8 28.2 20.2 5 10 12.5	19.7 14.1 10.6 30.4 22.6 16.9 2.5 5 7.5

Throw measurements are at 1.5mls min and .65mls max terminal velocity.

## 3.4 REGISTERS

### SINGLE DEFLECTION REGISTER (RC1AR) WITH REMOVABLE CORE

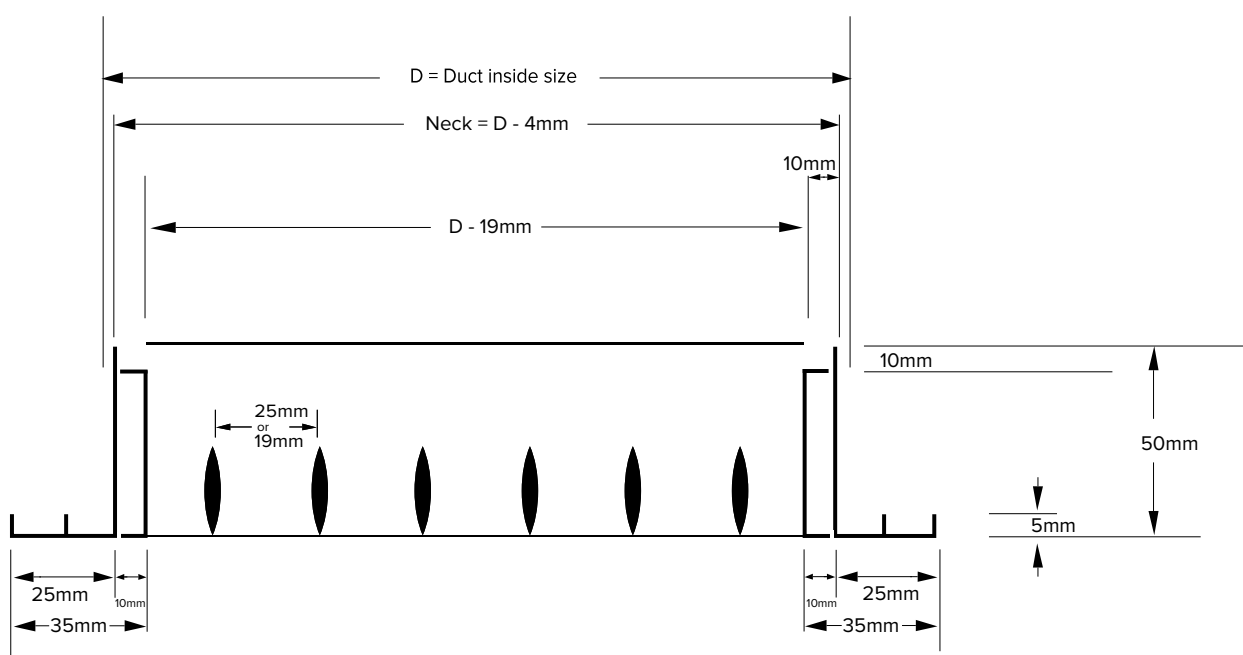
63



Airfoil's Single Deflection Register with Removable Core is manufactured with a single set of fully adjustable blades to give a high level of control of the air pattern across two directions. The blades may be ordered in either horizontal or vertical as required.

Made from high-grade extruded aluminium sections to ensure functional strength and performance, Airfoil's Single Deflection Register provides a contemporary attractive feel and modern look. It comes in standard powder coated white with optional colours and finishes available on request.

Cross Sectional Diagram



#### Single Deflection Register with Removable Core Options

- > Flange size: 32mm standard with optional 25mm or 38mm
- > Blade spacing: 19mm or 25mm
- > Custom-made to any size dimensions
- > Specific colours and finishes available on request

#### Product specification codes:

**RC1ARH** Removable core single deflection register with horizontal blades.

**RC1ARV** Removable core single deflection register with vertical blades.

Specification: Product code + size.

Example:

**RC1ARH200x150** Removable Core Single Deflection Register with horizontal blades width 200mm x height 150mm



### Performance Data 25mm Centres

AREA FACTOR		0.17			0.33			0.5			0.66			1.0			1.25		
NECK AREA — M <sup>2</sup>		0.023			0.045			0.068			0.090			0.135			0.169		
TYPICAL SIZES		150 X 150			225 X 200			300 X 225			300 X 300			450 X 300			450 X 375		
		225 X 100			300 X 150			450 X 150			400 X 225			600 X 225			675 X 250		
					450 X 100			675 X 100			600 X 150			900 X 150			750 X 225		
SPREAD ANGLE		0° 22½° 45°			0° 22½° 45°			0° 22½° 45°			0° 22½° 45°			0° 22½° 45°			0° 22½° 45°		
47	Throw Metres — min	3.2	2.2	2.0	2.2	1.7	1.4												
	Throw Metres — max	5.1	3.4	2.2	3.4	2.5	2.0												
	Static Pressure — (Pa)	2.5	5.0	7.5	—	—	—												
94	Throw Metres — min	6.2	4.8	3.7	4.3	3.2	2.5	3.4	2.5	2.0	3.2	2.2	1.4						
	Throw Metres — max	9.3	7.1	5.4	6.8	4.8	3.7	5.4	4.0	2.8	4.8	3.4	2.8						
	Static Pressure — (Pa)	10	22.5	32.5	2.5	5	10	—	—	2.5	—	—	—						
141	Throw Metres — min				6.5	4.5	3.7	5.4	3.7	2.8	4.5	3.4	2.2	4.0	2.5	2.0			
	Throw Metres — max				10.3	7.3	5.7	8.2	5.9	4.5	7.3	5.1	4.0	5.7	4.3	3.2			
	Static Pressure — (Pa)				7.5	12.5	20	2.5	5	7.5	—	2.5	5	—	—	—			
189	Throw Metres — min				8.4	6.2	5.1	7.1	5.1	3.7	6.2	4.8	3.4	5.1	3.7	2.5	4.5	3.4	2.4
	Throw Metres — max				13.5	9.8	7.3	10.2	7.9	5.9	9.8	7.1	5.1	7.6	5.7	4.0	7.3	5.3	3.9
	Static Pressure — (Pa)				10	22.5	32.5	5	7.5	12.5	2.5	5	10	—	—	2.5	—	—	—
236	Throw Metres — min							8.1	6.2	5.2	7.6	5.7	4.3	6.2	4.5	3.4	5.7	4.3	3.3
	Throw Metres — max							13.5	9.8	7.3	12.4	9.0	6.5	9.6	7.1	5.4	8.7	6.8	5.1
	Static Pressure — (Pa)							7.5	12.5	20	5	10	12.5	—	2.5	5	—	—	3.5
283	Throw Metres — min							10.4	7.6	5.7	9.3	6.8	4.8	7.6	5.4	4.0	7.1	4.9	3.9
	Throw Metres — max							16.3	11.9	8.7	14.7	10.1	7.9	11.5	7.9	6.2	10.9	7.5	6.0
	Static Pressure — (Pa)							10	17.5	25	7.5	12.5	20	2.5	5	7.5	1.5	4	6
330	Throw Metres — min										11.3	7.9	5.9	8.4	6.2	4.8	8.2	5.9	4.5
	Throw Metres — max										16.9	12.4	9.3	14.1	9.8	7.2	12.7	9.0	6.8
	Static Pressure — (Pa)										10	17.5	25	5	7.5	10	3.5	60	9
375	Throw Metres — min										12.4	9.3	6.8	9.6	7.1	5.1	9.3	6.8	4.8
	Throw Metres — max										19.7	14.1	10.3	15.2	10.4	8.2	14.4	10.1	7.7
	Static Pressure — (Pa)										12.5	22.5	32.5	5	7.5	12.5	3.5	6	11
425	Throw Metres — min										14.1	10.1	7.6	10.4	7.6	5.9	10.1	7.3	5.7
	Throw Metres — max										22.3	15.2	11.9	16.9	12.4	9.3	15.8	11.3	8.7
	Static Pressure — (Pa)										15	27.5	40	5	10	15	5	8.5	12.5
472	Throw Metres — min													12.4	8.7	6.5	11.3	8.2	6.2
	Throw Metres — max													18.5	14.1	10.4	17.6	13.1	9.8
	Static Pressure — (Pa)													7.5	12.5	20	6.5	11	15
566	Throw Metres — min													15.8	10.4	7.9	13.9	9.8	7.5
	Throw Metres — max													22.6	16.9	12.2	20.8	15.8	11.9
	Static Pressure — (Pa)													10	17.5	25	8.5	14	22.5
660	Throw Metres — min													16.9	12.2	9.3	16.6	11.6	8.7
	Throw Metres — max													27.3	19.7	14.1	25.2	18.2	13.6
	Static Pressure — (Pa)													12.5	25	35	11	20	30
755	Throw Metres — min																17.8	13.4	10.1
	Throw Metres — max																29.8	21.8	15.9
	Static Pressure — (Pa)																14	25	37.5
850	Throw Metres — min																		
	Throw Metres — max																		
	Static Pressure — (Pa)																		
944	Throw Metres — min																		
	Throw Metres — max																		
	Static Pressure — (Pa)																		
1180	Throw Metres — min																		
	Throw Metres — max																		
	Static Pressure — (Pa)																		
1416	Throw Metres — min																		
	Throw Metres — max																		
	Static Pressure — (Pa)																		

Throw measurements are at 1.5mls min and .65mls max terminal velocity.

# 3.4 REGISTERS

## SINGLE DEFLECTION REGISTER (RC1AR) WITH REMOVABLE CORE

65



Performance Data 25mm Centres

AREA FACTOR		1.33			1.5			1.66			2.0			2.5			2.66		
NECK AREA — M <sup>2</sup>		0.180			0.203			0.225			0.270			0.338			0.360		
TYPICAL SIZES		600 x 300			450 x 450			600 x 375			600 x 450			750 x 450			600 x 600		
		900 x 200			675 x 300			750 x 300			900 x 300			900 x 375			800 x 450		
		1200 x 150			900 x 225			1500 x 150			1200 x 225			1125 x 300			1200 x 300		
SPREAD ANGLE		0° 22½° 45°			0° 22½° 45°			0° 22½° 45°			0° 22½° 45°			0° 22½° 45°			0° 22½° 45°		
141	Throw Metres — max Static Pressure — (Pa)																		
189	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	4.3 6.8 —	3.2 5.0 —	2.2 3.8 —															
236	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	5.4 8.7 —	4.0 6.2 —	3.2 5.2 2.5	4.3 6.8 —	3.2 4.8 —	2.5 3.7 —												
283	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	6.5 10.4 —	4.5 7.3 2.5	3.7 4.8 5	5.9 9.3 —	4.3 7.1 —	3.2 4.8 2.5	5.3 8.4 —	3.8 5.8 —	3.0 4.5 —	4.8 7.9 —	3.7 5.4 —	2.8 4.3 —						
330	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	7.6 11.9 2.5	5.7 8.7 5	4.3 6.5 7.5	6.8 10.4 —	4.8 7.6 2.5	3.7 5.9 5	6.2 9.8 —	4.5 6.5 —	3.4 5.1 2.5	5.9 9.3 —	4.3 7.1 —	3.2 4.8 2.5						
375	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	9.0 13.5 2.5	6.5 9.8 5	4.5 7.4 10	8.2 12.9 1.5	5.7 9.0 4	4.3 6.8 6	7.3 11.2 —	5.4 7.9 2.5	4.0 6.4 5	6.8 10.4 —	4.8 6.6 —	3.7 5.7 2.5	6.2 9.4 —	4.3 6.6 —	3.3 5.1 —	5.9 8.7 —	4.0 6.2 —	3.2 4.8 —
425	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	9.8 15.2 5	7.1 10.8 7.5	5.4 8.4 10	9.0 14.1 2.5	6.2 9.8 5	4.8 7.3 7.5	8.2 12.9 1.5	5.7 9.0 4	4.3 6.8 6	7.6 11.9 —	5.7 8.7 2.5	4.0 6.5 5	6.9 10.8 —	4.9 7.7 —	3.6 5.8 3	6.5 10.4 —	4.5 7.1 —	3.4 5.4 2.5
472	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	10.8 17.1 5	7.9 12.4 10	5.9 9.3 12.5	9.8 15.2 1.5	7.1 11.3 5	5.4 8.4 10	9.0 14.4 2.5	6.5 10.4 5	4.9 7.9 7	8.4 13.5 —	6.2 9.6 2.5	4.5 7.1 5	8.0 13.5 —	6.2 9.6 2.5	4.5 7.1 5	7.6 11.9 —	5.1 8.2 —	3.7 6.5 2.5
566	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	13.0 20.2 7.5	9.6 15.2 12.5	7.3 11.3 20	11.9 18.5 5	8.7 13.5 7.5	6.5 9.9 12.5	10.9 17.2 2.5	8.2 12.1 5	6.2 9.1 10	10.1 15.8 2.5	7.6 11.3 5	5.7 8.4 7.5	9.7 14.7 1.5	7.1 10.6 4	5.3 8.1 6	9.6 14.1 —	6.8 10.1 2.5	5.1 7.8 5
660	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	16.3 23.7 10	11.3 17.4 17.5	8.4 13.0 25	14.1 21.3 5	9.8 15.2 10	7.3 11.9 15	13.8 20.8 5	9.6 15.0 7.5	7.1 11.6 12.5	13.5 20.2 5	9.6 14.8 7.5	6.9 11.3 10	11.7 18.0 3.5	8.4 13.2 6	6.6 10.1 9	10.6 16.9 2.5	7.9 12.1 5	6.2 9.3 7.5
755	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	17.4 28.4 12.5	13.0 19.7 22.5	9.6 15.2 32.5	15.2 24.9 7.5	11.9 18.0 12.5	8.2 13.5 20	14.1 22.2 5	10.1 16.3 10	7.7 12.1 15	13.5 20.8 5	9.6 15.2 7.5	7.3 11.3 12.5	12.8 20.2 3.5	9.4 14.6 6	6.9 10.6 11	12.4 19.7 2.5	8.9 14.1 5	6.8 10.1 7.5
850	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	19.7 30.4 15	14.7 22.6 27.5	10.6 16.9 40	17.4 28.9 10	13.0 19.7 17.5	9.6 14.7 25	16.0 25.5 7.5	12.1 17.7 12.5	8.7 13.8 20	15.2 23.7 7.5	10.8 16.9 10	8.2 13.0 15	14.7 23.1 5	10.4 16.1 8.5	7.7 12.4 12.5	14.1 22.6 5	10.1 15.6 7.5	7.4 11.7 10
944	Throw Metres — min Throw Metres — max Static Pressure — (Pa)				19.7 31.3 12.5	14.1 22.6 22.5	10.8 16.7 32.5	18.0 27.9 10	13.0 20.4 17.5	9.9 15.2 25	16.9 26.1 17.5	11.9 18.5 12.5	9.0 14.1 20	15.9 25.1 6.5	11.3 16.8 11	8.7 13.6 15	15.4 24.5 5	11.0 16.9 7.5	8.4 13.3 12.5
1180	Throw Metres — min Throw Metres — max Static Pressure — (Pa)							21.4 32.6 12.5	15.8 25.2 22.5	11.9 19.5 32.5	20.8 31.5 10	15.2 23.7 20	11.3 18.1 30	20.1 30.5 8.5	14.6 22.9 14	11.0 16.9 22.5	18.4 29.8 7.5	13.9 22.6 12.5	10.7 16.3 20
1416	Throw Metres — min Throw Metres — max Static Pressure — (Pa)										24.7 38.2 15	18.4 28.2 27.5	13.4 20.8 40	23.4 35.2 12.5	17.2 26.8 22.5	13.1 19.5 32.5	22.6 33.7 10	16.6 26.1 17.5	12.5 18.7 25
1888	Throw Metres — min Throw Metres — max Static Pressure — (Pa)																29.9 42.9 15	17.8 31.7 27.5	13.4 25.4 40
2360	Throw Metres — min Throw Metres — max Static Pressure — (Pa)																		

Throw measurements are at 1.5mls min and .65mls max terminal velocity.

### Performance Data 25mm Centres

AREA FACTOR		3.0	4.0	5.0	6.0	8.15
NECK AREA — M <sup>2</sup>		0.405	0.540	0.675	0.810	1.10
TYPICAL SIZES		675 x 600	900 x 600	900 x 750	900 x 900	1050 x 1050
		900 x 450	1200 x 450	1500 x 450	1350 x 600	
			1800 x 300		1800 x 450	
SPREAD ANGLE		0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°
141	Throw Metres — max Static Pressure — (Pa)					
189	Throw Metres — min Throw Metres — max Static Pressure — (Pa)					
236	Throw Metres — min Throw Metres — max Static Pressure — (Pa)					
283	Throw Metres — min Throw Metres — max Static Pressure — (Pa)					
330	Throw Metres — min Throw Metres — max Static Pressure — (Pa)					
375	Throw Metres — min Throw Metres — max Static Pressure — (Pa)					
425	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	6.2 4.3 3.4 9.8 6.8 5.1 — — —				
472	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	7.1 4.8 3.4 10.6 7.6 5.9 — — —				
566	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	8.2 6.2 4.5 13.0 9.3 7.1 — — 2.5	6.8 4.8 3.7 10.4 7.6 5.7 — — —			
660	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	9.8 7.1 5.1 15.2 11.3 8.4 — 2.5 5	7.6 5.7 4.3 12.4 8.7 6.5 — — 2.5			
755	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	11.3 8.2 6.2 17.4 13.0 9.6 — 2.5 5	8.7 6.5 4.8 14.1 9.8 7.6 — — 2.5			
850	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	13.0 9.0 6.8 19.7 14.1 10.4 2.5 5 7.5	10.1 7.3 5.7 15.2 11.3 8.5 — 2.5 5	8.9 6.8 5.1 14.1 10.4 8.2 — — 2.5	8.4 6.2 4.0 13.5 9.8 7.6 — — —	
944	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	14.1 10.1 7.3 21.1 15.8 11.9 2.5 5 10	11.9 7.9 5.9 16.9 12.4 9.3 — 2.5 5	10.6 7.5 5.7 15.7 11.5 8.9 — — 2.5	9.8 7.1 5.4 15.2 10.9 8.4 — — —	
1180	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	17.4 12.6 9.6 27.1 19.7 14.7 5 10 12.5	14.1 9.8 7.6 21.7 15.2 11.9 2.5 5 7.5	13.1 9.6 7.3 20.1 14.3 10.9 — 2.5 5	12.4 9.2 7.1 18.4 13.4 10.4 — — 2.5	10.1 7.1 5.4 15.2 10.1 8.1 — — —
1416	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	20.2 15.5 13.3 31.5 23.7 17.4 7.5 12.5 20	16.9 11.9 9.0 24.3 19.3 14.1 5 10 12.5	15.9 11.2 8.4 23.5 17.7 13.5 2.5 5 7.5	14.7 10.6 8.2 22.6 16.9 13.0 — 2.5 5	11.9 8.4 6.5 18.5 13.5 9.8 — — 2.5
1888	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	28.2 17.4 12.7 40.8 30.4 23.7 12.5 22.5 32.5	23.0 15.8 11.9 34.1 24.8 18.5 9.5 12.5 20	20.2 14.9 11.0 32.2 22.9 17.7 5 7.5 12.5	18.5 14.1 10.6 30.4 21.1 16.9 2.5 5 7.5	15.6 11.3 8.4 24.5 18.0 14.5 — 2.5 5
2360	Throw Metres — min Throw Metres — max Static Pressure — (Pa)		28.2 17.8 15.2 42.6 30.6 23.2 12.5 22.5 32.5	27.0 17.4 14.6 38.8 28.7 21.4 7.5 12.5 20	26.1 16.8 14.1 34.8 28.2 20.2 5 10 12.5	19.7 14.1 10.6 30.4 22.6 16.9 2.5 5 7.5

Throw measurements are at 1.5mls min and .65mls max terminal velocity.

## 3.5 REGISTERS

### CURVED DOUBLE DEFLECTION REGISTER (C2AR) WITH FIXED CORE



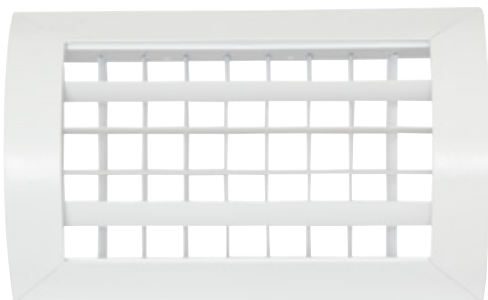
# AIRFOIL



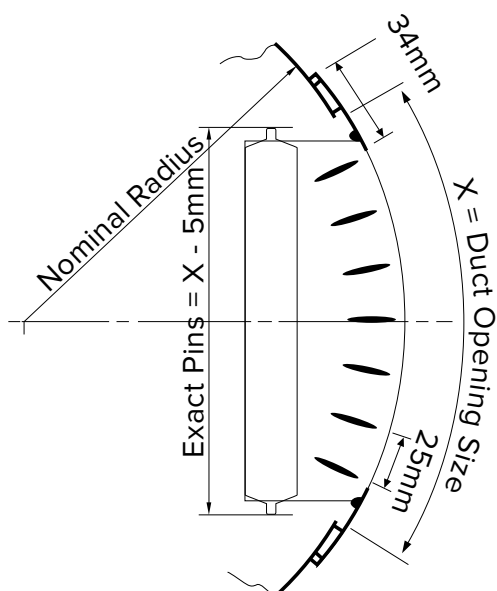
GRILLES  
DUCT  
FITTINGS

*making it happen sooner...*

67



Cross Sectional Diagram



Airfoil's Curved Double Deflection Register is manufactured to blend in with the circular spiral duct for supply air functions. The double set of fully adjustable blades gives a high level of control of the air pattern across four directions. Incorporating two sets of individually adjustable blades, the front blades may be set either horizontally or at angles either up or down. Rear blades are adjusted in a similar way but only in a vertical plane.

Made from high-grade extruded aluminium sections to ensure functional strength and performance, Airfoil's Curved Double Deflection Register provides a contemporary attractive feel and modern look. It comes in standard powder coated white with optional colours and finishes available on request.



**AIRFOIL FACTORY, SYDNEY**

#### Curved Double Deflection Register Options

- > Flange size: 32mm standard with optional 25mm or 38mm
- > Blade spacing: 19mm or 25mm
- > Custom-made to any size dimensions
- > Horizontal blades at front or vertical blades at front
- > Optional accessories SS (stream splitter) or OBD (opposed blade damper)
- > Specific colours and finishes available on request

#### Product specification codes:

- C2ARH** Fixed core curved double deflection register with front horizontal blades  
**C2ARV** Fixed core curved double deflection register with front vertical blades

Specification: Product code + size.

Example: **C2ARH200x150** Fixed core curved double deflection register with front horizontal blades; width 200mm x height 150mm  
**C2ARV150x200** Fixed core curved double deflection register with front vertical blades; height 150mm x width 200mm



### Performance Data 25mm Centres

AREA FACTOR		0.17	0.33	0.5	0.66	1.0	1.25
NECK AREA — M <sup>2</sup>		0.023	0.045	0.068	0.090	0.135	0.169
TYPICAL SIZES		150 X 150 225 X 100	225 X 200 300 X 150 450 X 100	300 X 225 450 X 150 675 X 100	300 X 300 400 X 225 600 X 150	450 X 300 600 X 225 900 X 150	450 X 375 675 X 250 750 X 225
SPREAD ANGLE		0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°
47	Throw Metres — min	3.2 2.2 2.0	2.2 1.7 1.4				
	Throw Metres — max	5.1 3.4 2.2	3.4 2.5 2.0				
	Static Pressure — (Pa)	2.5 5.0 7.5	— — —				
94	Throw Metres — min	6.2 4.8 3.7	4.3 3.2 2.5	3.4 2.5 2.0	3.2 2.2 1.4		
	Throw Metres — max	9.3 7.1 5.4	6.8 4.8 3.7	5.4 4.0 2.8	4.8 3.4 2.8		
	Static Pressure — (Pa)	10 22.5 32.5	2.5 5 10	— — 2.5	— — —		
141	Throw Metres — min		6.5 4.5 3.7	5.4 3.7 2.8	4.5 3.4 2.2	4.0 2.5 2.0	
	Throw Metres — max		10.3 7.3 5.7	8.2 5.9 4.5	7.3 5.1 4.0	5.7 4.3 3.2	
	Static Pressure — (Pa)		7.5 12.5 20	2.5 5 7.5	— 2.5 5	— — —	
189	Throw Metres — min		8.4 6.2 5.1	7.1 5.1 3.7	6.2 4.8 3.4	5.1 3.7 2.5	4.5 3.4 2.4
	Throw Metres — max		13.5 9.8 7.3	10.2 7.9 5.9	9.8 7.1 5.1	7.6 5.7 4.0	7.3 5.3 3.9
	Static Pressure — (Pa)		10 22.5 32.5	5 7.5 12.5	2.5 5 10	— — 2.5	— — —
236	Throw Metres — min			8.1 6.2 5.2	7.6 5.7 4.3	6.2 4.5 3.4	5.7 4.3 3.3
	Throw Metres — max			13.5 9.8 7.3	12.4 9.0 6.5	9.6 7.1 5.4	8.7 6.8 5.1
	Static Pressure — (Pa)			7.5 12.5 20	5 10 12.5	— 2.5 5	— — 3.5
283	Throw Metres — min			10.4 7.6 5.7	9.3 6.8 4.8	7.6 5.4 4.0	7.1 4.9 3.9
	Throw Metres — max			16.3 11.9 8.7	14.7 10.1 7.9	11.5 7.9 6.2	10.9 7.5 6.0
	Static Pressure — (Pa)			10 17.5 25	7.5 12.5 20	2.5 5 7.5	1.5 4 6
330	Throw Metres — min				11.3 7.9 5.9	8.4 6.2 4.8	8.2 5.9 4.5
	Throw Metres — max				16.9 12.4 9.3	14.1 9.8 7.2	12.7 9.0 6.8
	Static Pressure — (Pa)				10 17.5 25	5 7.5 10	3.5 60 9
375	Throw Metres — min				12.4 9.3 6.8	9.6 7.1 5.1	9.3 6.8 4.8
	Throw Metres — max				19.7 14.1 10.3	15.2 10.4 8.2	14.4 10.1 7.7
	Static Pressure — (Pa)				12.5 22.5 32.5	5 7.5 12.5	3.5 6 11
425	Throw Metres — min				14.1 10.1 7.6	10.4 7.6 5.9	10.1 7.3 5.7
	Throw Metres — max				22.3 15.2 11.9	16.9 12.4 9.3	15.8 11.3 8.7
	Static Pressure — (Pa)				15 27.5 40	5 10 15	5 8.5 12.5
472	Throw Metres — min					12.4 8.7 6.5	11.3 8.2 6.2
	Throw Metres — max					18.5 14.1 10.4	17.6 13.1 9.8
	Static Pressure — (Pa)					7.5 12.5 20	6.5 11 15
566	Throw Metres — min					15.8 10.4 7.9	13.9 9.8 7.5
	Throw Metres — max					22.6 16.9 12.2	20.8 15.8 11.9
	Static Pressure — (Pa)					10 17.5 25	8.5 14 22.5
660	Throw Metres — min					16.9 12.2 9.3	16.6 11.6 8.7
	Throw Metres — max					27.3 19.7 14.1	25.2 18.2 13.6
	Static Pressure — (Pa)					12.5 25 35	11 20 30
755	Throw Metres — min						17.8 13.4 10.1
	Throw Metres — max						29.8 21.8 15.9
	Static Pressure — (Pa)						14 25 37.5
850	Throw Metres — min						
	Throw Metres — max						
	Static Pressure — (Pa)						
944	Throw Metres — min						
	Throw Metres — max						
	Static Pressure — (Pa)						
1180	Throw Metres — min						
	Throw Metres — max						
	Static Pressure — (Pa)						
1416	Throw Metres — min						
	Throw Metres — max						
	Static Pressure — (Pa)						

Throw measurements are at 1.5mls min and .65mls max terminal velocity.

# 3.5 REGISTERS

## CURVED DOUBLE DEFLECTION REGISTER (C2AR) WITH FIXED CORE

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Performance Data 25mm Centres

AREA FACTOR		1.33	1.5	1.66	2.0	2.5	2.66
NECK AREA — M <sup>2</sup>		0.180	0.203	0.225	0.270	0.338	0.360
TYPICAL SIZES		600 x 300 900 x 200 1200 x 150	450 x 450 675 x 300 900 x 225	600 x 375 750 x 300 1500 x 150	600 x 450 900 x 300 1200 x 225	750 x 450 900 x 375 1125 x 300	600 x 600 800 x 450 1200 x 300
SPREAD ANGLE		0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°
141	Throw Metres — max Static Pressure — (Pa)						
189	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	4.3 3.2 2.2 6.8 5.0 3.8 — — —					
236	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	5.4 4.0 3.2 8.7 6.2 5.2 — — 2.5	4.3 3.2 2.5 6.8 4.8 3.7 — — —				
283	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	6.5 4.5 3.7 10.4 7.3 4.8 — 2.5 5	5.9 4.3 3.2 9.3 7.1 4.8 — — 2.5	5.3 3.8 3.0 8.4 5.8 4.5 — — —	4.8 3.7 2.8 7.9 5.4 4.3 — — —		
330	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	7.6 5.7 4.3 11.9 8.7 6.5 2.5 5 7.5	6.8 4.8 3.7 10.4 7.6 5.9 — 2.5 5	6.2 4.5 3.4 9.8 6.5 5.1 — — 2.5	5.9 4.3 3.2 9.3 7.1 4.8 — — 2.5		
375	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	9.0 6.5 4.5 13.5 9.8 7.4 2.5 5 10	8.2 5.7 4.3 12.9 9.0 6.8 1.5 4 6	7.3 5.4 4.0 11.2 7.9 6.4 — 2.5 5	6.8 4.8 3.7 10.4 6.6 5.7 — — 2.5	6.2 4.3 3.3 9.4 6.6 5.1 — — —	5.9 4.0 3.2 8.7 6.2 4.8 — — —
425	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	9.8 7.1 5.4 15.2 10.8 8.4 5 7.5 10	9.0 6.2 4.8 14.1 9.8 7.3 2.5 5 7.5	8.2 5.7 4.3 12.9 9.0 6.8 1.5 4 6	7.6 5.7 4.0 11.9 8.7 6.5 — 2.5 5	6.9 4.9 3.6 10.8 7.7 5.8 — — 3	6.5 4.5 3.4 10.4 7.1 5.4 — — 2.5
472	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	10.8 7.9 5.9 17.1 12.4 9.3 5 10 12.5	9.8 7.1 5.4 15.2 11.3 8.4 1.5 5 10	9.0 6.5 4.9 14.4 10.4 7.9 2.5 5 7	8.4 6.2 4.5 13.5 9.6 7.1 — 2.5 5	8.0 6.2 4.5 13.5 9.6 7.1 — 2.5 5	7.6 5.1 3.7 11.9 8.2 6.5 — — 2.5
566	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	13.0 9.6 7.3 20.2 15.2 11.3 7.5 12.5 20	11.9 8.7 6.5 18.5 13.5 9.9 5 7.5 12.5	10.9 8.2 6.2 17.2 12.1 9.1 2.5 5 10	10.1 7.6 5.7 15.8 11.3 8.4 2.5 5 7.5	9.7 7.1 5.3 14.7 10.6 8.1 1.5 4 6	9.6 6.8 5.1 14.1 10.1 7.8 — 2.5 5
660	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	16.3 11.3 8.4 23.7 17.4 13.0 10 17.5 25	14.1 9.8 7.3 21.3 15.2 11.9 5 10 15	13.8 9.6 7.1 20.8 15.0 11.6 5 7.5 12.5	13.5 9.6 6.9 20.2 14.8 11.3 5 7.5 10	11.7 8.4 6.6 18.0 13.2 10.1 3.5 6 9	10.6 7.9 6.2 16.9 12.1 9.3 2.5 5 7.5
755	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	17.4 13.0 9.6 28.4 19.7 15.2 12.5 22.5 32.5	15.2 11.9 8.2 24.9 18.0 13.5 7.5 12.5 20	14.1 10.1 7.7 22.2 16.3 12.1 5 10 15	13.5 9.6 7.3 20.8 15.2 11.3 5 7.5 12.5	12.8 9.4 6.9 20.2 14.6 10.6 3.5 6 11	12.4 8.9 6.8 19.7 14.1 10.1 2.5 5 7.5
850	Throw Metres — min Throw Metres — max Static Pressure — (Pa)	19.7 14.7 10.6 30.4 22.6 16.9 15 27.5 40	17.4 13.0 9.6 28.9 19.7 14.7 10 17.5 25	16.0 12.1 8.7 25.5 17.7 13.8 7.5 12.5 20	15.2 10.8 8.2 23.7 16.9 13.0 7.5 10 15	14.7 10.4 7.7 23.1 16.1 12.4 5 8.5 12.5	14.1 10.1 7.4 22.6 15.6 11.7 5 7.5 10
944	Throw Metres — min Throw Metres — max Static Pressure — (Pa)		19.7 14.1 10.8 31.3 22.6 16.7 12.5 22.5 32.5	18.0 13.0 9.9 27.9 20.4 15.2 10 17.5 25	16.9 11.9 9.0 26.1 18.5 14.1 17.5 12.5 20	15.9 11.3 8.7 25.1 16.8 13.6 6.5 11 15	15.4 11.0 8.4 24.5 16.9 13.3 5 7.5 12.5
1180	Throw Metres — min Throw Metres — max Static Pressure — (Pa)			21.4 15.8 11.9 32.6 25.2 19.5 12.5 22.5 32.5	20.8 15.2 11.3 31.5 23.7 18.1 10 20 30	20.1 14.6 11.0 30.5 22.9 16.9 8.5 14 22.5	18.4 13.9 10.7 29.8 22.6 16.3 7.5 12.5 20
1416	Throw Metres — min Throw Metres — max Static Pressure — (Pa)				24.7 18.4 13.4 38.2 28.2 20.8 15 27.5 40	23.4 17.2 13.1 35.2 26.8 19.5 12.5 22.5 32.5	22.6 16.6 12.5 33.7 26.1 18.7 10 17.5 25
1888	Throw Metres — min Throw Metres — max Static Pressure — (Pa)						29.9 17.8 13.4 42.9 31.7 25.4 15 27.5 40
2360	Throw Metres — min Throw Metres — max Static Pressure — (Pa)						

Throw measurements are at 1.5mls min and .65mls max terminal velocity.

### Performance Data 25mm Centres

AREA FACTOR		1.33	1.5	1.66	2.0	2.5	2.66
NECK AREA — M <sup>2</sup>		0.180	0.203	0.225	0.270	0.338	0.360
TYPICAL SIZES		600 x 300 900 x 200 1200 x 150	450 x 450 675 x 300 900 x 225	600 x 375 750 x 300 1500 x 150	600 x 450 900 x 300 1200 x 225	750 x 450 900 x 375 1125 x 300	600 x 600 800 x 450 1200 x 300
SPREAD ANGLE		0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°
141	Throw Metres — max						
	Static Pressure — (Pa)						
189	Throw Metres — min	4.3 3.2 2.2					
	Throw Metres — max	6.8 5.0 3.8					
	Static Pressure — (Pa)	— — —					
236	Throw Metres — min	5.4 4.0 3.2	4.3 3.2 2.5				
	Throw Metres — max	8.7 6.2 5.2	6.8 4.8 3.7				
	Static Pressure — (Pa)	— — 2.5	— — —				
283	Throw Metres — min	6.5 4.5 3.7	5.9 4.3 3.2	5.3 3.8 3.0	4.8 3.7 2.8		
	Throw Metres — max	10.4 7.3 4.8	9.3 7.1 4.8	8.4 5.8 4.5	7.9 5.4 4.3		
	Static Pressure — (Pa)	— 2.5 5	— — 2.5	— — —	— — —		
330	Throw Metres — min	7.6 5.7 4.3	6.8 4.8 3.7	6.2 4.5 3.4	5.9 4.3 3.2		
	Throw Metres — max	11.9 8.7 6.5	10.4 7.6 5.9	9.8 6.5 5.1	9.3 7.1 4.8		
	Static Pressure — (Pa)	2.5 5 7.5	— 2.5 5	— — 2.5	— — 2.5		
375	Throw Metres — min	9.0 6.5 4.5	8.2 5.7 4.3	7.3 5.4 4.0	6.8 4.8 3.7	6.2 4.3 3.3	5.9 4.0 3.2
	Throw Metres — max	13.5 9.8 7.4	12.9 9.0 6.8	11.2 7.9 6.4	10.4 6.6 5.7	9.4 6.6 5.1	8.7 6.2 4.8
	Static Pressure — (Pa)	2.5 5 10	1.5 4 6	— 2.5 5	— — 2.5	— — —	— — —
425	Throw Metres — min	9.8 7.1 5.4	9.0 6.2 4.8	8.2 5.7 4.3	7.6 5.7 4.0	6.9 4.9 3.6	6.5 4.5 3.4
	Throw Metres — max	15.2 10.8 8.4	14.1 9.8 7.3	12.9 9.0 6.8	11.9 8.7 6.5	10.8 7.7 5.8	10.4 7.1 5.4
	Static Pressure — (Pa)	5 7.5 10	2.5 5 7.5	1.5 4 6	— 2.5 5	— — 3	— — 2.5
472	Throw Metres — min	10.8 7.9 5.9	9.8 7.1 5.4	9.0 6.5 4.9	8.4 6.2 4.5	8.0 6.2 4.5	7.6 5.1 3.7
	Throw Metres — max	17.1 12.4 9.3	15.2 11.3 8.4	14.4 10.4 7.9	13.5 9.6 7.1	13.5 9.6 7.1	11.9 8.2 6.5
	Static Pressure — (Pa)	5 10 12.5	1.5 5 10	2.5 5 7	— 2.5 5	— 2.5 5	— — 2.5
566	Throw Metres — min	13.0 9.6 7.3	11.9 8.7 6.5	10.9 8.2 6.2	10.1 7.6 5.7	9.7 7.1 5.3	9.6 6.8 5.1
	Throw Metres — max	20.2 15.2 11.3	18.5 13.5 9.9	17.2 12.1 9.1	15.8 11.3 8.4	14.7 10.6 8.1	14.1 10.1 7.8
	Static Pressure — (Pa)	7.5 12.5 20	5 7.5 12.5	2.5 5 10	2.5 5 7.5	1.5 4 6	— 2.5 5
660	Throw Metres — min	16.3 11.3 8.4	14.1 9.8 7.3	13.8 9.6 7.1	13.5 9.6 6.9	11.7 8.4 6.6	10.6 7.9 6.2
	Throw Metres — max	23.7 17.4 13.0	21.3 15.2 11.9	20.8 15.0 11.6	20.2 14.8 11.3	18.0 13.2 10.1	16.9 12.1 9.3
	Static Pressure — (Pa)	10 17.5 25	5 10 15	5 7.5 12.5	5 7.5 10	3.5 6 9	2.5 5 7.5
755	Throw Metres — min	17.4 13.0 9.6	15.2 11.9 8.2	14.1 10.1 7.7	13.5 9.6 7.3	12.8 9.4 6.9	12.4 8.9 6.8
	Throw Metres — max	28.4 19.7 15.2	24.9 18.0 13.5	22.2 16.3 12.1	20.8 15.2 11.3	20.2 14.6 10.6	19.7 14.1 10.1
	Static Pressure — (Pa)	12.5 22.5 32.5	7.5 12.5 20	5 10 15	5 7.5 12.5	3.5 6 11	2.5 5 7.5
850	Throw Metres — min	19.7 14.7 10.6	17.4 13.0 9.6	16.0 12.1 8.7	15.2 10.8 8.2	14.7 10.4 7.7	14.1 10.1 7.4
	Throw Metres — max	30.4 22.6 16.9	28.9 19.7 14.7	25.5 17.7 13.8	23.7 16.9 13.0	23.1 16.1 12.4	22.6 15.6 11.7
	Static Pressure — (Pa)	15 27.5 40	10 17.5 25	7.5 12.5 20	7.5 10 15	5 8.5 12.5	5 7.5 10
944	Throw Metres — min		19.7 14.1 10.8	18.0 13.0 9.9	16.9 11.9 9.0	15.9 11.3 8.7	15.4 11.0 8.4
	Throw Metres — max		31.3 22.6 16.7	27.9 20.4 15.2	26.1 18.5 14.1	25.1 16.8 13.6	24.5 16.9 13.3
	Static Pressure — (Pa)		12.5 22.5 32.5	10 17.5 25	17.5 12.5 20	6.5 11 15	5 7.5 12.5
1180	Throw Metres — min			21.4 15.8 11.9	20.8 15.2 11.3	20.1 14.6 11.0	18.4 13.9 10.7
	Throw Metres — max			32.6 25.2 19.5	31.5 23.7 18.1	30.5 22.9 16.9	29.8 22.6 16.3
	Static Pressure — (Pa)			12.5 22.5 32.5	10 20 30	8.5 14 22.5	7.5 12.5 20
1416	Throw Metres — min				24.7 18.4 13.4	23.4 17.2 13.1	22.6 16.6 12.5
	Throw Metres — max				38.2 28.2 20.8	35.2 26.8 19.5	33.7 26.1 18.7
	Static Pressure — (Pa)				15 27.5 40	12.5 22.5 32.5	10 17.5 25
1888	Throw Metres — min						29.9 17.8 13.4
	Throw Metres — max						42.9 31.7 25.4
	Static Pressure — (Pa)						15 27.5 40
2360	Throw Metres — min						
	Throw Metres — max						
	Static Pressure — (Pa)						

Throw measurements are at 1.5mls min and .65mls max terminal velocity.





# 4.0 BAR GRILLES



## 4.1 GRILLES

### LINEAR BAR GRILLES (LBG) WITH FIXED CORE

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# AIRFOIL



GRILLES  
DUCT  
FITTINGS

*making it happen sooner...*



With its elegant design and robust construction, Airfoil's Linear Bar Grille with fixed core will look beautiful and perform brilliantly when mounted on a side wall for both supply and return air functions. Made from solid extruded aluminium the Linear Bar Grille comes in standard white.

#### Linear Bar Grille with Fixed Core Options

- Blade type 0 degree and 15 degree blow deflections
- Flange size: 25mm standard with 20mm or 12mm optional
- Blade spacing: 11.5mm standard, optional 7mm, 17.5mm and 25mm
- Custom-made to any size dimensions
- Natural anodised or specific Dulux powdercoat colours and finishes available on request

#### Product specification codes:

**LBG15** Fixed core linear bar grille with 15° kick blades.

**LBG00** Fixed core linear bar grille with 0° kick blades.

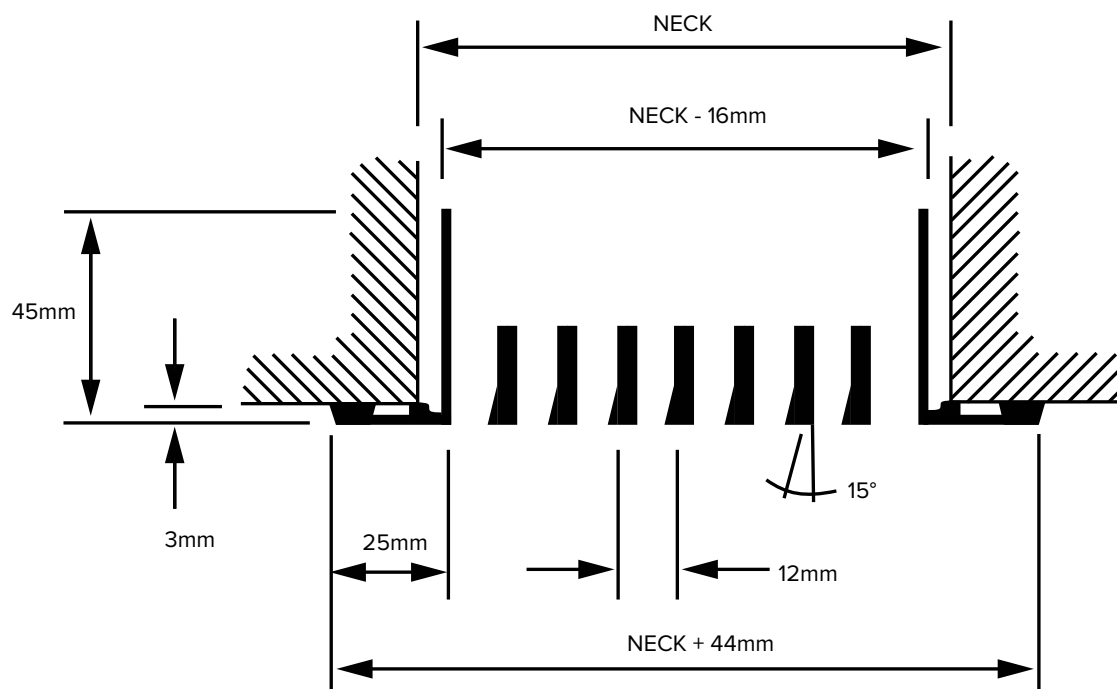
Specification: Product code + size.

Example: **LBG15 400x200** Hinged core bar grille with 15° kick blades with filter 400mm x 200mm

**Important Note:** Dimensions will be assumed nominal neck size unless otherwise specified.

**PROJECT: RIVER VISTA APARTMENTS PARRAMATTA, SYDNEY**

Cross sectional diagram



Performance Data

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
	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
	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
	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
	NR	-	13	21	27	32	37	41	45

Sound values are based on a room absorption of 8 dB, re  $10^{-12}$  watts for an active length of 3.0 metres. Throw distances indicated are terminal velocities of 0.75 and 0.25 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 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

# 4.1 GRILLES

## LINEAR BAR GRILLES (LBG00) WITH FIXED CORE & 0 DEGREE KICK BLADES

**AIRFOIL**

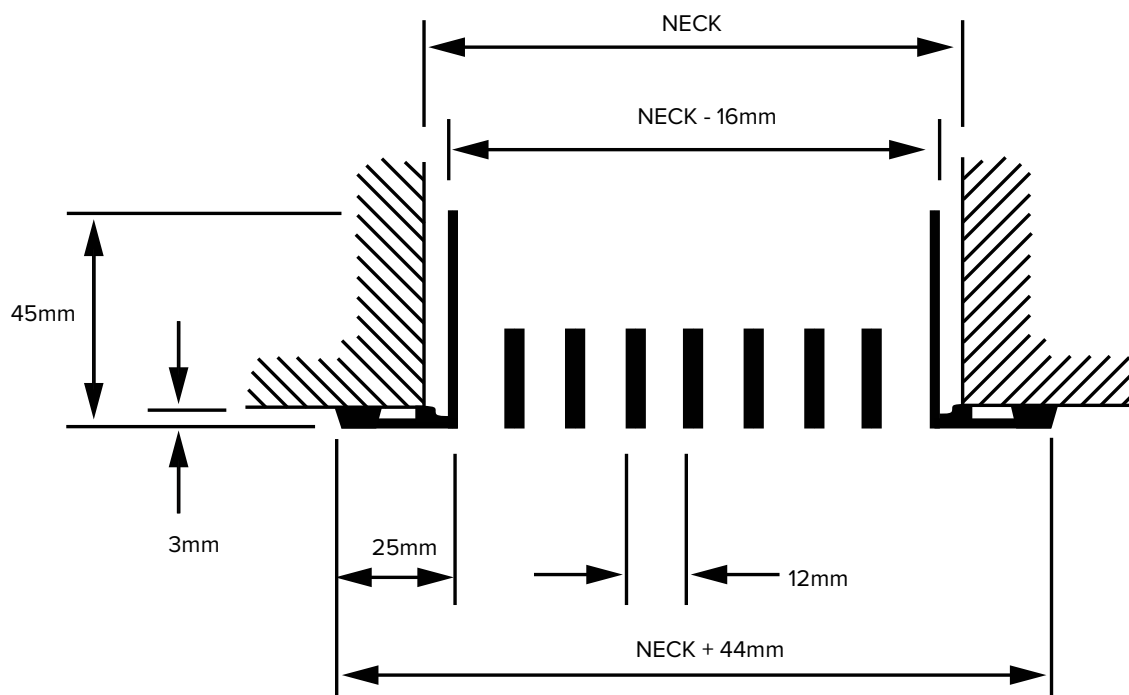


GRILLES  
DUCT  
FITTINGS

*making it happen sooner...*

Quality System  
Quality Endorsed  
Company  
ISO 9001  
SAI QI 0001

Cross sectional diagram



Performance Data

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
	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
	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
	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
	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 3.0 metres.

Throw distances indicated are terminal velocities of 0.75 and 0.25 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 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



With its elegant design and robust construction, Airfoil's Hinged Core Linear Bar Grille with Filter will look beautiful and perform brilliantly when mounted in the wall or ceiling for both supply and return air functions. Made from solid extruded aluminium the Linear Bar Grille comes in standard white.



### Hinged Core Linear Bar Grille with Filter Options

- > Blade type 0 degree and 15 degree blow deflections
- > Flange size: 25mm standard with 20mm & 12mm optional
- > Blade spacing: 11.5mm standard, optional 7mm, 17.5mm and 25mm
- > Custom-made to any size dimensions
- > Natural anodised or specific Dulux powdercoat colours and finishes available on request

#### Product specification codes:

**HLBG15/F** Hinged core linear bar grille with 15° kick blades with filter.

**HLBG00/F** Hinged core linear bar grille with 0° kick blades with filter.

Specification: Product code + size.

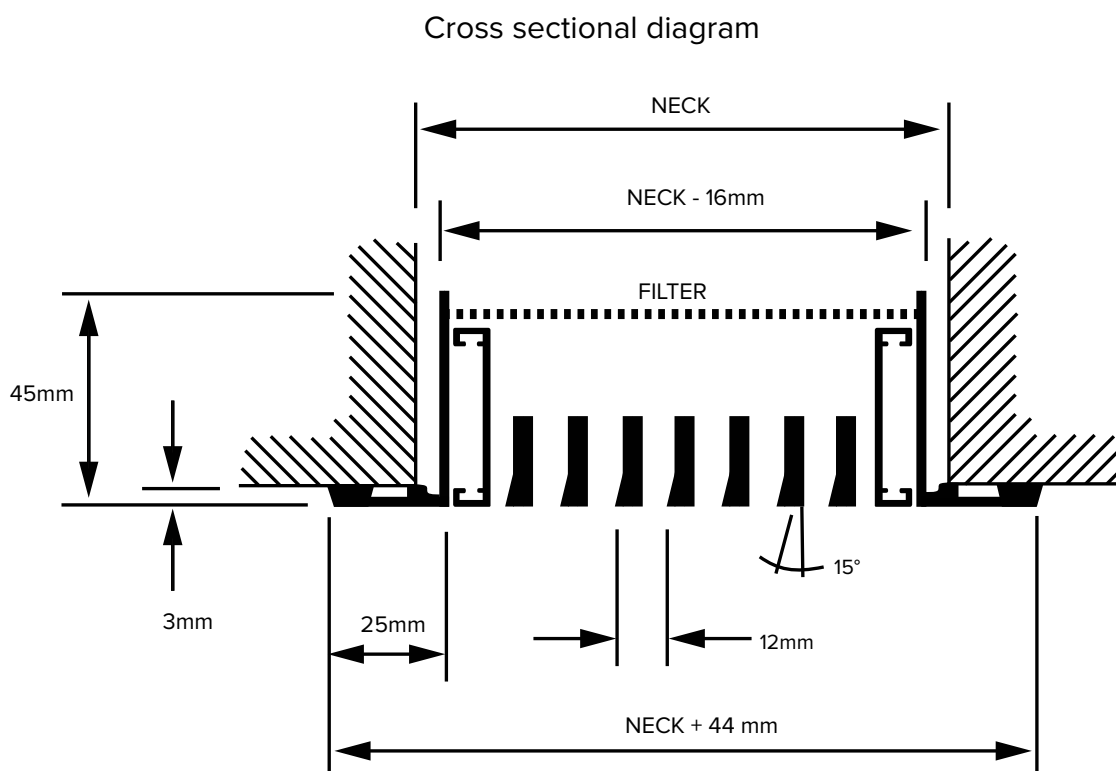
Example: **HLBG15/F 400x200** Hinged core bar grille with 15° kick blades with filter 400mm x 200mm

**Important Note:** Dimensions will be assumed nominal neck size unless otherwise specified.



## 4.2 GRILLES

### HINGED CORE LINEAR BAR GRILLES (HLBG15/F) WITH FILTER & 15 DEGREE KICK BLADES



Performance Data

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
	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
	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
	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
	NR	-	13	21	27	32	37	41	45

Sound values are based on a room absorption of 8 dB, re  $10^{-12}$  watts for an active length of 3.0 metres.  
Throw distances indicated are terminal velocities of 0.75 and 0.25 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 GRILLE the following corrections should be made.

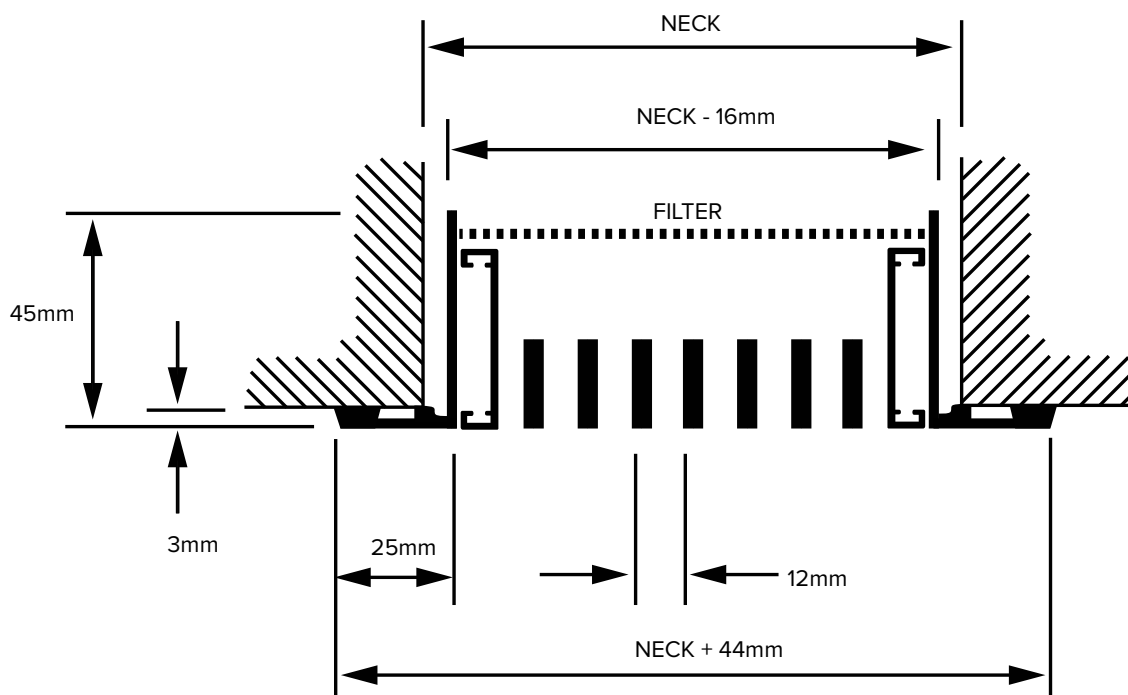
- NR value increases by 4.
- Negative Static Pressure = Total Pressure (shown in the table) x 0.8

## 4.2 GRILLES

### HINGED CORE LINEAR BAR GRILLES (HLBG00/F) WITH FILTER & 0 DEGREE KICK BLADES

78

Cross sectional diagram



Performance Data

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

Sound values are based on a room absorption of 8 dB, re  $10^{-12}$  watts for an active length of 3.0 metres.  
Throw distances indicated are terminal velocities of 0.75 and 0.25 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 Throw at term vel. .025	multiply throw by 0.3 multiply throw by 0.6		multiply throw by 0.7 multiply throw by 0.8		table values table values		

When used as a RETURN 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



## 4.3 GRILLES

### LINEAR BAR GRILLES (RCLBG) WITH REMOVABLE CORE

79



# AIRFOIL



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DUCT  
FITTINGS

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With its elegant design and robust construction, Airfoil's Removable Core Linear Bar Grille will look beautiful and perform brilliantly when mounted in the wall or ceiling for both supply and return air functions. Made from solid extruded aluminium the Removable Core Linear Bar Grille comes in standard white, but can be powdercoat finished in any Dulux colour for a modern seamless look.

#### Removable Core Linear Bar Grille Options

- > Blade type 0 degree and 15 degree blow deflections
- > Flange size: 25mm standard with 12mm and 20mm optional
- > Blade spacing: 11.5mm standard, optional 7mm, 17.5mm and 25mm
- > Custom-made to any size dimensions
- > Natural anodised or specific Dulux powdercoat colours and finishes available on request

#### Product specification codes:

**RCBG15** Removable core linear bar grille with 15° kick blades.  
**RCBG00** Removable core linear bar grille with 0° kick blades.

Specification: Product code + size.

Example: **RCBG15 400x200** Removable core bar grille with 15° kick blades 400mm x 200mm

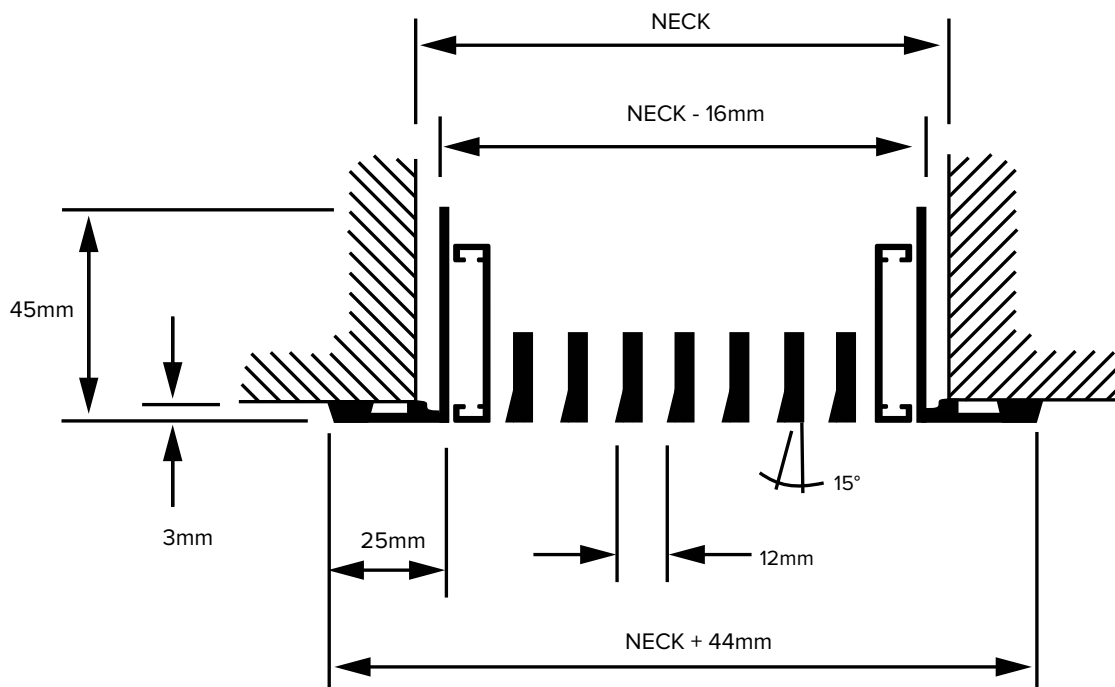
**Important Note:** Dimensions will be assumed nominal neck size unless otherwise specified.



**AIRFOIL FACTORY, SYDNEY**



Cross sectional diagram



Performance Data

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
	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
	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
	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
	NR	-	13	21	27	32	37	41	45

Sound values are based on a room absorption of 8 dB, re  $10^{-12}$  watts for an active length of 3.0 metres.  
Throw distances indicated are terminal velocities of 0.75 and 0.25 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 GRILLE the following corrections should be made.

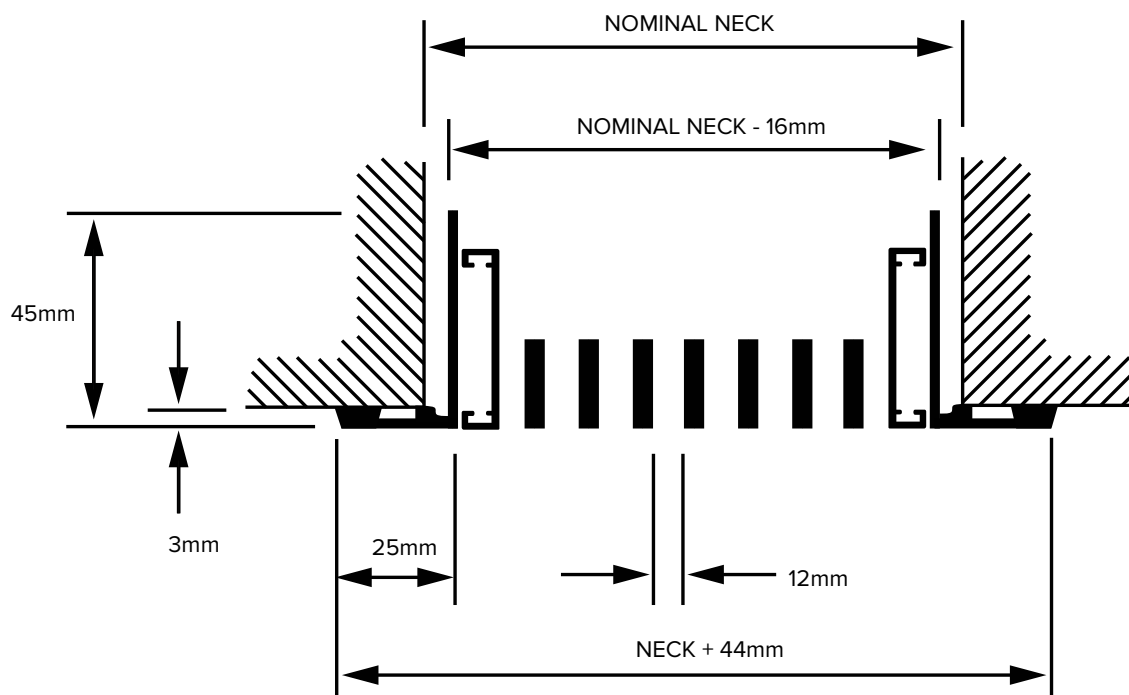
1. NR value increases by 4.
2. Negative Static Pressure = Total Pressure (shown in the table) x 0.8

## 4.3 GRILLES

### LINEAR BAR GRILLES (RCLBG00) WITH REMOVABLE CORE & 0 DEGREE KICKBLADES



Cross sectional diagram



Performance Data

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
	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
	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
	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
	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 3.0 metres.

Throw distances indicated are terminal velocities of 0.75 and 0.25 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 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



With its elegant design and robust construction, Airfoil's Linear Bar Grille with Rear Vertical Blades will look beautiful and perform brilliantly when mounted in the wall for both supply and return air functions. Made from solid extruded aluminium the Linear Bar Grille comes in a standard powder coated white, but can be finished in any Dulux colour for a seamless contemporary look. The single set of fully adjustable blades gives a high level of control of the air pattern and can be ordered in black or white for an unobtrusive appearance.

### Linear Bar Grille with Vertical Blades Options

- > Blade type 0 degree and 15 degree blow deflections
- > Flange size: 25mm standard with 12mm and 20mm optional
- > Blade spacing: 11.5mm standard, optional 7mm, 17.5mm and 25mm
- > Accessory: Plaster mounting frame for side blow applications
- > Rear deflection blade in black or white
- > Custom made to any size dimensions
- > Natural anodised or specific Dulux powdercoat colours and finishes available on request

### Product specification codes:

**LBG1ARV/0** Fixed core linear bar grille with rear vertical blades with 0° kick blades.

**LBG1ARV/15** Fixed core linear bar grille with rear vertical blades with 15° kick blades.

Specification: Product code + size.

Example: **LBG1ARV/15 400x200** Fixed core linear bar grille with rear vertical blades with 15° kick blades 400mm x 200mm

**Important Note:** Dimensions will be assumed nominal neck size unless otherwise specified.



**PROJECT: BELLE APARTMENTS, SYDNEY**

## 4.4 GRILLES

### LINEAR BAR GRILLES (LBG1ARV15) WITH REAR VERTICAL BLADES & 15 DEGREE KICK BLADES

**AIRFOIL**

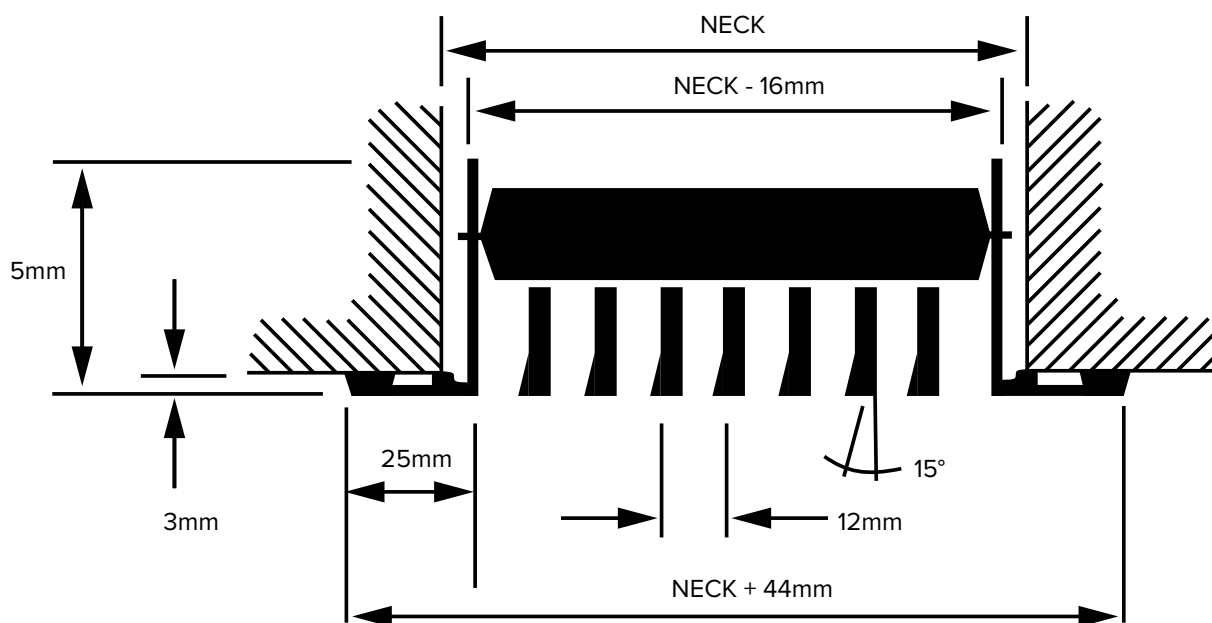


GRILLES  
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FITTINGS

*making it happen sooner...*

Quality System  
Quality  
Endorsed  
Company  
ISO 9001  
SAI QI, CBAL

Cross sectional diagram



Performance Data

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
	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
	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
	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
	NR	-	13	21	27	32	37	41	45

Sound values are based on a room absorption of 8 dB, re  $10^{-12}$  watts for an active length of 3.0 metres.  
Throw distances indicated are terminal velocities of 0.75 and 0.25 metres per second for an active length of 3 metres. The following corrections for length should be made.

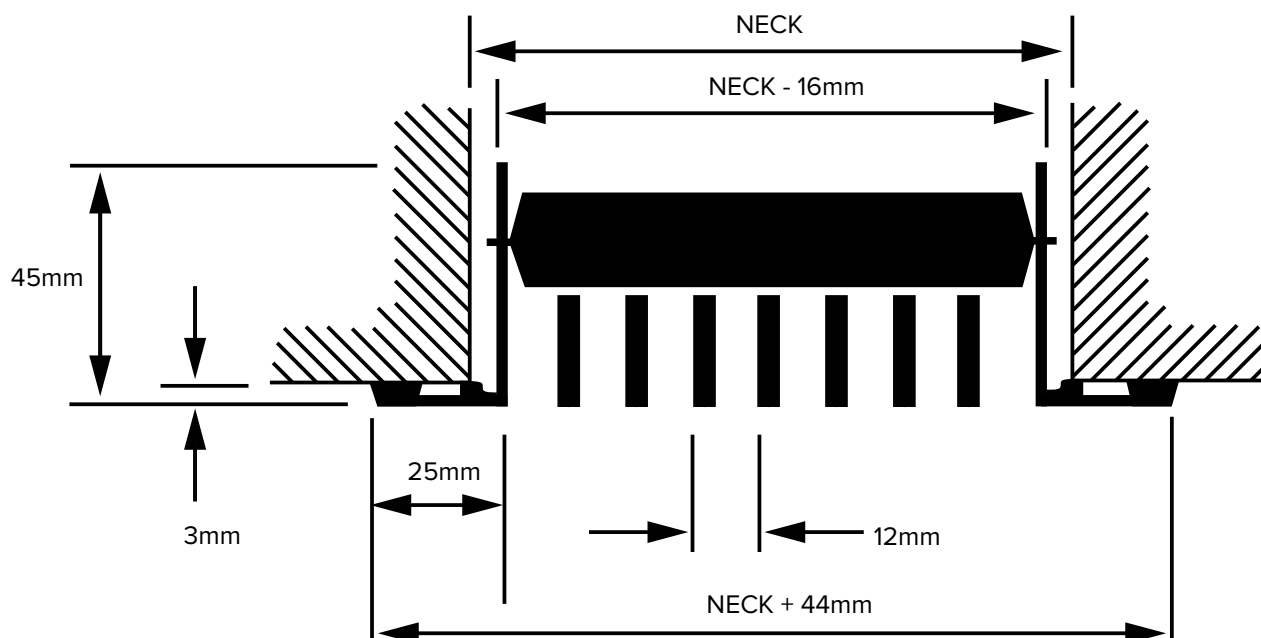
Active length in metres NR	0.3 subtract 9	0.6 subtract 7	1.2 subtract 4	2 subtract 1	3 table value	4 add 1	6 add 3
Throw at term vel. .075	multiply throw by 0.3		multiply throw by 0.7		table values		
Throw at term vel. .025	multiply throw by 0.6		multiply throw by 0.8		table values		

When used as a RETURN 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



Cross sectional diagram



Performance Data

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
	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
	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
	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
	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 3.0 metres.

Throw distances indicated are terminal velocities of 0.75 and 0.25 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 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

## 4.5 GRILLES

### REVERSE FLANGE BAR GRILLE (RFBG) (FLANGELESS)

85



With its elegant design and robust construction, Airfoil's flangeless Bar Grille will look beautiful and perform brilliantly when mounted in a side wall for both supply and return air functions. Made from solid 3mm extruded aluminium, the reverse flange (flangeless) bar grille sits flush with the wall. Perfect for high-end domestic or commercial applications such as apartments, hotel lobbies or shopping centres.



#### Reverse Flange Bar Grille Options

- Blade type 0 degree and 15 degree blow deflections
- Optional depth: 20mm deep
- Other size angles and spacings are available on request.
- Comes complete with end caps or straight cut, leaving a raw edge
- Optional: End angles are available on request
- Natural anodised or specific Dulux powdercoat colours and finishes available on request

#### Product specification codes:

- RFG25/00** Flangeless bar grille 25mm deep with 0° kick blades.
- RFG25/15** Flangeless bar grille 25mm deep with 15° kick blades.
- RFG20/00** Flangeless bar grille 20mm deep with 0° kick blades.
- RFG20/15** Flangeless bar grille 20mm deep with 15° kick blades.

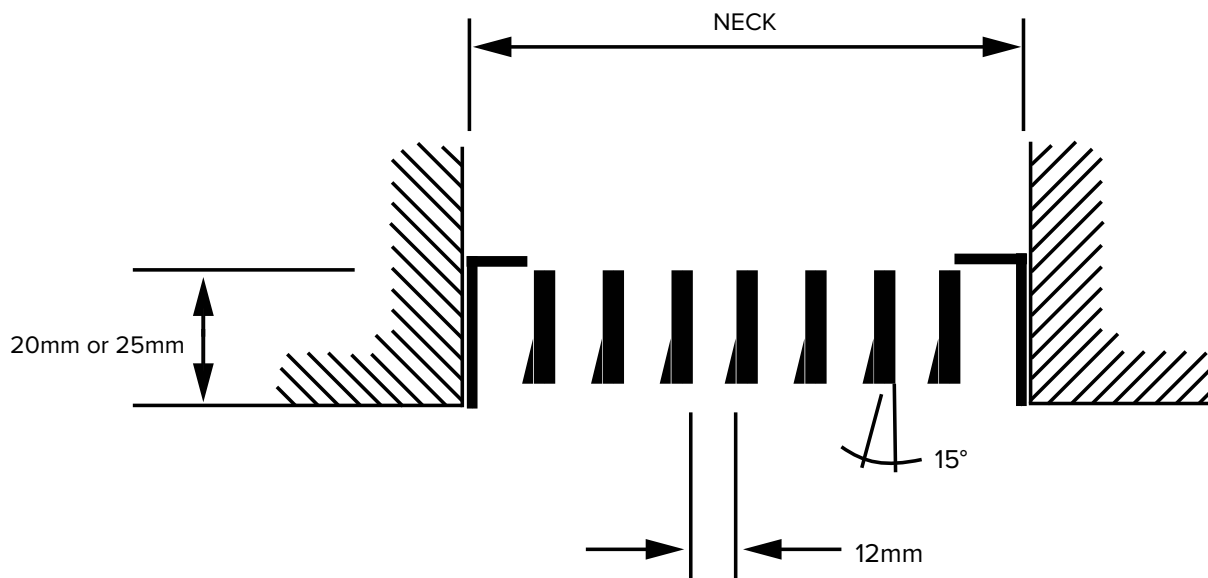
Specification: Product code + size.

Example: **RFG25/15 400x200** Reverse flange bar grille 25mm deep with 15° kick blades 400mm x 200mm



**PROJECT: CBC BEARINGS CHULLORA, NSW**

Cross sectional diagram



Performance Data

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
	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
	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
	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
	NR	-	13	21	27	32	37	41	45

Sound values are based on a room absorption of 8 dB, re  $10^{-12}$  watts for an active length of 3.0 metres.  
Throw distances indicated are terminal velocities of 0.75 and 0.25 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 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

## 4.5 GRILLES

### REVERSE FLANGE BAR GRILLE (RFBG00) (FLANGELESS) WITH 0 DEGREE KICK BLADES

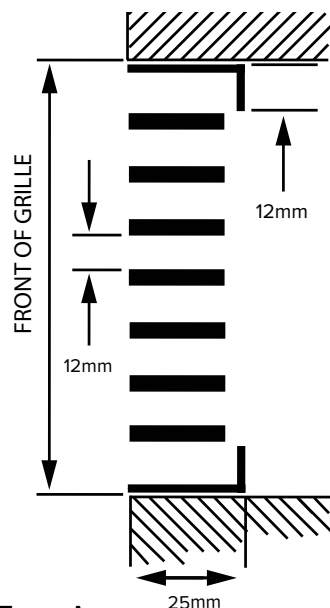
**AIRFOIL**



GRILLES  
DUCT  
FITTINGS

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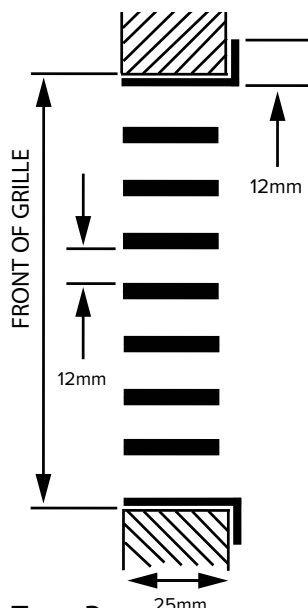
Quality System  
Quality  
Endorsed  
Company  
ISO 9001  
SAI GLOBAL



**Type A**

RFLBG with special Angle Frame  
Reverse Angle (Legs In)

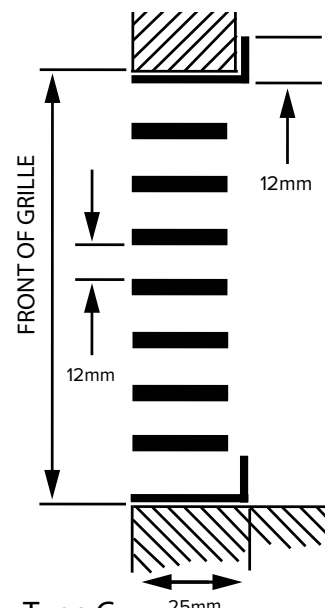
The most popular style. Easily fixed  
through the rear angle from the front.  
Straight Cut ends or with end angles  
(Extra)



**Type B**

RFLBG with special Angle Frame  
Reverse Angle (Legs Out)

Generally used when a Shadow line is  
required. 12mm angle leaves a 9mm  
Shadow Line on top and bottom



**Type C**

RFLBG with special Angle Frame  
Reverse Angle (Leg In, Leg Out)

This type is used when a Shadow Line  
is required at the bottom of the Grille  
or when being used over a Cupboard

### Performance Data

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
	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
	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
	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
	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 3.0 metres.

Throw distances indicated are terminal velocities of 0.75 and 0.25 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 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



With its elegant slim design and robust construction Airfoil's Slimline Linear Bar Grille will look beautiful and perform brilliantly when mounted in the wall for both supply and return air functions. Made from 25mm by 12mm solid extruded aluminium, the Slimline Linear Bar Grille comes in standard white, but can be powdercoat finished in any Dulux colour for a seamless contemporary look and feel.

Its 12mm frame gives a discreet modern appearance and the 25mm deep profile allows for easy installation in tight wall cavities and restricted spaces. Contemporary in look and design, Airfoil's Slimline Linear Bar Grille is the smart choice for modern interiors.



#### Slimline Linear Bar Grille Options

- > Blade type 0 degree and 15 degree blow deflections
- > Natural anodised or specific Dulux powdercoat colours and finishes available on request
- > Blade spacing: 11.5mm standard, optional 7mm, 17.5mm and 25mm
- > Custom made to any size dimensions

#### Product specification codes:

**SLLBG/0** Fixed core Slimline Linear Bar Grille with 0° kick blades.  
**SLLBG/15** Fixed core Slimline Linear Bar Grille with 15° kick blades.

Specification: Product code + size.

Example: **SLLBG/15 400x200** Fix core Slimline Linear Bar Grille with 15° kick blades 400mm x 200mm

**Important Note:** Dimensions will be assumed nominal neck size unless otherwise specified.

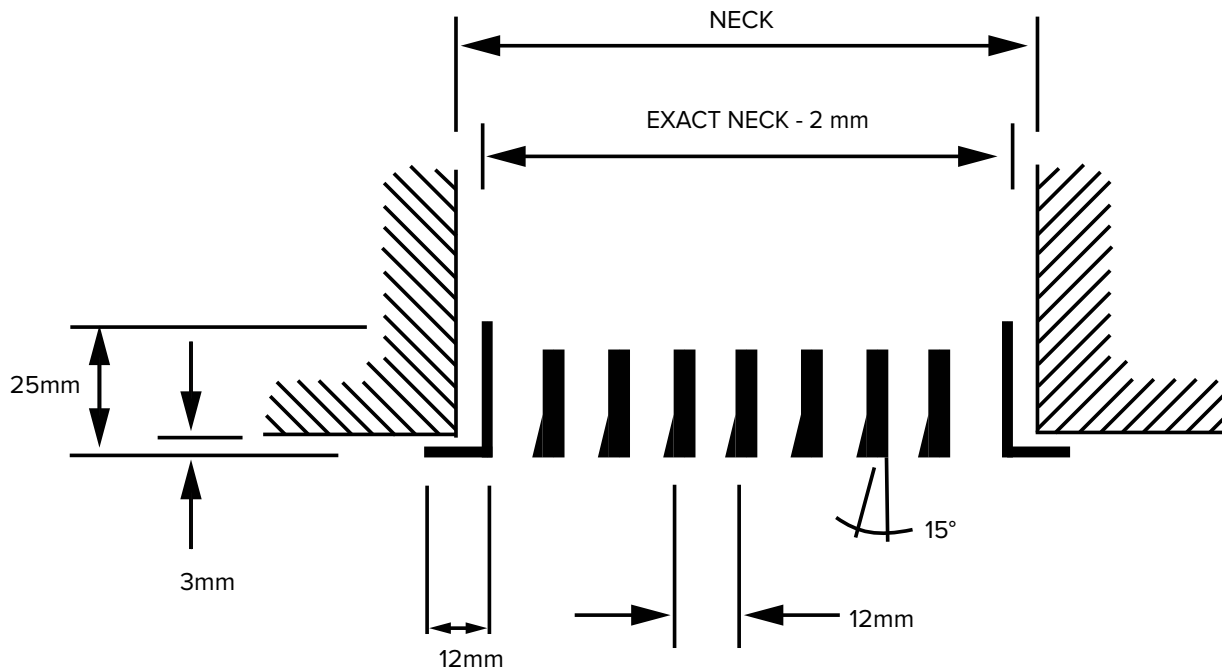
## 4.6 GRILLES

### SLIMLINE LINEAR BAR GRILLE (SLLBG15) WITH 15 DEGREE KICK BLADES

Quality System  
Quality  
Endorsed  
Company  
ISO 9001  
SAI QL 004L

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Cross sectional diagram



Performance Data

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
	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
	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
	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
	NR	-	13	21	27	32	37	41	45

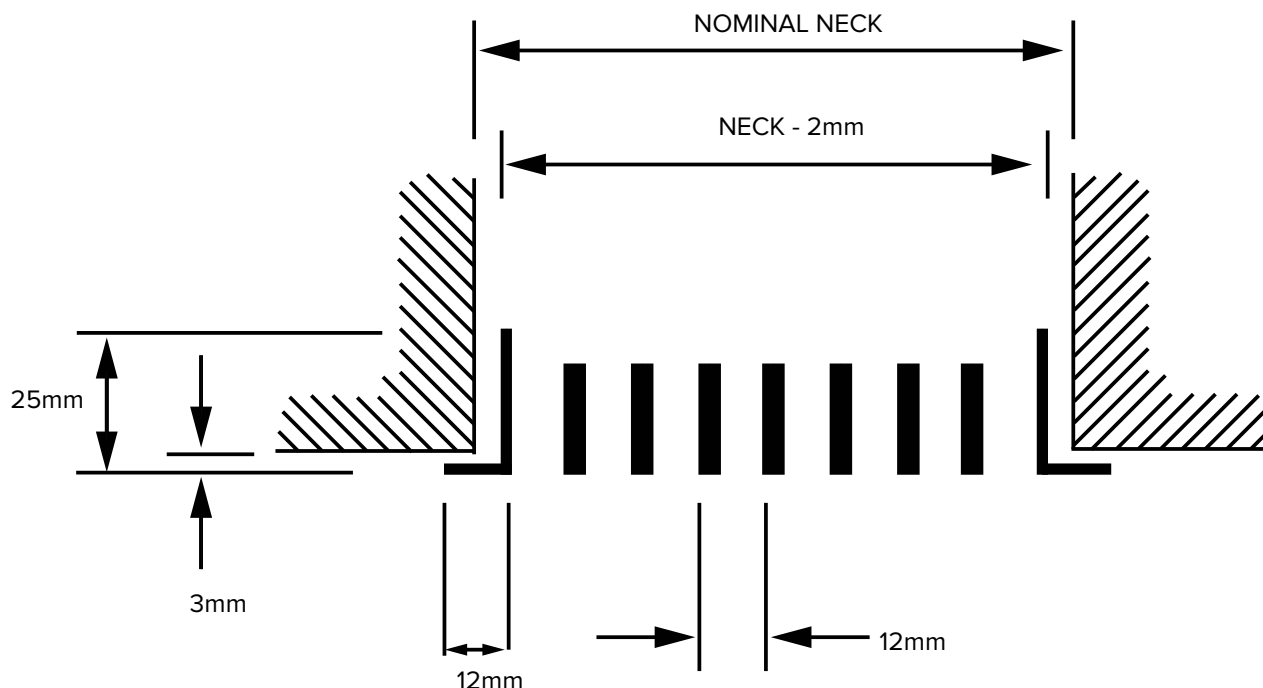
Sound values are based on a room absorption of 8 dB, re  $10^{-12}$  watts for an active length of 3.0 metres.  
Throw distances indicated are terminal velocities of 0.75 and 0.25 metres per second for an active length of 3 metres. The following corrections for length should be made.

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 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

Cross sectional diagram



Performance Data

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

Active length in metres	0.3	0.6	1.2	2	3	4	6
NR	subtract 9	subtract 7	subtract 4	subtract 1	table value	add 1	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 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





PROJECT: QUAY APARTMENTS, SYDNEY



The Floor Grille is used for supply and return air functions when mounted on the floor. Airfoil's Floor Grille is manufactured out of high-grade aluminium and is rated up to 120kg. The blades are held in position by a 20mmx12mmx3mm welded angle and are reinforced by intersecting security rods bolted to the frame. A filter can be added when used for a return air function to keep the air distribution system clean.

Available in a powder coat finish in any Dulux colour or natural anodised, the Airfoil Floor Grille gives an exceptional contemporary look in conjunction with exceptional strength.



#### Floor Grille Options

- > Blade type 0 degree and 15 degree blow deflections
- > Optional filter attachment
- > Natural anodised or specific Dulux powdercoat colours and finishes available on request
- > Custom made to any size dimensions

#### Product specification codes:

- BGF00** Floor grille with 0° kick blades.
- BGF15** Floor grille with 15° kick blades.
- BGF00/F** Floor grille with 0° kick blades with filter.
- BGF15/F** Floor grille with 15° kick blades with filter.

Specification: Product code + size.

Example: **BGF15 400x200** Floor grille with 15° kick blades 400mm x 200mm

**Important Note:** Dimensions will be assumed nominal neck size unless otherwise specified.



**PROJECT: DISCOVERY POINT WOLLI CREEK, NSW**

## 4.7 GRILLES

### FLOOR GRILLE (BGF) WITH 15 DEGREE KICK BLADES

**AIRFOIL**

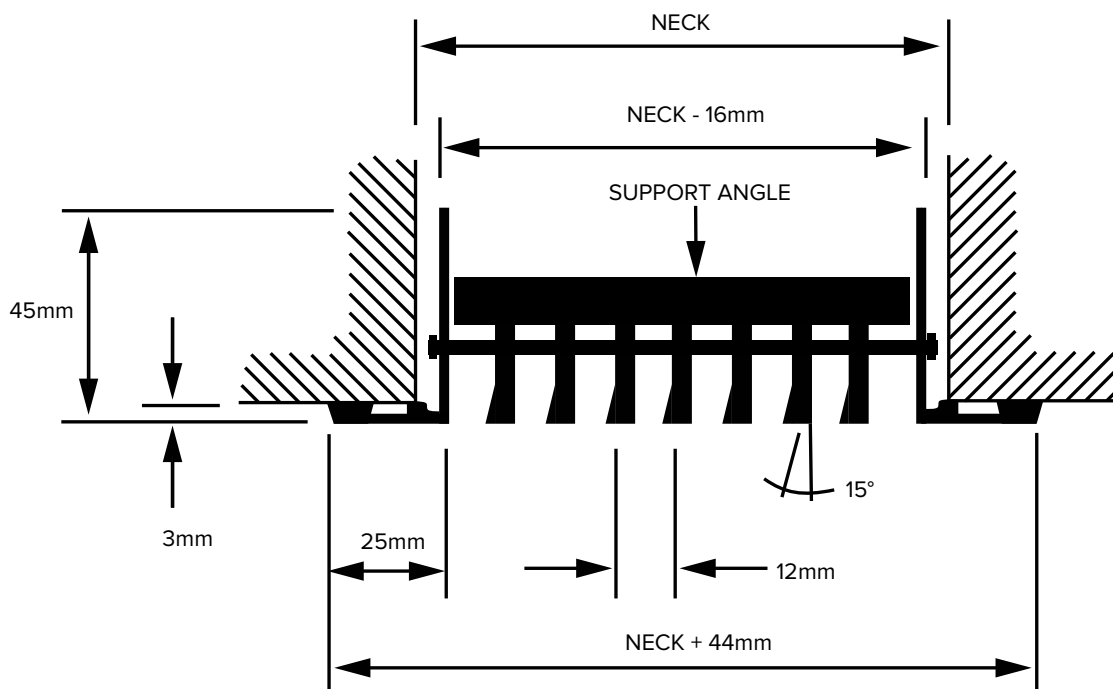


GRILLES  
DUCT  
FITTINGS

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Quality System  
Quality  
Endorsed  
Company  
ISO 9001  
SAS QI-COAL

Cross sectional diagram



Performance Data

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
	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
	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
	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
	NR	-	13	21	27	32	37	41	45

Sound values are based on a room absorption of 8 dB, re  $10^{-12}$  watts for an active length of 3.0 metres.

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

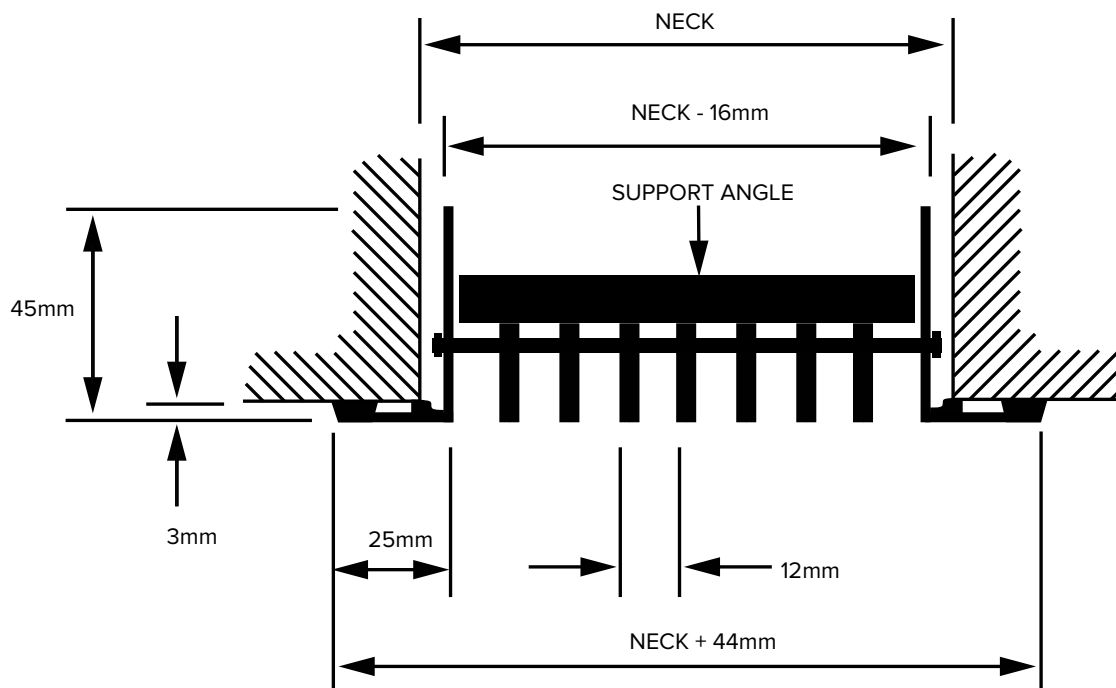
Active length in metres NR	0.3 subtract 9	0.6 subtract 7	1.2 subtract 4	2 subtract 1	3 table value	4 add 1	6 add 3
Throw at term vel. .075	multiply throw by 0.3		multiply throw by 0.7		table values		
Throw at term vel. .025	multiply throw by 0.6		multiply throw by 0.8		table values		

When used as a RETURN 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

Cross sectional diagram



Performance Data

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
	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
	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
	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
	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 3.0 metres.  
Throw distances indicated are terminal velocities of 0.75 and 0.25 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 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

## 4.8 GRILLES

### EGGCRATE GRILLE (R5)

95



Fixed core eggcrate grille



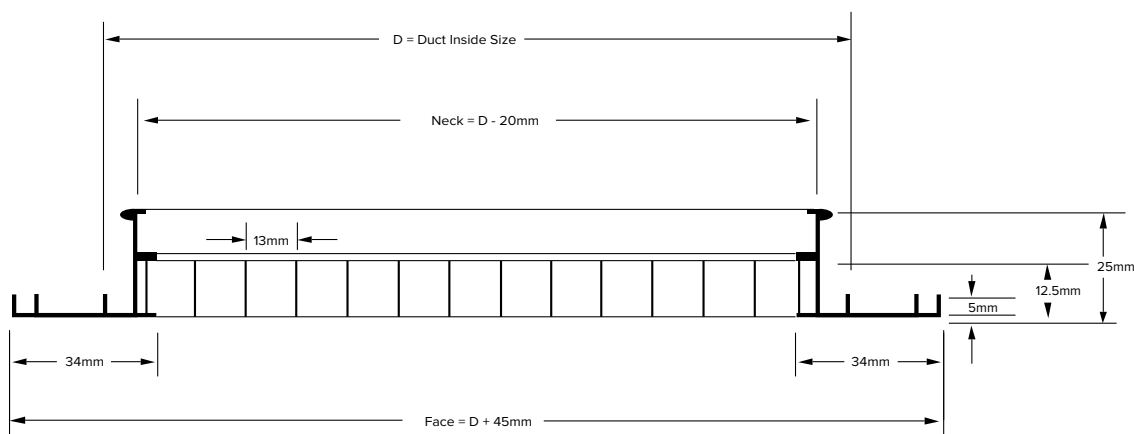
Removable core eggcrate grille

Airfoil's Eggcrate Grille is manufactured from lightweight, corrosion free aluminium. The Eggcrate Grille is most commonly used for ceiling mounted return air and toilet exhaust functions. It has a free area of approximately 85%.

The standard finish is white satin powder or natural anodised.



Cross sectional diagram



#### Eggcrate Grille Options

- > Dulux powdercoat colours and finishes available on request
- > Available with a fixing clip neck adaptor
- > Choice of spigot sizes to suit the flexible duct
- > Fixed core, removable core or hinged core with filter

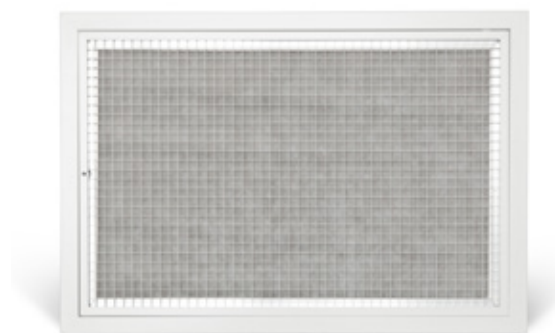
#### Product specification codes:

<b>R5</b>	Fixed core eggcrate grille.	Specification: Product code + size.
<b>HR5/F</b>	Hinged core eggcrate grille with filter.	Example: <b>HR5/F 250x250</b>
<b>RCR5</b>	Removable core eggcrate grille.	Hinged core eggcrate grille with filter
<b>LCR5</b>	Loose core eggcrate only (no frame).	250mm x 250mm





**PROJECT: TOOWOOMBA GRAND CENTRAL**

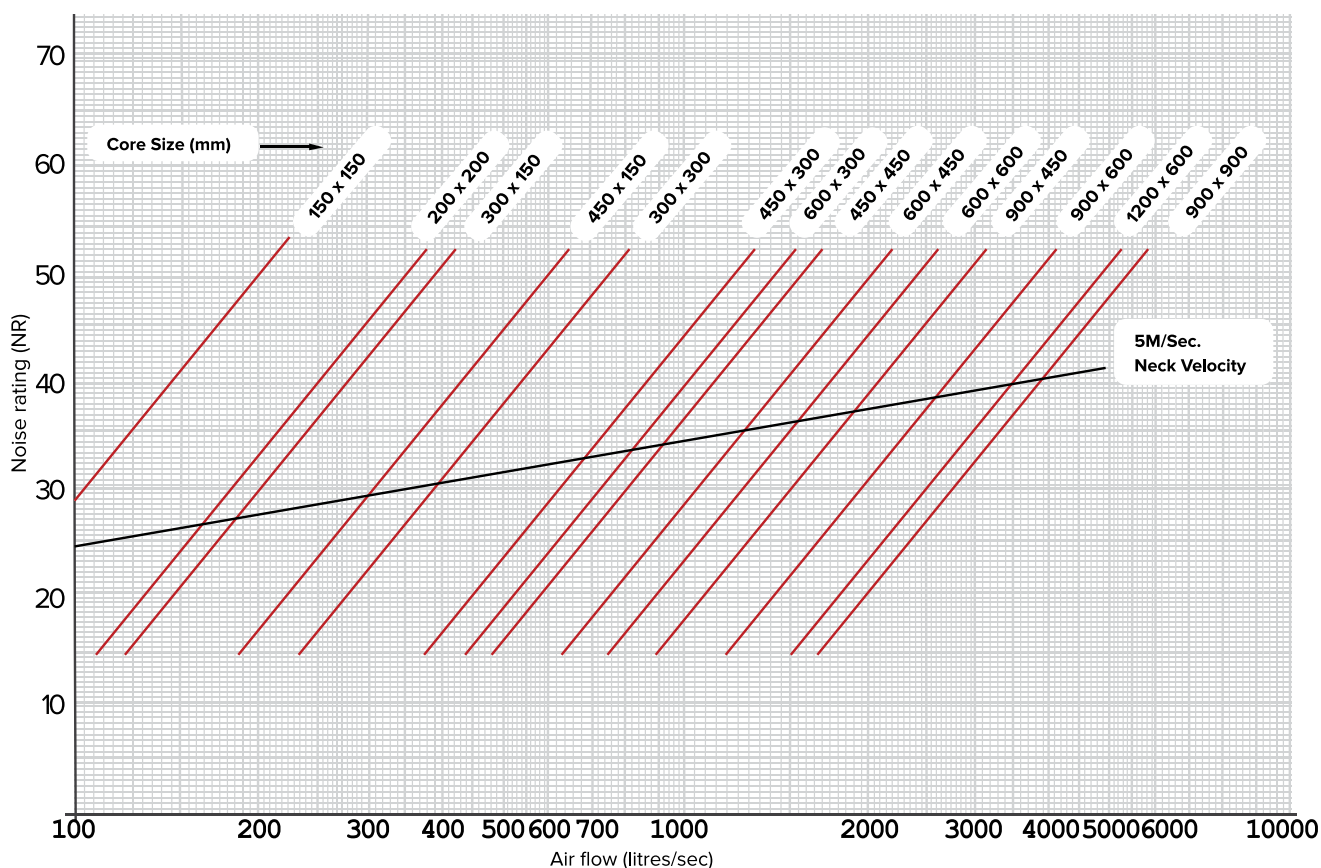


Hinged core eggcrate grille with filter

### Performance Data

Neck Size	Neck Velocity m/s	1.5	2	2.5	3	3.5	4
200x200	Lit/sec	42	57	71	85	99	110
	NR	-	-	-	13	18	22
250x250	Lit/sec	66	87	110	130	150	170
	NR	-	-	-	16	21	25
600x300	Lit/sec	230	300	380	450	530	600
	NR	-	-	18	24	29	33
600x600	Lit/sec	510	680	850	1020	1190	1360
	NR	-	16	22	28	33	35
1200x600	Lit/sec	890	1180	1470	1770	2070	2360
	NR	13	20	26	32	37	41

### Noise level vs airflow for various core sizes



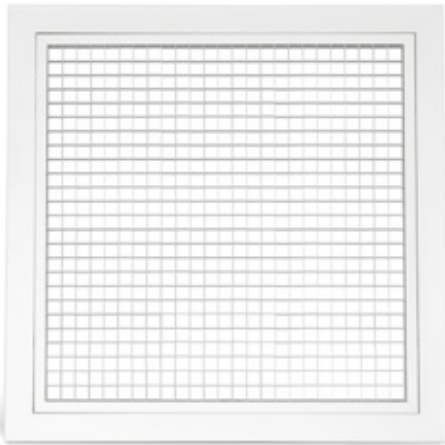
## 4.8 GRILLES

### EGGCRATE GRILLE (R5)

97

Quality System  
Quality  
Endorsed  
Company  
ISO 9001  
SAI GLOBAL

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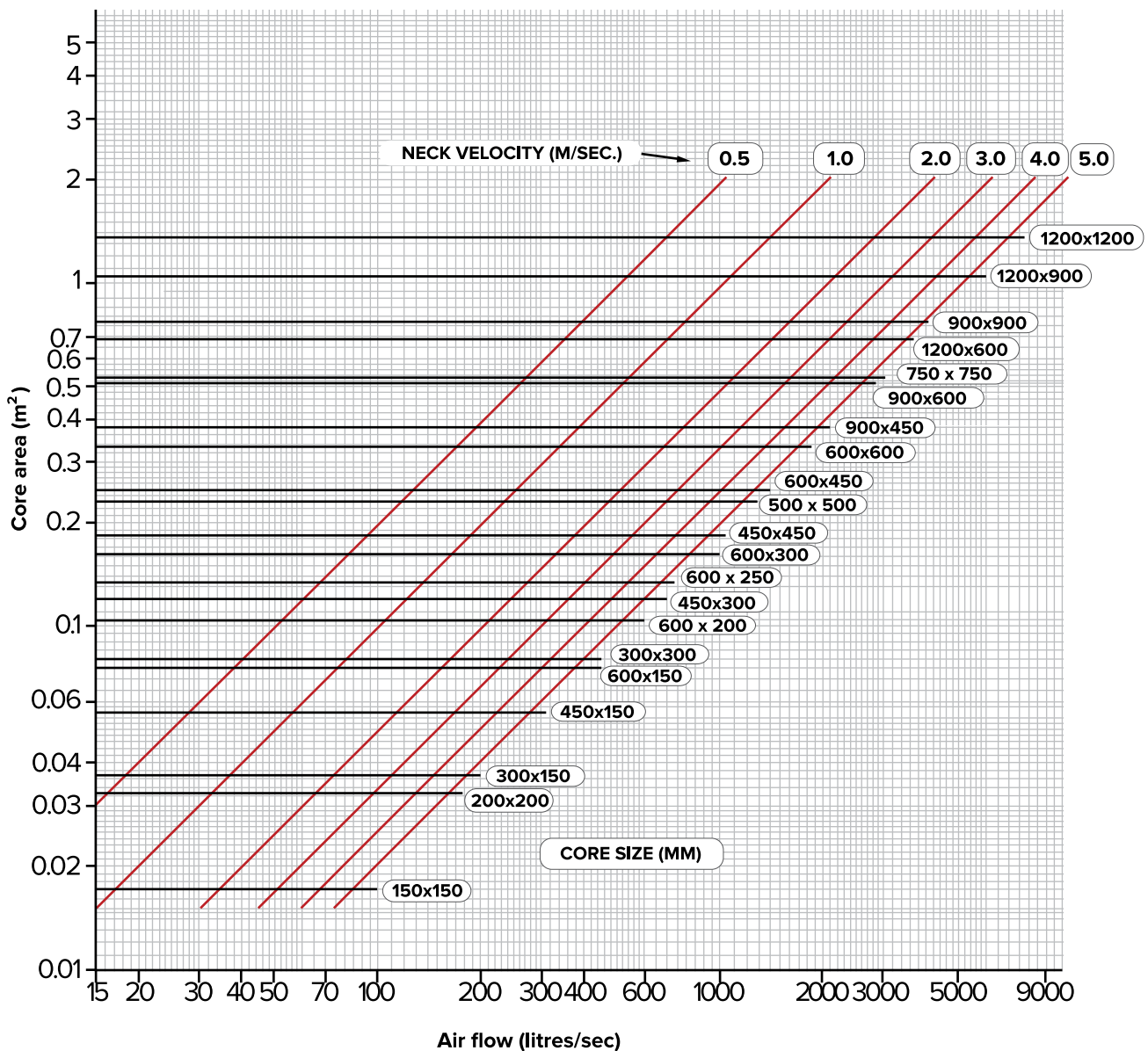


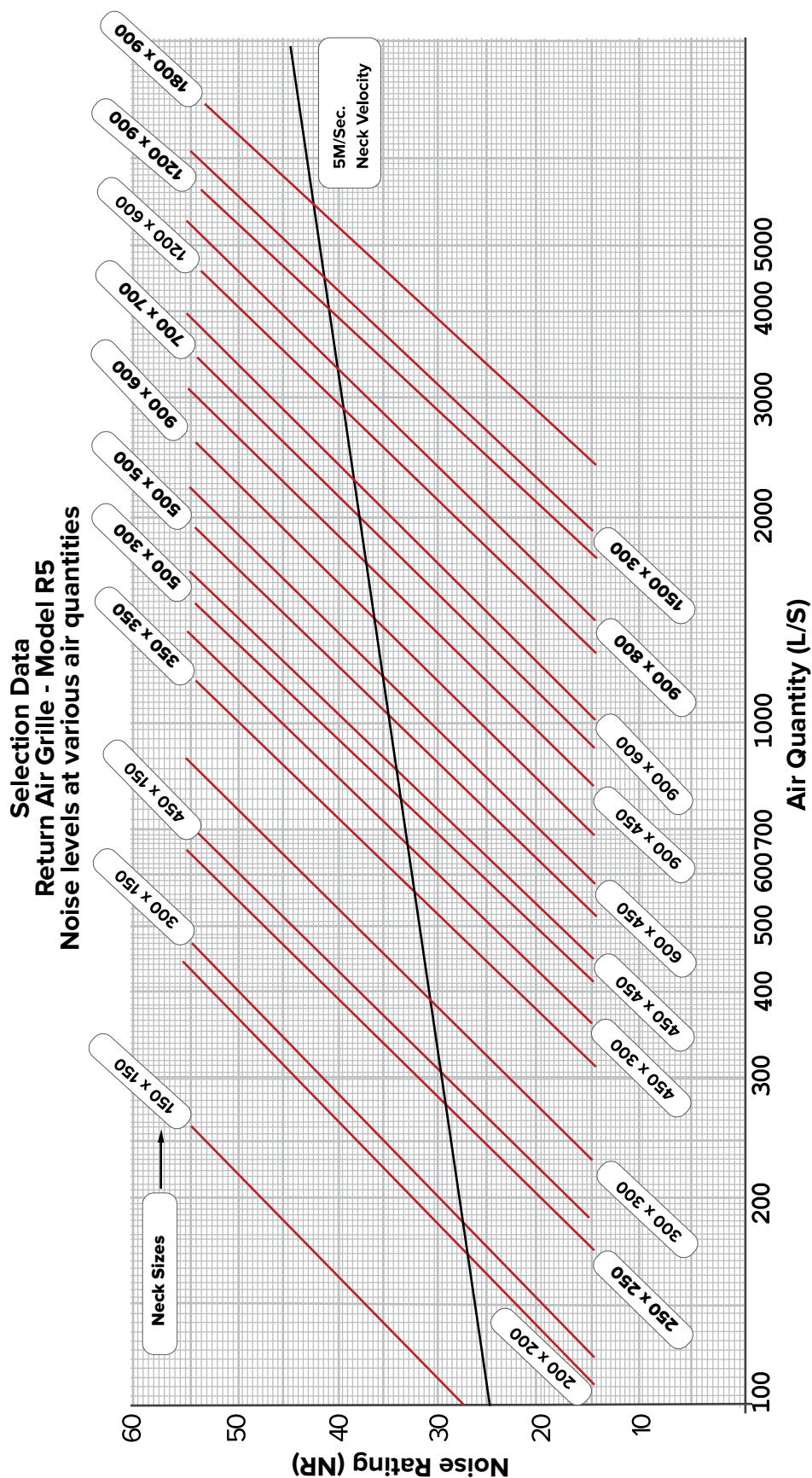
Removable core eggcrate grille



PROJECT: WARRINGAH MALL, NSW

Airflow vs core sizes for various neck velocities





## 4.8 GRILLES

### EGGCRATE GRILLE (R5)

99



Return Air Grille - Model R5  
Static Pressure at various air quantities and neck areas

Typical Sizes	300 x 300 600 x 150	450 x 300 900 x 150	600 x 300 900 x 200	750 x 300 600 x 375	900 x 300 600 x 450	1200 x 300 600 x 600	900 x 450 675 x 600	1200 x 450 900 x 600	900 x 900 1350 x 600	1000 x 1000 2000 x 500	1500 x 1000 1225 x 1225	2000 x 1000 1600 x 1250
Neck Area M <sup>2</sup> L/S	0.090	0.0135	0.180	0.225	0.270	0.360	0.405	0.540	0.810	1.000	1.500	2.000
50												
75	2											
100	3											
125	5											
150	7.5	2.5										
175	9	3										
200	11	4										
250	12.5	5	2.5									
300	20	7.5	2.5	2.5								
350	25	10	5	2.5	2.5							
400	42.5	12	7.5	5	2.5							
450	57.5	12.5	8.5	5	3	2.5	2.5					
500		15	10	6	5	3	2.5	2.5				
600		22.5	12.5	7	6	5	2.5	2.5				
700		27.5	15	7.5	7.5	6	5	2.5				
800		35	20	12.5	10	7.5	6	2.5	2.5			
900		42.5	25	17.5	12	10	7	5	2.5			
1000		55	32.5	22.5	12.5	10	7.5	6	2.5	2.5		
1500			40	25	15	12.5	10	7.5	5	2.5		
2000					42.5	25	20	15	10	7.5	5	5
2500						42.5	42.5	25	15	10	7.5	5
3000							40	27.5	17.5	15	7.5	5
4000									47.5	30	10	7.5
5000										40	12.5	10



### Return Air Grille - Model R5

Various neck velocities given air flow v neck areas

Neck velocity - metres/sec

Typical Sizes	300 x 300 600 x 150	450 x 300 900 x 150	600 x 300 900 x 200	750 x 300 600 x 375	900 x 300 600 x 450	1200 x 300 600 x 600	900 x 450 675 x 600	1200 x 450 900 x 600	900 x 900 1350 x 600	1000 x 1000 2000 x 500	1500 x 1000 1225 x 1225	2000 x 1000 1600 x 1250
Neck Area M <sup>2</sup> L/S	0.090	0.0135	0.180	0.225	0.270	0.360	0.405	0.540	0.810	1.000	1.500	2.000
50	0.5											
75	1.0	0.5										
100			0.5									
125		1.0		0.5								
150	2.0				0.5							
175			1.0			0.5						
200				1.0			0.5					
250	3.0	2.0			1.0			0.5				
300	4.0		2.0									
350	4.5	3.0				1.0			0.5			
400	5.0			2.0			1.0			0.5		
450		3.5			2.0			1.0				
500		4.0	3.0									
600		5.0	4.0	3.0							0.5	
700			4.5	3.5	3.0	2.0			1.0			
800			5.0	4.0	3.5	2.5	2.0					
900				4.5	4.0	3.0						
1000				5.0	4.5	3.5	3.0	2.0		1.0		0.5
1500					5.0	4.5	4.0	3.0	2.0	1.5	1.0	
2000						5.5	4.5	4.0	3.0	2.0	1.5	
2500							5.5	5.0	3.5	2.5		
3000									4.0	3.0	2.0	1.0
3500									5.0	3.5	3.0	
4000										4.0		2.0
5000										5.0	3.5	3.0

## 4.9 GRILLES

### SLIMLINE HALF CHEVRON GRILLE (3AR)

101

Quality System  
Quality  
Endorsed  
Company  
ISO 9001  
SAI GLOBAL

# AIRFOIL



GRILLES  
DUCT  
FITTINGS

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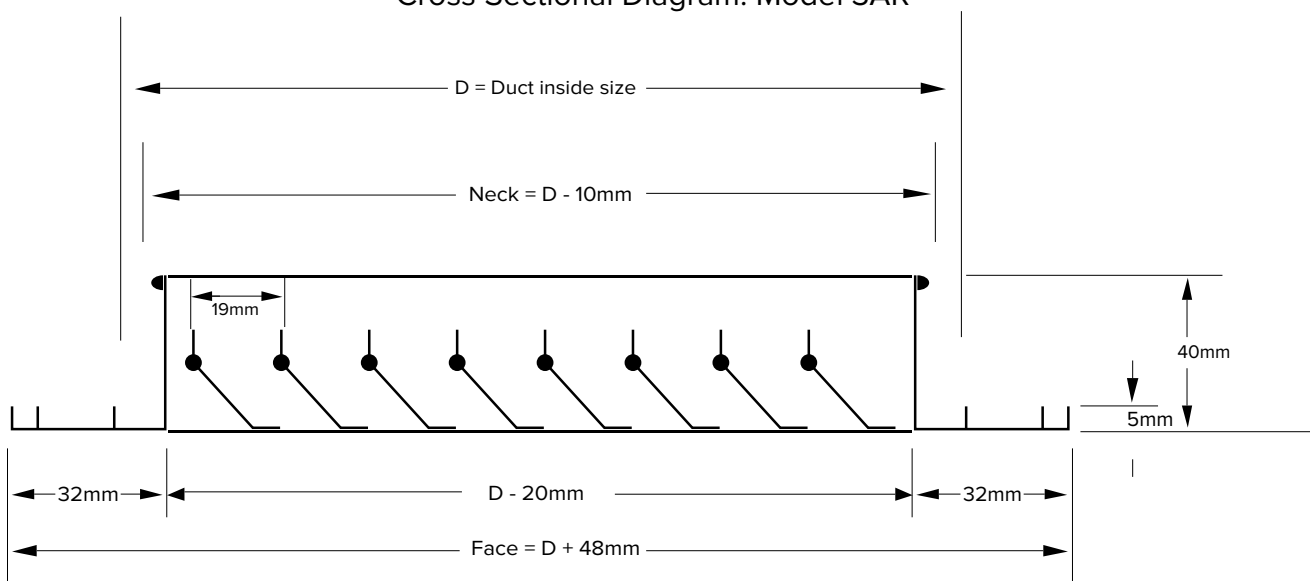
Airfoil's Slimline Half Chevron Return Air Grille is manufactured completely from lightweight, corrosion resistant aluminium. It features horizontal 45 degree fixed louvre blades spaced at 19mm centres.

The total free area is approximately 70%. Airfoil's Slimline Half Chevron Return Air Grille are ideal for wall return, or air transfer applications.



Fixed Core Half Chevron Grille

Cross Sectional Diagram: Model 3AR



#### Slimline Half Chevron Grille Options

- > Fixed core, removable core or hinged core with or without filter
- > Fixed core flange size: standard 25mm. Available in 32mm or 38mm
- > Standard natural anodised, or white powder finishes
- > Removable core flange size: standard, 25mm also available in 38mm
- > Hinged core with filter flange sizes: 25mm standard, 38mm
- > Non-standard colours or finishes available on request

#### Product specification codes:

<b>3AR</b>	Fixed core slimline half chevron grille.
<b>RC3AR</b>	Removable core slimline half chevron grille.
<b>H3AR</b>	Hinged core slimline half chevron grille.
<b>H3AR/F</b>	Hinged core slimline half chevron grille with filter.

Specification: Product code + size.

Example: **RC3AR 250x250**

Removable core slimline half chevron grille 250mm x 250mm



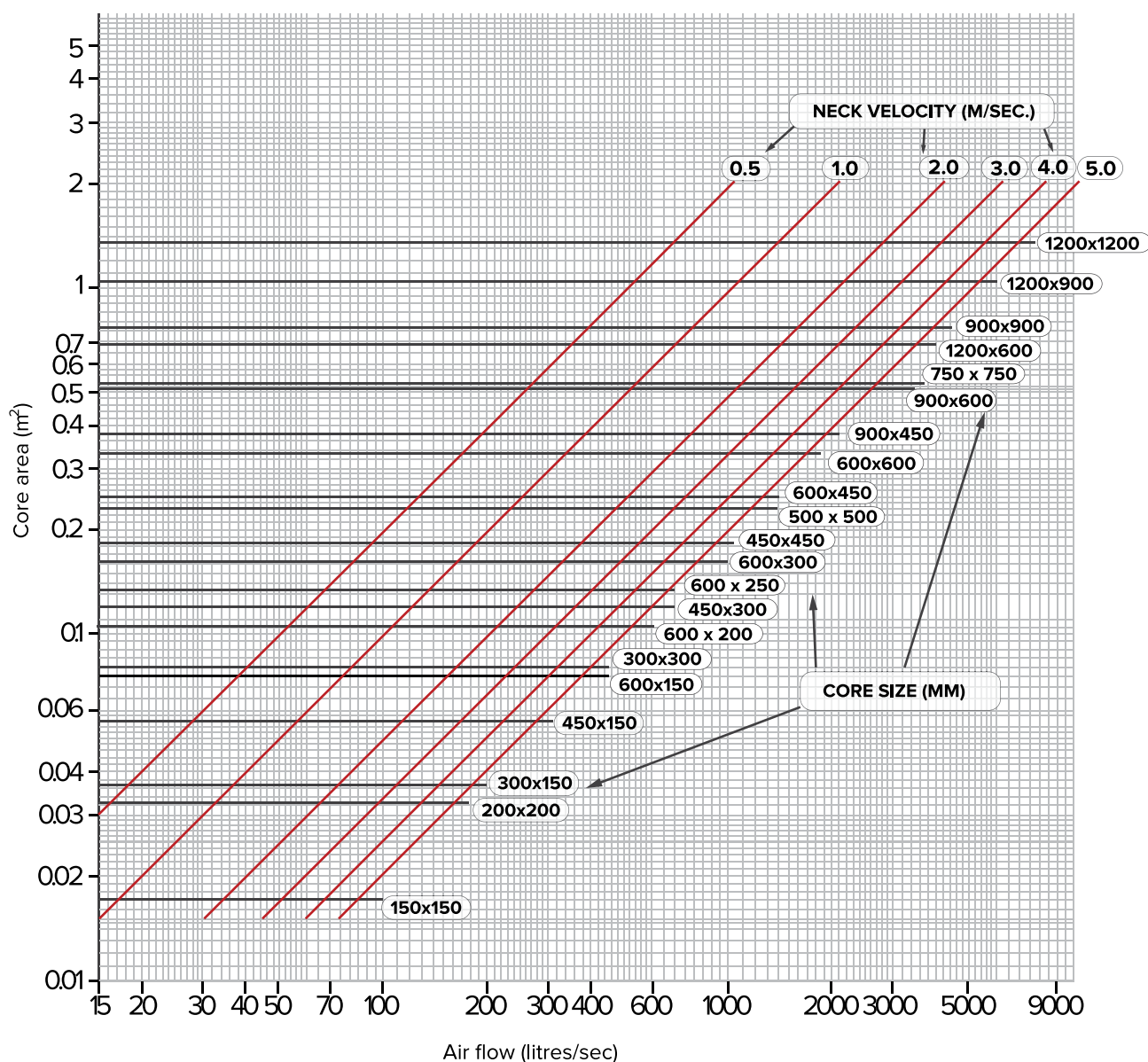
Removable Core Half Chevron Grille



**PROJECT: SYDNEY CRICKET GROUND**

### Performance Data

Airflow vs core area for various neck velocities



# 4.9 GRILLES

## SLIMLINE HALF CHEVRON GRILLE (3AR)

103

Quality System  
Quality  
Endorsed  
Company  
ISO 9001  
SAI QL 0048

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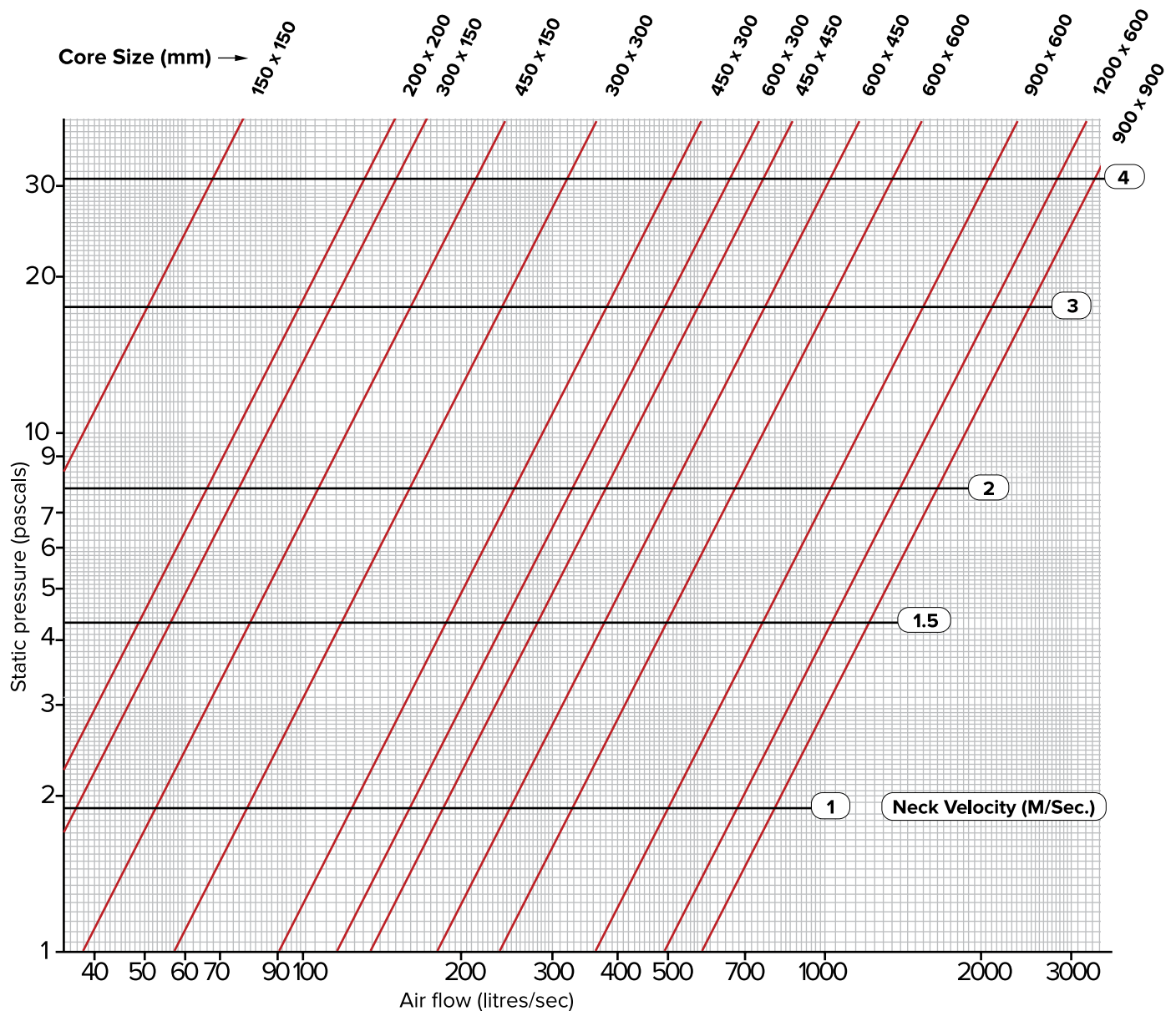
PROJECT: RMS PARRAMATTA, SYDNEY



Hinged Core Half Chevron Grille with filter

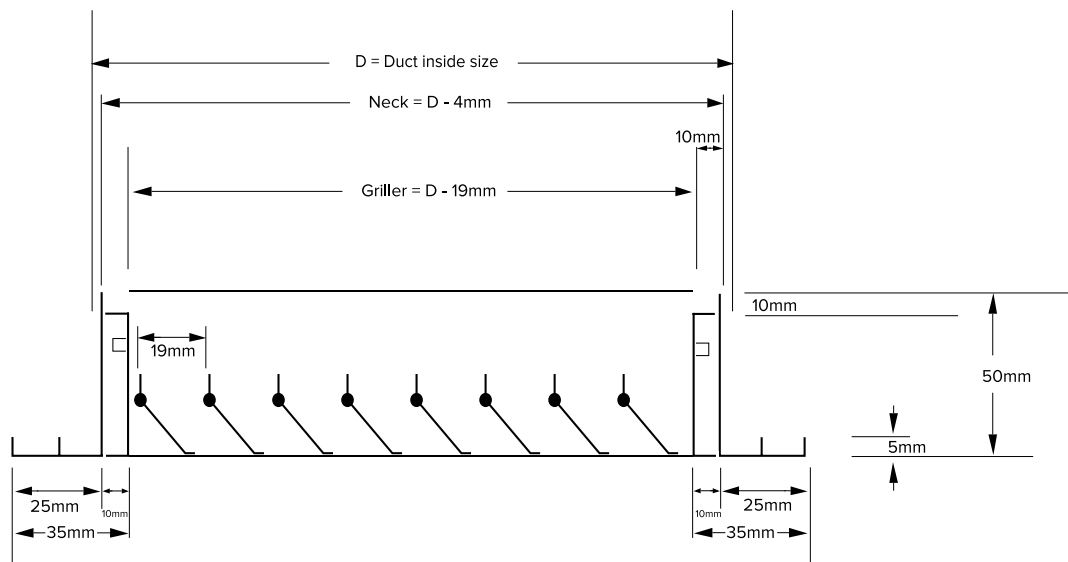
### Performance Data

Static pressure vs airflow for various core sizes



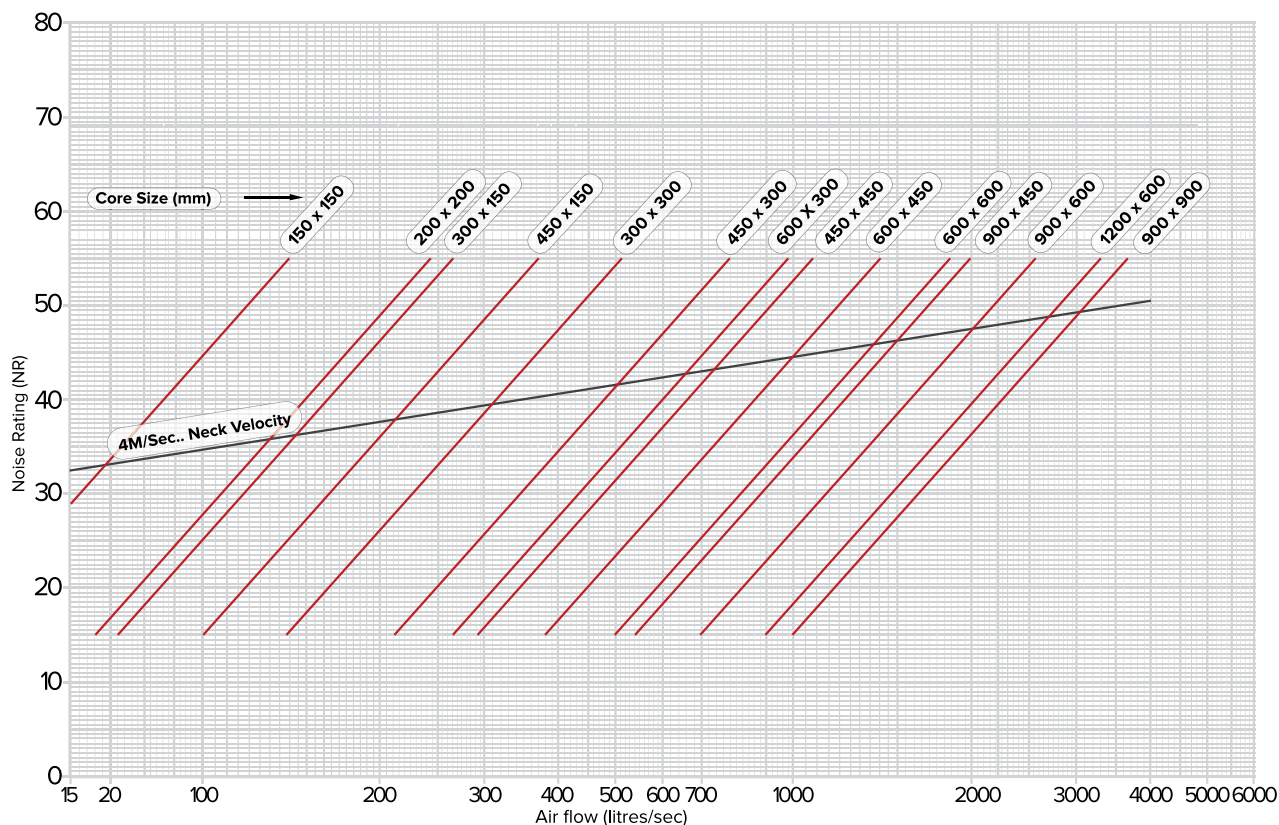


Cross Sectional Diagram: Model RC3AR



### Performance Data

Noise level vs airflow for various core sizes



Selection and performance data have been derived from testing in the laboratories of acoustic and vibration engineers Louis A. Challis & Associates Pty. Ltd., 246-248 Dowling, Street, Kings Cross, Sydney 2000.

## 4.10 GRILLES

### HALF CHEVRON GRILLE (3AR45)

105



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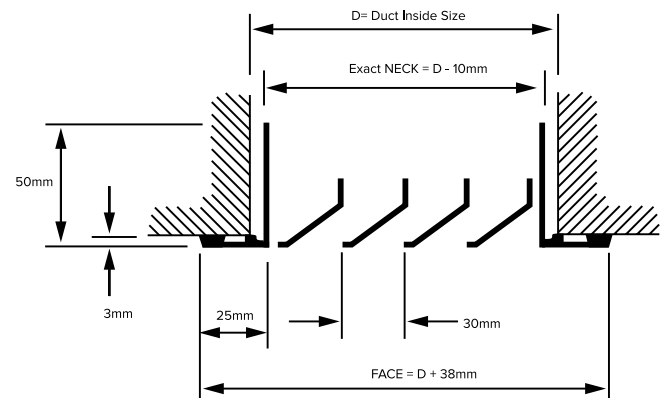
The Airfoil Half Chevron is manufactured from high quality extruded aluminium. It is suitable for use as either a sidewall or ceiling mount return air grille. The half chevron features horizontal fixed louvre blades spaced at 30mm centres. The total free area is approximately 70% and are ideal for wall or ceiling return as well as air transfer applications.



**AIRFOIL FACTORY, SYDNEY**



Cross sectional diagram



#### Half Chevron Grille Options

- > Fixed core, removable core or hinged core with filter
- > Fixed core flange size: 12mm, 25mm standard, 38mm
- > Standard natural anodised, or white powder finishes
- > Removable core flange size: 25mm standard, optional 12mm and 25mm
- > Hinged core with filter flange sizes: 25mm standard, optional 12mm or 38mm
- > Non-standard colours or finishes available on request

#### Product specification codes:

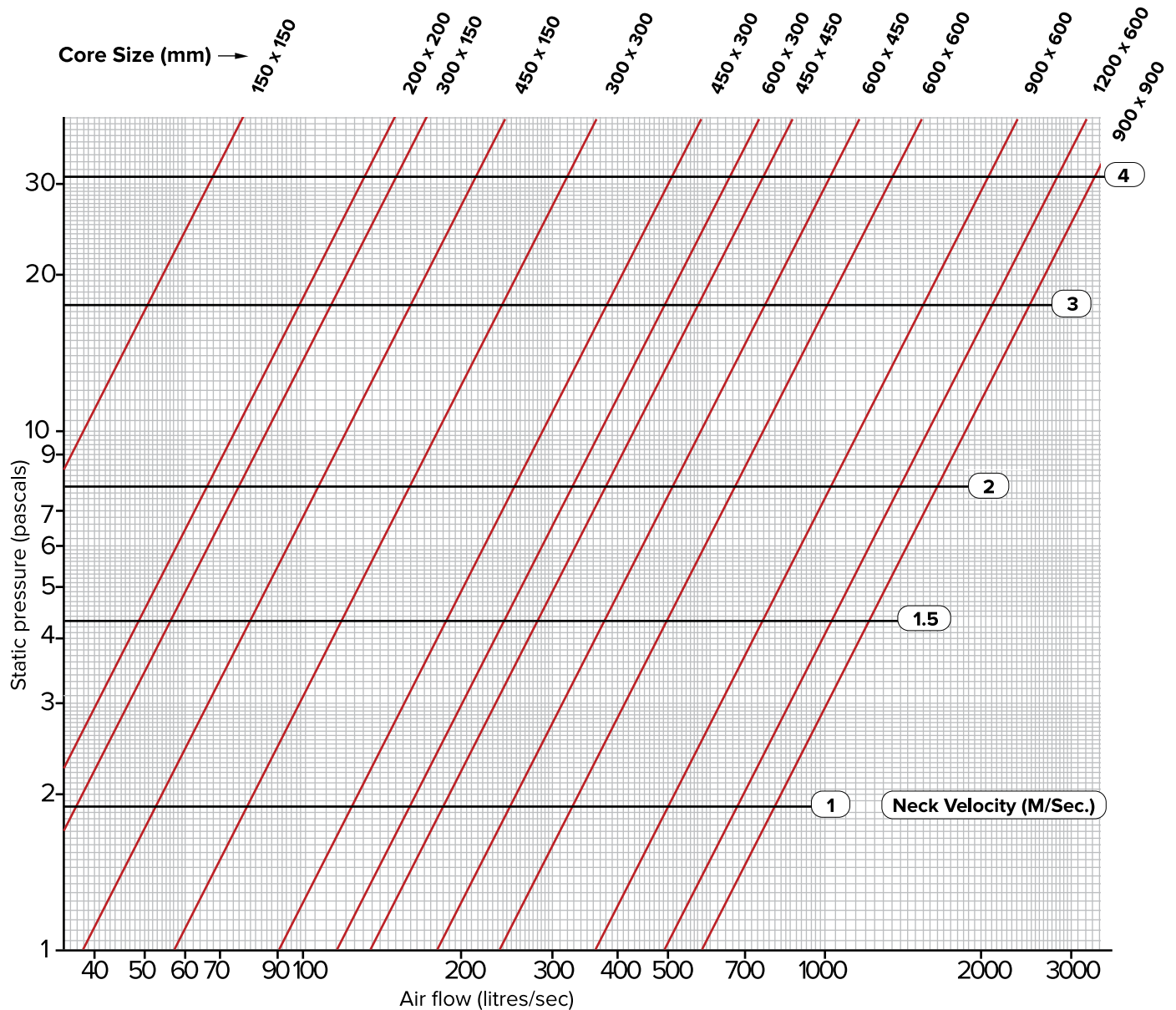
<b>3AR45</b>	Fixed core half chevron grille.
<b>H3AR45</b>	Hinged core half chevron grille.
<b>H3AR45/F</b>	Hinged core half chevron grille with filter.
<b>RC3AR45</b>	Removable core half chevron grille.

Specification: Product code + size.

Example: **RC3AR45 300x150**

Removable core half chevron grille  
300mm x 150mm.

Performance Data  
Static pressure vs airflow for various core sizes





# 4.10 GRILLES

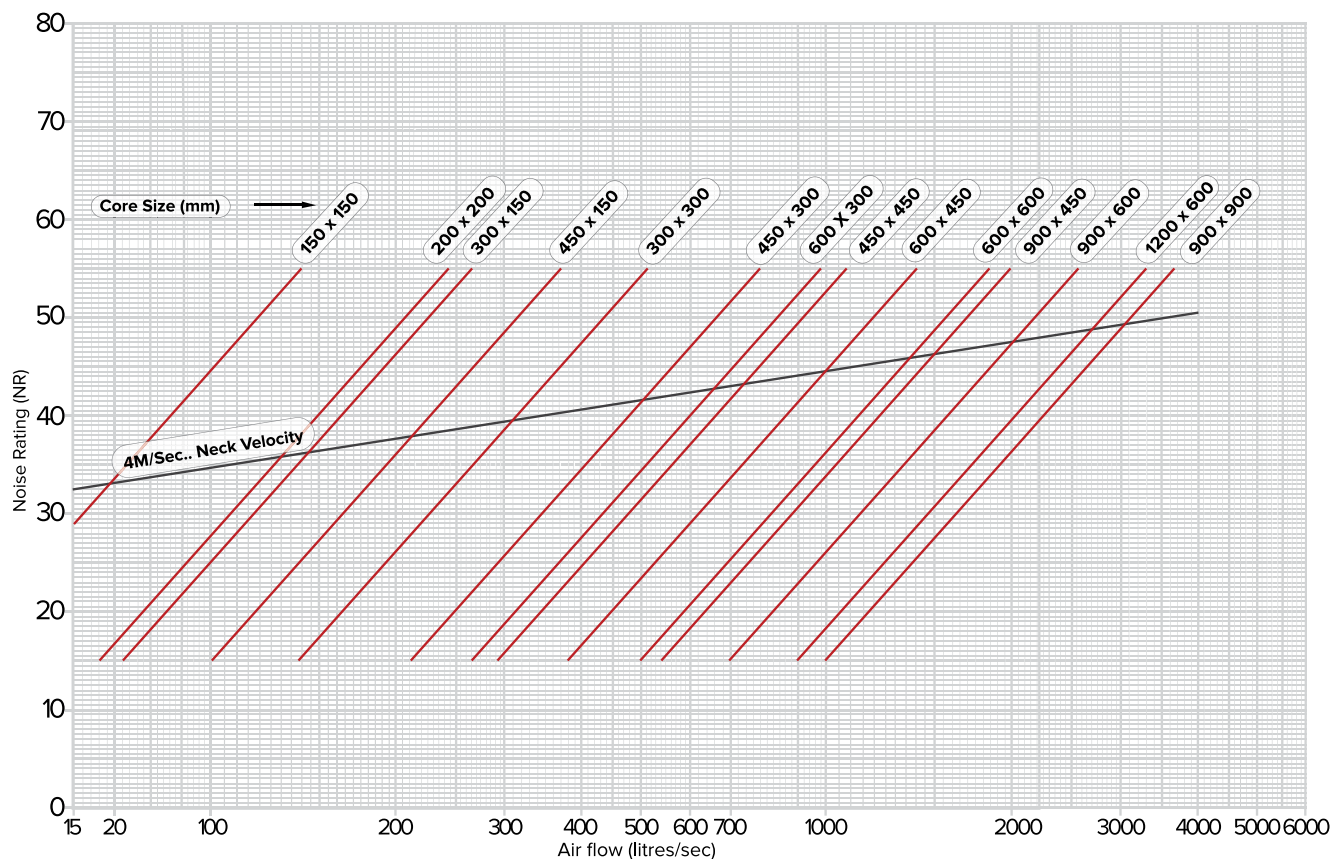
## HALF CHEVRON GRILLE (3AR45)

107

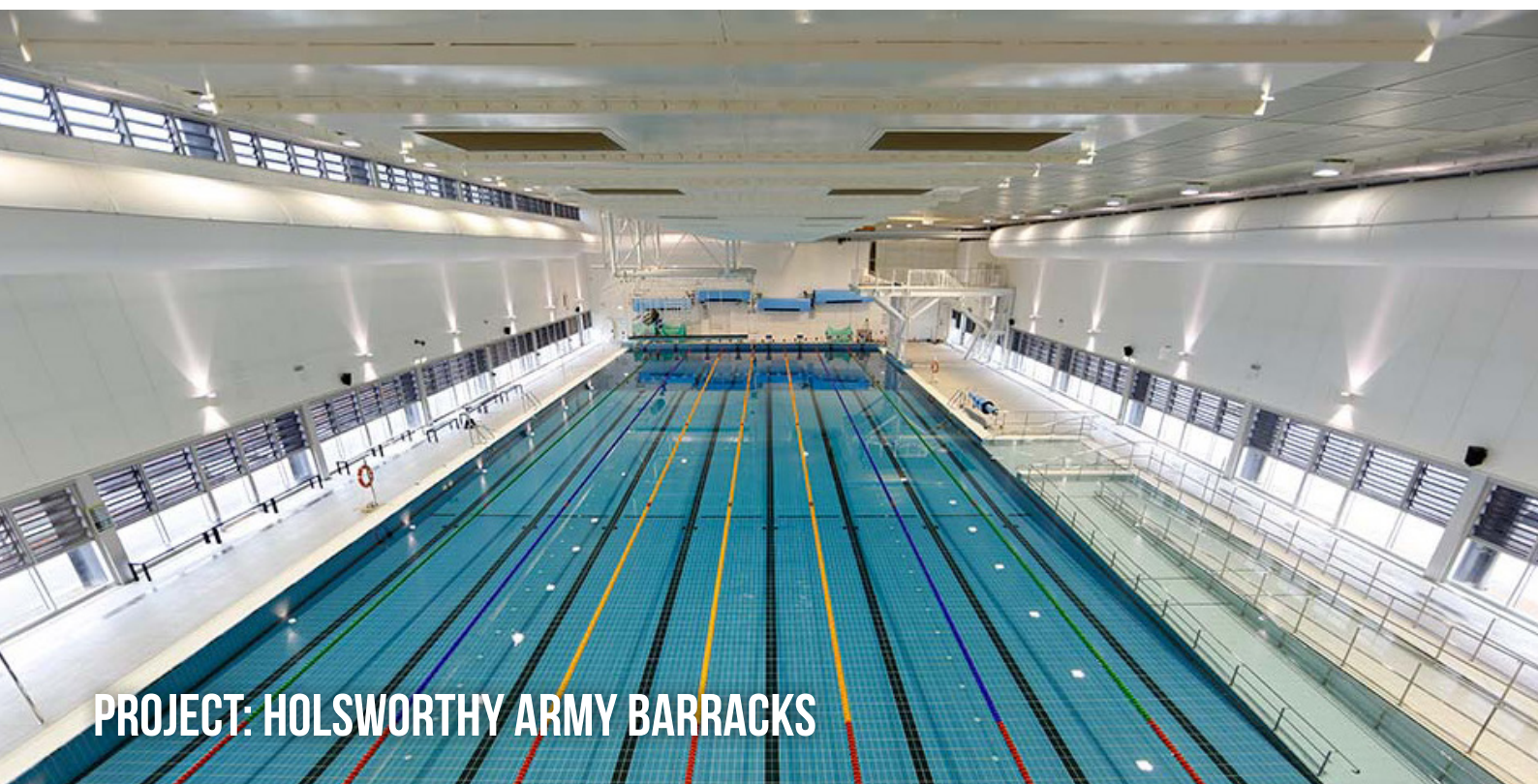
Quality System  
Quality  
Endorsed  
Company  
ISO 9001  
SAI GLOBAL

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GRILLES  
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Performance Data  
Noise level vs airflow for various core sizes



Selection and performance data have been derived from testing in the laboratories of acoustic and vibration engineers Louis A. Challis & Associates Pty. Ltd. , 246-248 Dowling, Street, Kings Cross, Sydney 2000.



**PROJECT: HOLSWORTHY ARMY BARRACKS**

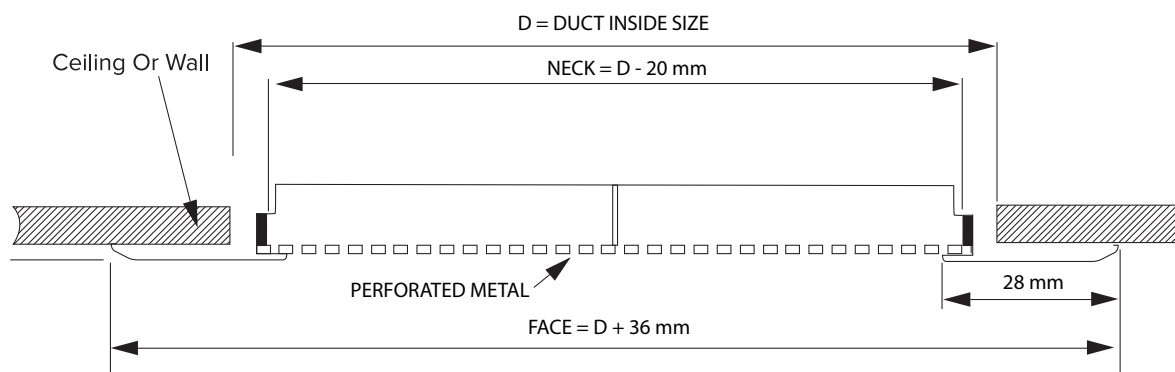




Airfoil's Perforated Return Air Grille combines a lightweight core of perforated aluminium plate. This grille has a free area of approximately 50% which makes it extremely effective in supply and return air functions.

Airfoil's Perforated Face Tamperproof Grille is manufactured to the highest standard providing utmost security. The outer frame is folded from 0.75mm zinc anneal for maximum strength and rigidity. The centre core is removable for ease of installation and is held in place by tamperproof security screws.

Cross Sectional Diagram Model PFG



### Perforated Face Grille Options

- > Surround frame 19mm or 30mm wide as required
- > Standard finish is white powder coat or natural anodised. Special colour powdercoat finishes are available on request
- > Tamperproof standard mesh thickness is 0.5, thicker mesh up to 2mm is available

### Product specification codes:

- RAPFG** Return air perforated fixed core grille
- SAPFG41** Supply air perforated fixed grille with 4 way blow pattern
- PFTG** Perforated air removable core tamper-proof with security screws

Specification: Product code + size.  
Example: **RAPFG 300x300**  
Return air perforated fixed core grille  
300mm x 300mm

**Important Note:** Dimensions will be assumed nominal neck size unless otherwise specified.

# 4.11 GRILLES

## PERFORATED FACE GRILLE (PFG)

109

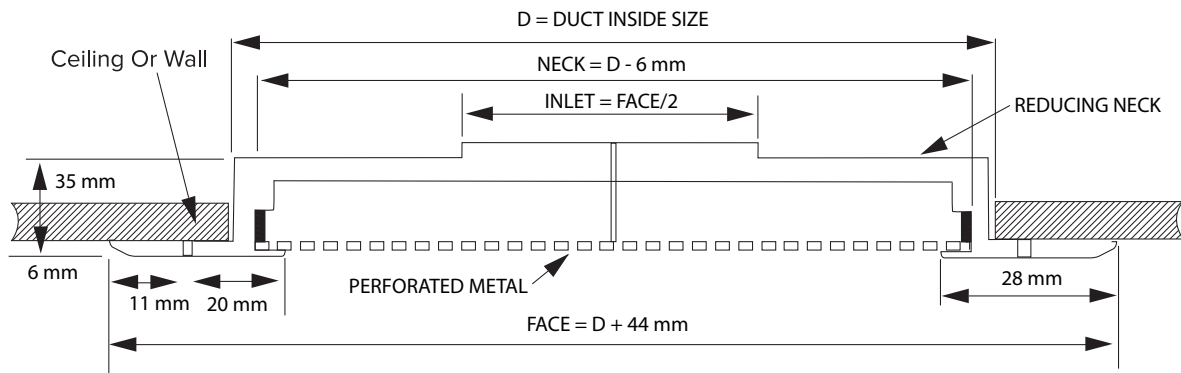


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GRILLES  
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Performance Data Model RAPFG Return Diffuser

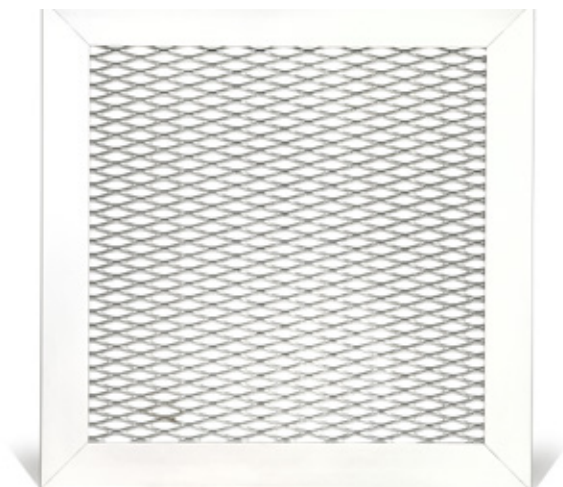
	Neck Velocity m/s	1.5	2.0	2.5	3.0	3.5	4.0	4.5
Nom Face	Neg. Stat Press. Pa	7.5	12.5	19.0	27.5	41.0	50.0	64.0
Neck/Face	Vel. Press Pa.	1.5	2.5	3.8	5.5	7.8	10	12.8
244 x 244 300 x 300	Volume L/S NR	89 -	119 <22	149 25	179 31	208 36	238 40	268 43
344 x 344 400 x 400	Volume L/S NR	178 -	237 <22	296 26	355 32	414 37	473 41	533 45
444 x 444 500 x 500	Volume L/S NR	295 -	394 <22	493 27	595 33	690 38	789 42	887 46
544 x 544 600 x 600	Volume L/S NR	444 -	592 <22	740 28	888 34	1036 39	1184 43	1332 47
544 x 244 600 x 300	Volume L/S NR	199 -	266 <22	332 26	398 32	465 37	531 42	597 45
1144 x 244 1200 x 300	Volume L/S NR	419 -	558 <22	698 28	837 34	977 39	1117 43	1256 47
1144 x 544 1200 x 600	Volume L/S NR	933 <22	1245 23	1556 31	1867 37	2178 41	2489 46	2800 49

Cross Sectional Diagram Model SAPFG Supply Diffuser



Performance Data Model RCPFG Return Diffuser

Nom Face		Neck Velocity m/s		1.5	2.0	2.5	3.0	3.5	4.0	5.0
Inlet/Face	Air Pattern	Vel. Press Pa	1.5	2.5	4.0	5.8	7.8	10.0	15.8	
150 x 150 300 x 300		Total Press Pa	308	0.3	9.8	14.0	10.0	24.5	38.8	
		Volume L/S	35	47	59	70	82	94	118	
		NR	-	-	<22	25	29	33	39	
	1	Throw Metres	1.9 - 1.8	0.9 - 2.4	1.2 - 3.0	1.5 - 3.9	1.8 - 4.2	2.1 - 4.8	2.4 - 6.0	
	2	Throw Metres	1.6 - 1.5	0.9 - 2.1	0.9 - 2.4	1.2 - 3.0	1.5 - 3.9	1.5 - 4.0	2.1 - 4.8	
	3	Throw Metres	0.6 - 1.2	0.6 - 1.9	0.9 - 2.1	1.2 - 2.4	1.2 - 3.0	1.5 - 3.9	1.8 - 4.2	
	4	Throw Metres	0.6 - 1.2	0.6 - 1.5	0.9 - 2.1	0.9 - 2.4	1.2 - 3.0	1.2 - 3.2	1.5 - 4.0	
200 x 200 400 x 400		Total Press Pa	4.3	7.0	11.0	415.8	21.3	28	44	
		Volume L/S	63	84	103	125	146	167	209	
		NR	-	<22	24	30	34	37	43	
	1	Throw Metres	0.9 - 2.4	1.2 - 3.3	1.8 - 4.2	2.1 - 4.8	2.4 - 5.7	2.7 - 6.4	3.3 - 8.2	
	2	Throw Metres	0.9 - 1.8	1.2 - 2.7	1.2 - 3.3	1.5 - 4.0	1.8 - 4.5	2.1 - 5.1	2.7 - 6.4	
	3	Throw Metres	1.6 - 1.8	0.9 - 2.1	1.2 - 3.0	1.5 - 3.9	1.8 - 4.2	1.8 - 4.5	2.4 - 5.7	
	4	Throw Metres	0.6 - 1.5	0.9 - 2.1	1.2 - 2.7	1.2 - 3.3	1.5 - 4.0	1.8 - 4.2	2.1 - 5.4	
250 x 250 500 x 500		Total Press Pa	4.5	7.5	12	17.3	23.3	300	48	
		Volume L/S	99	132	162	195	228	261	327	
		NR	<22	22	28	33	37	41	46	
	1	Throw Metres	1.2 - 3.0	1.8 - 4.2	2.1 - 5.1	2.4 - 6.0	3.0 - 7.3	3.3 - 8.2	4.2 - 10.3	
	2	Throw Metres	0.9 - 2.4	1.2 - 3.3	1.5 - 4.0	2.1 - 4.8	2.4 - 5.7	2.7 - 6.4	3.3 - 8.2	
	3	Throw Metres	0.9 - 2.1	1.2 - 3.0	1.5 - 3.9	1.8 - 4.2	2.1 - 5.1	2.4 - 5.7	3.0 - 7.3	
	4	Throw Metres	0.9 - 2.1	1.2 - 2.7	1.5 - 3.3	1.8 - 4.0	1.8 - 4.5	2.1 - 5.4	2.7 - 6.7	
300 x 300 600 x 600		Total Press Pa	4.8	8	13	19	25	32	50	
		Volume L/S	141	188	235	283	330	377	471	
		NR	<22	25	31	36	40	44	50	
	1	Throw Metres	1.5 - 3.9	2.1 - 4.8	2.4 - 6.0	3.0 - 7.6	3.9 - 8.8	4.0 - 9.7	5.1 - 12.0	
	2	Throw Metres	1.2 - 3.0	1.5 - 4.0	2.1 - 4.8	2.4 - 5.7	2.7 - 7.0	3.0 - 7.9	4.0 - 9.7	
	3	Throw Metres	1.2 - 2.4	1.5 - 3.9	1.8 - 4.5	2.1 - 5.1	2.4 - 6.0	2.7 - 7.0	3.9 - 8.5	
	4	Throw Metres	0.9 - 2.4	1.2 - 3.3	1.8 - 4.2	2.1 - 4.8	2.4 - 5.7	2.7 - 6.7	3.3 - 8.2	
450 x 150 600 x 300		Total Press Pa	9	15	24	34	47	60	93	
		Volume L/S	106	141	176	212	247	283	353	
		NR	<22	26	32	37	41	45	51	
	1	Throw Metres	2.4 - 5.7	3.3 - 7.9	4.0 - 10.0	4.8 - 11.8	5.7 - 14.0	6.4 - 15.5	7.9 - 18.9	
	2	Throw Metres	1.5 - 4.0	2.1 - 5.4	2.7 - 6.7	3.3 - 8.2	4.0 - 9.7	4.5 - 10.6	5.7 - 13.4	
	3	Throw Metres	1.5 - 3.9	2.1 - 4.8	2.4 - 6.0	3.0 - 7.3	3.9 - 8.5	4.0 - 9.7	5.1 - 12.5	
	4	Throw Metres	1.2 - 2.7	1.8 - 4.8	2.4 - 6.0	3.0 - 7.3	3.9 - 8.5	4.0 - 9.7	4.8 - 11.8	



Airfoil's Expanded Mesh Grille is generally mounted in a wall or ceiling in security areas such as car parks for return air and exhaust functions. The grille is manufactured with 1mm thick mild steel in a 19mmx7mm diamond mesh pattern and fitted to the high-grade aluminium extrusion face. Airfoil's Expanded Mesh Grill offers a free area between 60-73% which ensures maximum air flows at minimum sound levels.

The Expanded Mesh Grille has the option of fitting Airfoil's OBD (Opposed Blade Damper) for an air balancing function. It comes in natural anodised or can be finished in any Dulux powdercoat colour.

### Expanded Mesh Grille Options

- > Available in any size
- > Available in powder coated Dulux colours on request
- > Optional OBD to balance air flow

### Product specification codes:

**EMG** Expanded Mesh Grille  
Specification: Product code + size.  
Example: **EMG 450x450** Expanded Mesh Grille 450mm x 450mm



**PROJECT: EAST VILLAGE, SYDNEY**



## 4.13 GRILLES

### WEATHERPROOF LOUVRE (YLBS)

111



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Airfoil's Weatherproof Louvre is manufactured entirely from sturdy aluminium extrusion. The grilles are specifically designed to minimise the ingress of rainwater under normal climatic conditions. Bird mesh back plate is standard.



**AIRFOIL FACTORY, SYDNEY**

#### Weatherproof Louvre Options

- > Custom sizes and shapes to meet specific requirements
- > Standard natural anodised, or white powdercoat
- > Non-standard colours or finishes available on request
- > 2 blade profiles WL and YL
- > YLBS flange sizes: 38mm standard. Optional 50mm.
- > Optional flyscreen or bushfire mesh

#### Product specification codes:

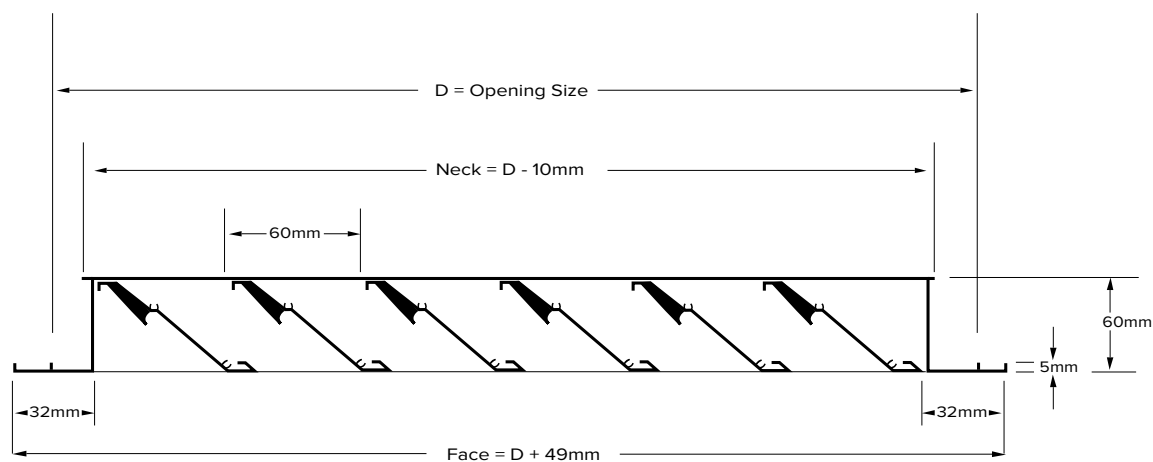
**YLBS** Double trap blade weatherproof louvre with bird mesh. Specification: Product code + size.  
Example: **YLBS 150x150**  
Double trap blade weatherproof louvre with bird mesh 150mm x 150mm



**PROJECT: TAMWORTH HOSPITAL, NSW**

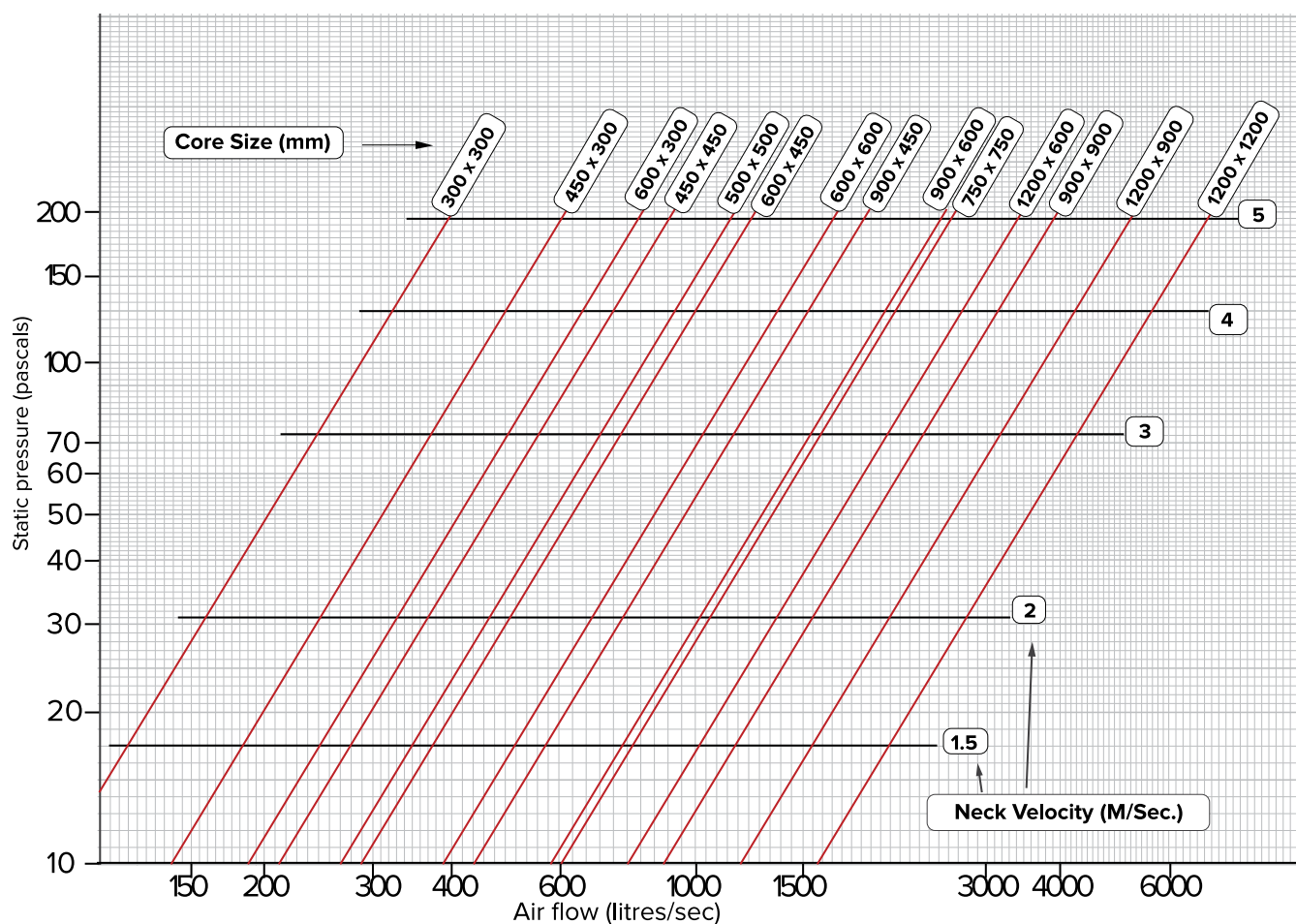


Cross sectional diagram



Performance Data

Static pressure vs airflow for various core sizes



## 4.14 GRILLES

### WEATHERPROOF LOUVRE (WLBS)

113



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Airfoil's Weatherproof Louvre is manufactured entirely from sturdy aluminium extrusion. The grilles are specifically designed to minimise the ingress of rainwater under normal climatic conditions. Bird mesh back plate is standard.



#### Weatherproof Louvre Options

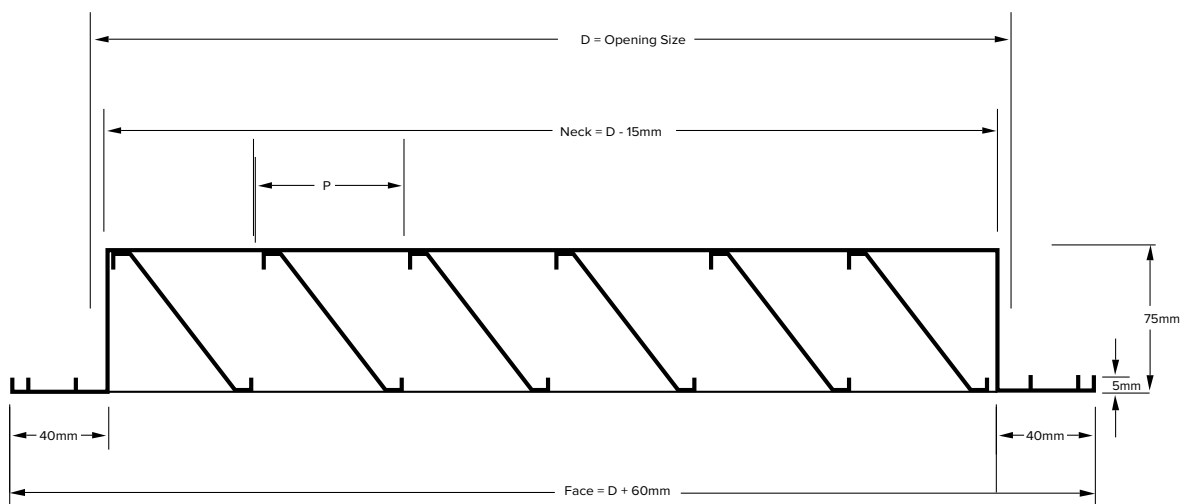
- > Custom sizes and shapes to meet specific requirements
- > Standard natural anodised, or white powdercoat
- > Non-standard colours or finishes available on request
- > 2 blade profiles WL and YL
- > WLBS flange sizes: 38mm standard. Optional 50mm.
- > Optional flyscreen or bushfire mesh

#### Product specification codes:

**WLBS** Weatherproof louvre with bird mesh. Specification: Product code + size.  
Example: **WLBS 150x150**  
Weatherproof louvre with bird mesh 150mm x 150mm

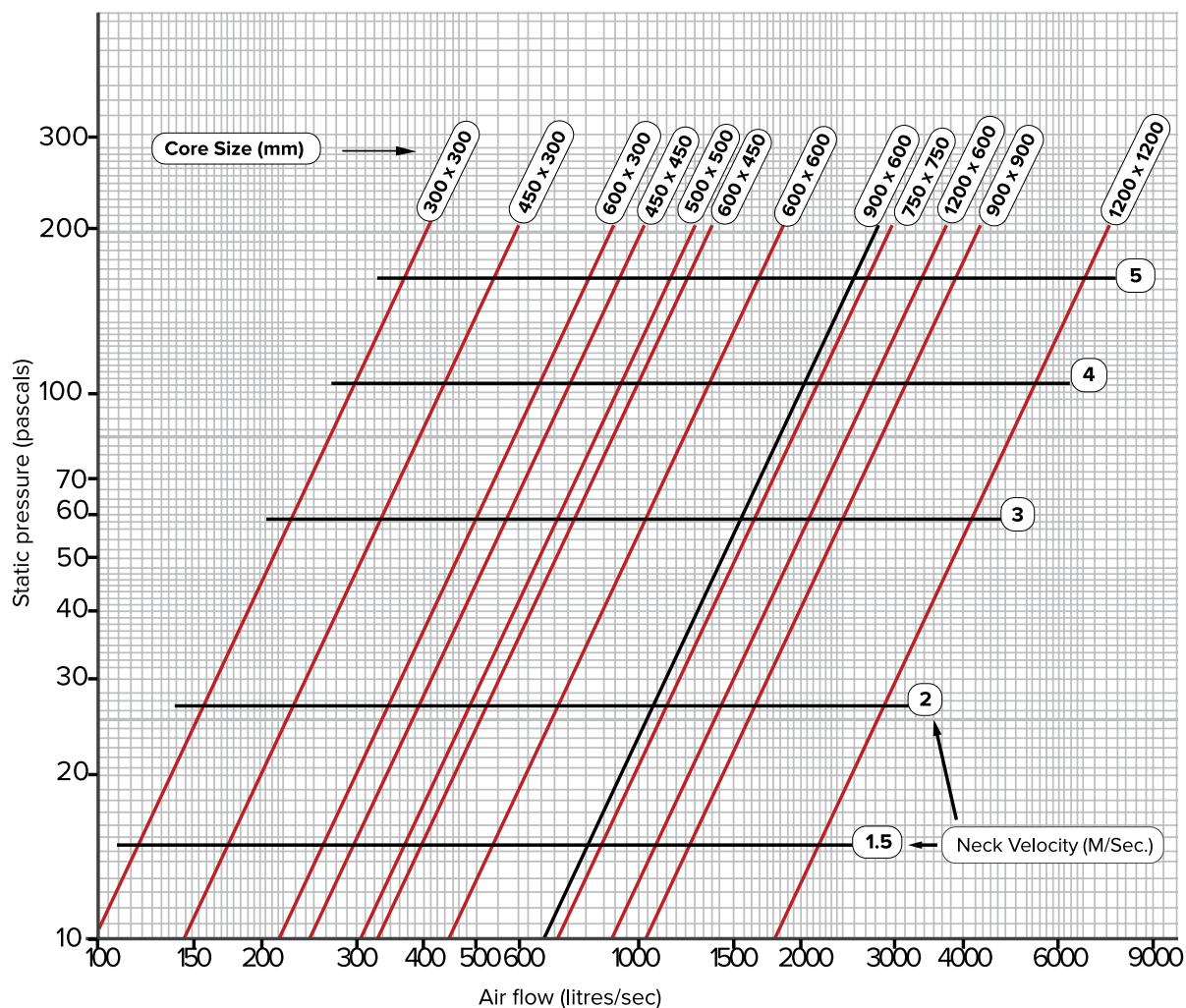
**AIRFOIL FACTORY, SYDNEY**

Cross sectional diagram



Performance Data

Static pressure vs airflow for various core sizes



## 4.15 GRILLES

### ROUND WEATHERPROOF LOUVRE (RWLBS)

115



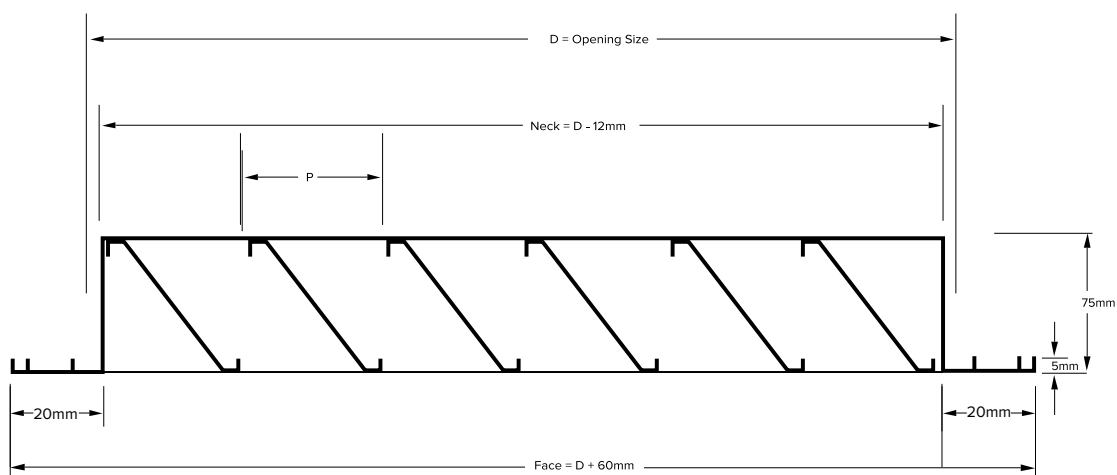
**AIRFOIL**  
GRILLES  
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Airfoil's Round Weatherproof Louvre is manufactured entirely from sturdy aluminium extrusion. The grilles are specifically designed to minimise the ingress of rainwater under normal climatic conditions. Bird mesh back plate is standard.



Cross sectional diagram: RWLBS



#### Weatherproof Louvre Options

- > Custom sizes and shapes to meet specific requirements
- > Standard natural anodised, or white powdercoat
- > Non-standard colours or finishes available on request
- > Optional flyscreen or bushfire mesh
- > 2 blade profiles WL and YL
- > WLBS flange sizes: 38mm standard. Optional 50mm.
- > YLBS flange sizes: 32mm standard. 38mm standard. Optional 50mm.

#### Product specification codes:

<b>RWLBS</b>	Weatherproof louvre with bird mesh.	Specification: Product code + diameter size.
<b>RYLBS</b>	Storm trap weatherproof louvre with bird mesh.	Example: <b>RWLBS 200</b> Weatherproof louvre with bird mesh 200mm in diameter

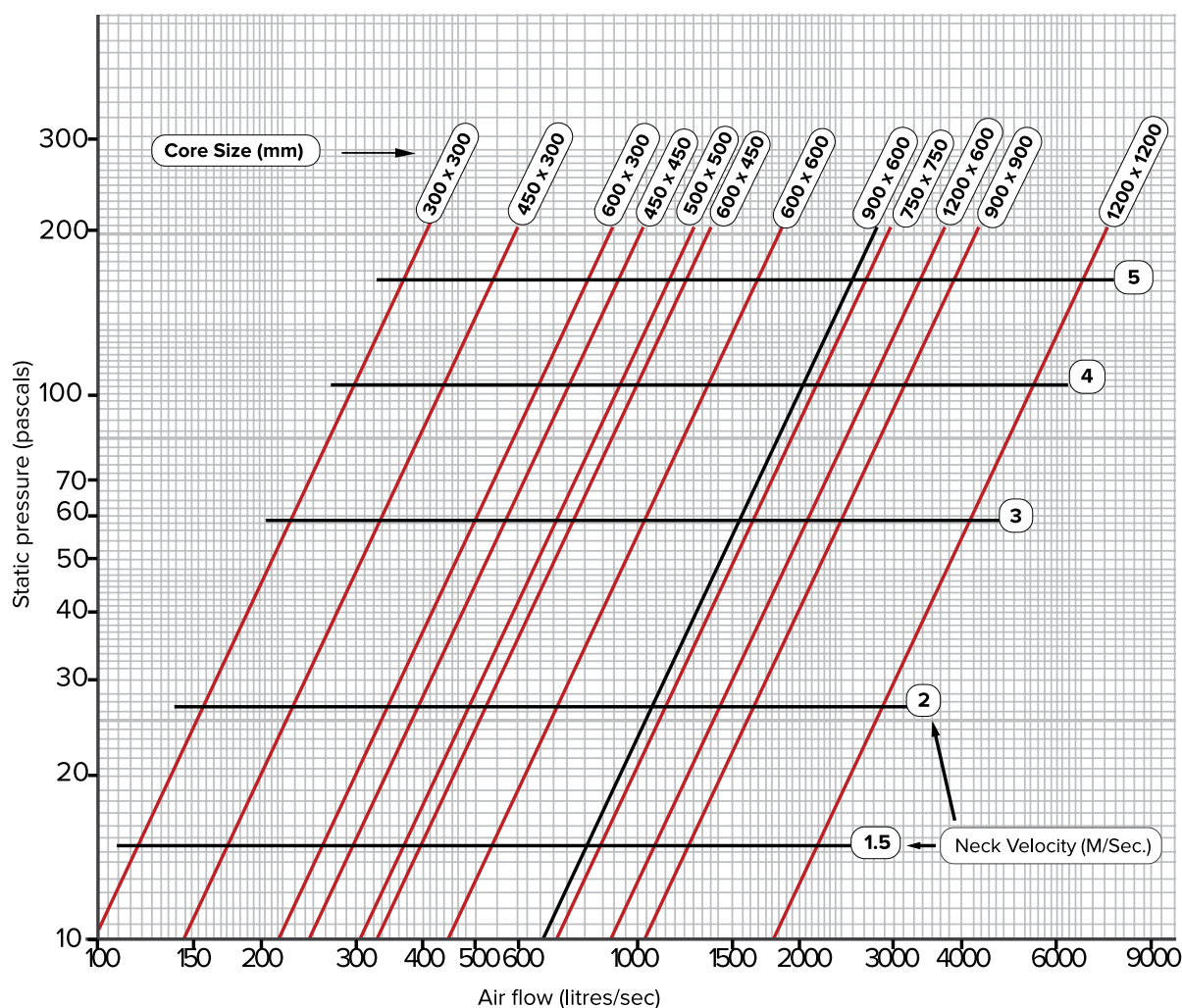


### Performance Data: RWPL

Product Code	Nom Face (mm)	Free Area m <sup>2</sup>	Face Velocity (m/s) Pressure Drop (Pa)	1.00 2	1.50 4	2.00 8	2.50 12	3.00 18	3.50 24	4.0 32	4.5 40
RWLBS 150	150	0.007	Flow Rate (l/s) NC Level	7 <15	10 <15	14 <15	17 31	21 36	24 40	28 43	31
RWLBS 200	200	0.013	Flow Rate (l/s) NC Level	113 <15	20 <15	27 16	33 17	40 19	47 23	53 27	60 31
RWLBS 250	250	0.022	Flow Rate (l/s) NC Level	22 <15	33 <15	44 16	55 17	67 20	78 23	89 28	100 31
RWLBS 300	300	0.034	Flow Rate (l/s) NC Level	34 <15	51 <15	67 28	84 34	101 39	118 43	135 47	152
RWLBS 350	350	0.049	Flow Rate (l/s) NC Level	49 <15	74 <15	98 17	123 19	147 22	172 25	196 29	221 32
RWLBS 400	400	0.67	Flow Rate (l/s) NC Level	67 <15	100 <15	134 17	167 21	201 24	234 27	268 31	301 35

### Performance Data: RWLBS

Static pressure vs airflow for various core sizes



# 4.15 GRILLES

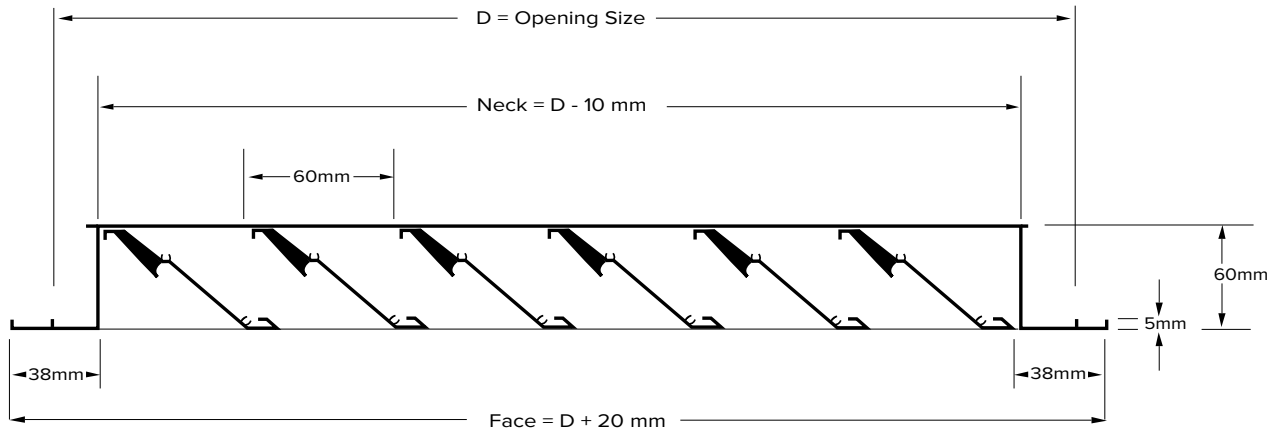
## ROUND WEATHERPROOF LOUVRE (RWLBS)

117

Quality System  
Quality  
Endorsed  
Company  
ISO 9001  
SAI GLOBAL

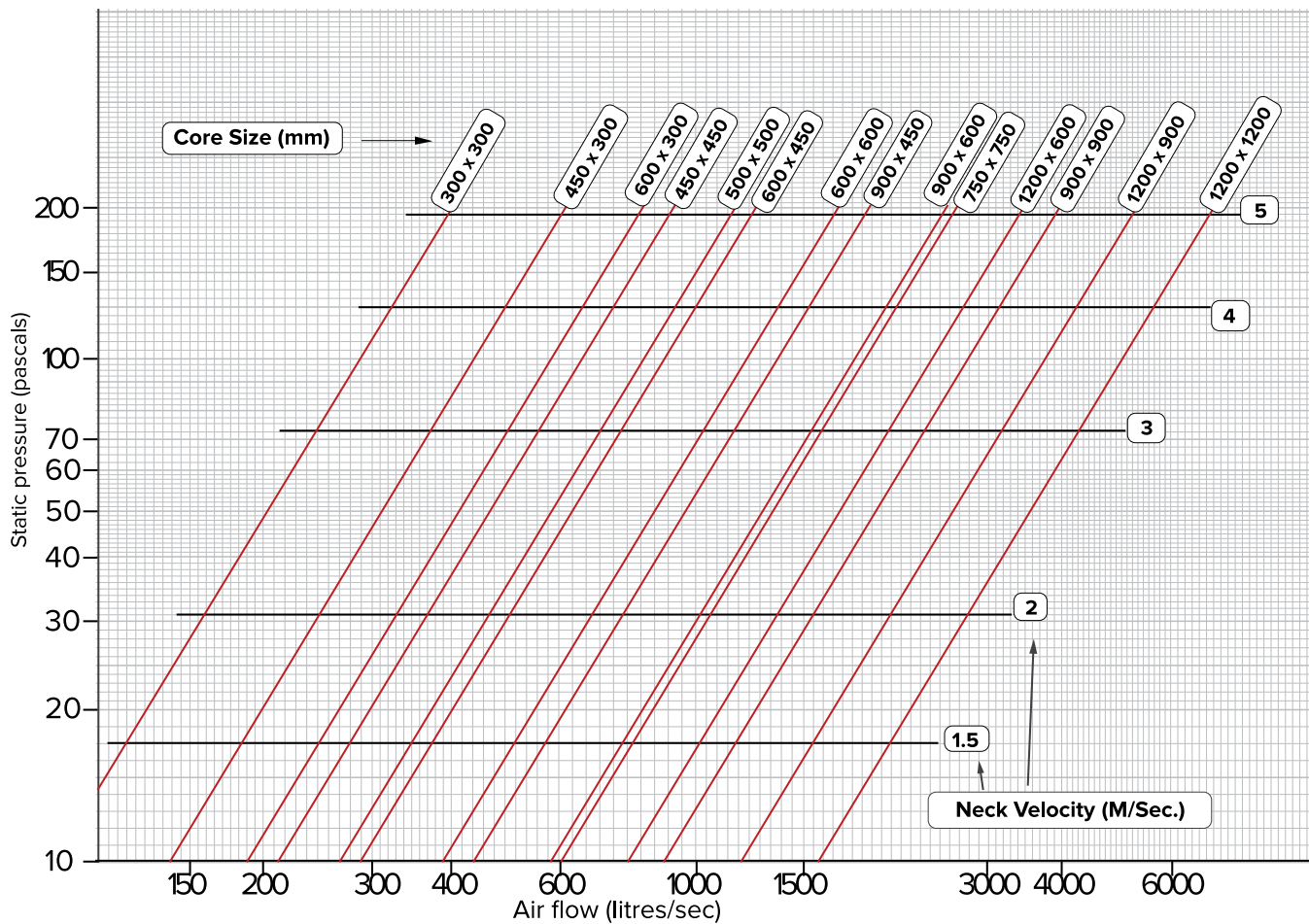
**AIRFOIL**  
GRILLES  
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Cross sectional diagram: RYLBS



Performance Data: RYLBS

Static pressure vs airflow for various core sizes

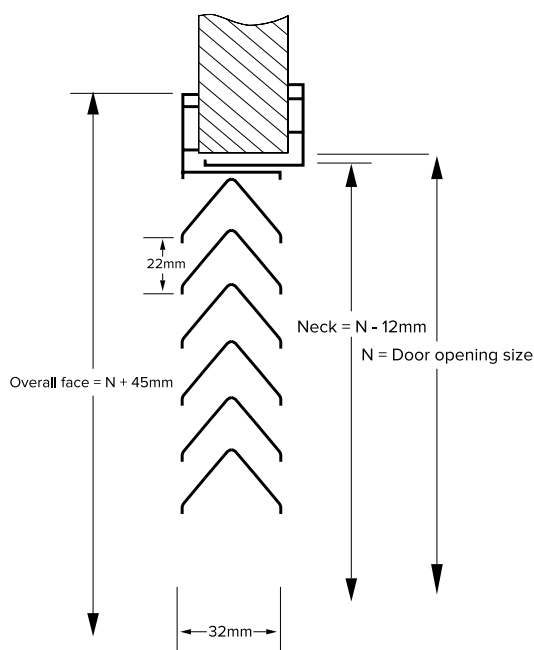


Airfoil's Door Grilles are manufactured with the highest quality, lightweight, corrosion free anodised aluminium. This type of grill utilises extruded aluminium inverted "V" type blades that have a free area of approximately 65% which ensures maximum air flow at minimum sound levels. The door grille comes complete with an adjustable frame and spring clips that fit into the rear of the door insert to provide a flush appearance. Suitable for a 30mm to 45mm door thickness.

It is recommended for doors, walls or partitions whenever a site-proof return, relief or any transfer is required.



Cross Sectional Diagram



### Door Grille Options

> Available in any size

> Available in natural anodised or white powder coated. Other colours available on request

### Product specification codes:

**DG** Door grille

Specification: Product code + size.  
Example: **DG 450x450** Door grille 450mm x 450mm

Typical Neck Sizes:	300 x 150	450 x 150	600 x 150	600 x 200	450 x 300	600 x 250	600 x 300	450 x 450	600 x 450	600 x 600
Neck Area M2:	0.045	.068	0.090	0.120	0.135	0.150	0.180	0.203	0.270	0.360
L/S 30										
L/S 50	13									
L/S 75	35	15	9							
L/S 100	90	40	22	12	8	6				
L/S 150	62		35	18	14	12	8	5		
L/S 200	82			40	30	25	17	13	8	
L/S 250	75				55	45	30	24	13	8
L/S 300	85					70	45	37	20	12
L/S 400	100						68	52	28	17
L/S 500								90	50	30
L/S 600									808	45



**Relief Air Door Grille - Model DG**  
Various neck velocities given airflow V neck area

Neck Velocity – Metres per Second

Typical Sizes	300 x 150	450 x 150	600 x 150	600 x 200	450 x 300	600 x 250	600 x 300	450 x 450	600 x 450	600 x 600	900 x 600	1200 x 600	900 x 900	1200 x 900	1200 x 1200
Neck Area M <sup>2</sup> L/S	0.045	0.068	0.090	0.120	0.135	0.150	0.180	0.203	0.270	0.360	0.540	0.720	0.810	1.080	1.440
30	0.75	0.5													
50	1.5		0.6	0.5											
75	2.25	1.5	1.0		0.6	0.5									
100	2.75	2.0	1.5	1.0			0.6	0.5							
150	4.0	2.75	2.0	1.5	1.25	1.1	0.9								
200	5.5	3.75	2.75	2.0	1.75	1.5	1.25	1.1	0.5						
250		4.5	3.0	2.75	2.0	1.75	1.5	1.4	1.0	0.75	0.5				
300		5.5	4.0	3.5	2.5	2.25	1.9	1.75	1.25			0.5			
400			5.0	4.0	3.5	3.0	2.5	2.25	1.75	1.25			0.5		
500				5.0	4.0	3.75	3.0	2.75	2.0	1.5	1.0			0.5	
600					5.0	4.75	3.75	3.25	2.5	1.75		0.75			0.5
750							5.0	4.5	3.0	2.5	1.5				
1000									4.0	3.0	2.0	1.5	1.0		
1500										4.5	3.0	2.25	2.0	1.5	1.0
2000											4.0	3.0	3.5	2.0	
3000											6.0	4.5	4.0	3.0	2.0
4000												6.0	5.0	4.0	3.0

## 4.17 GRILLES

### ARCHITECTURAL LOUVRE DOOR (ALD)

121



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Airfoil's Architectural Louvres consist of 3 models; Architectural Louvre Door (ALD), Channel Louvre 80mm (CWL) and Channel Louvre 55mm (CYL). They are robustly constructed in extruded aluminium to provide great strength while providing a stylish and discrete functionality.

Airfoil's Architectural Louvre Door (ALD) comes complete with stainless steel hinges and specified door handles. Options for the surrounding C channel are 80mm or 55mm deep.

Airfoil's Channel Louvre 80mm (CWL) and Channel Louvre 55mm (CYL) are designed to suit the Airfoil WL blade and YL blade range. The client has the option to 'turn in' or 'turn out' the exterior channel depending on the application.

Airfoil's Architectural Louvres can be ordered with a surrounding flange and finished in any colour, just contact our experienced sales team for expert advice on the construction of your Architectural Louvres.



#### Product specification codes:

<b>ALD</b>	Architectural Louvre Door
<b>CWL</b>	Channel Louvre 75mm
<b>CYL</b>	Channel Louvre 50mm

Specification: Product code + size.  
Example: **ALD 1000x1500** Architectural Louvre Door  
1000mm x 1500mm



**PROJECT: HORNSBY HOSPITAL, NSW**

Optional hardware: lock.



Optional hardware: hinges.









# 5.0 DAMPERS



# 5.1 DAMPERS

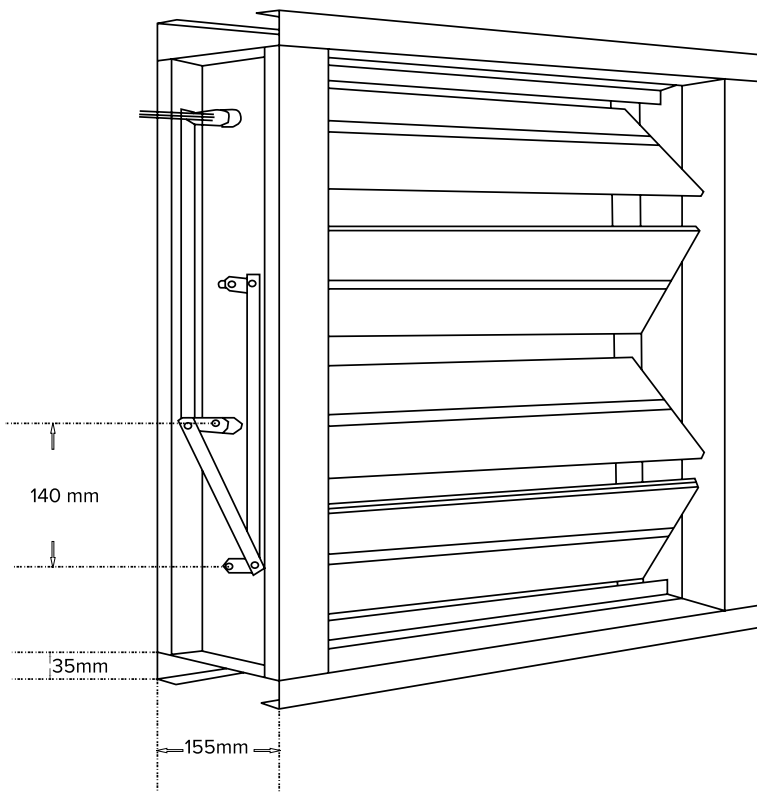
## VOLUME CONTROL DAMPER (VCD)

125

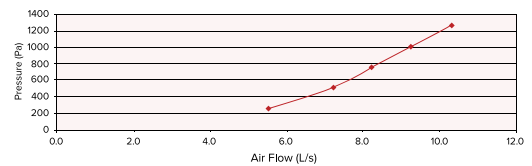


Airfoil's Volume Control Damper is used to provide efficient airflow control in air handling systems. It is manufactured using marine grade aluminium blades and frame with interlocking blades for low leakage.

All Airfoil's Volume Control Dampers are manufactured to 'airway size' and are available in manual or motorised function.



Performance Data



### Volume Control Damper Options

> *Non-corrosive nylon bushes are used as standard. Optional brass bushes are available on request*

> *Manual or motorised*

> *Manufactured to any 'airway size'*

### Product specification codes:

**VCD** Volume Control Damper Manual  
**VCDM** Volume Control Damper Motorised

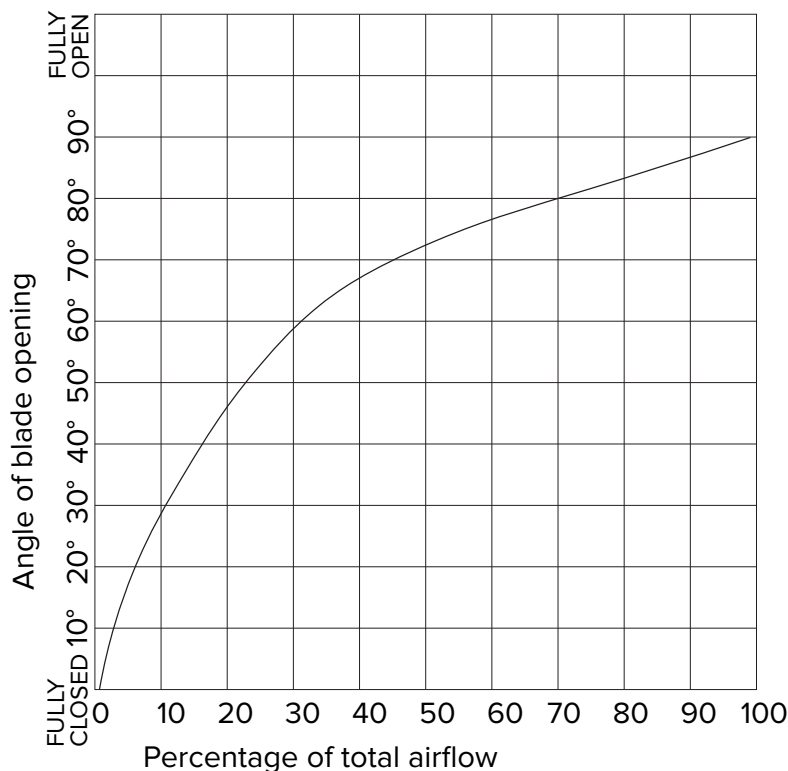
Specification: Product code + size.

Example: **VCD 200x200**

Volume control damper manual 200mm x 200mm

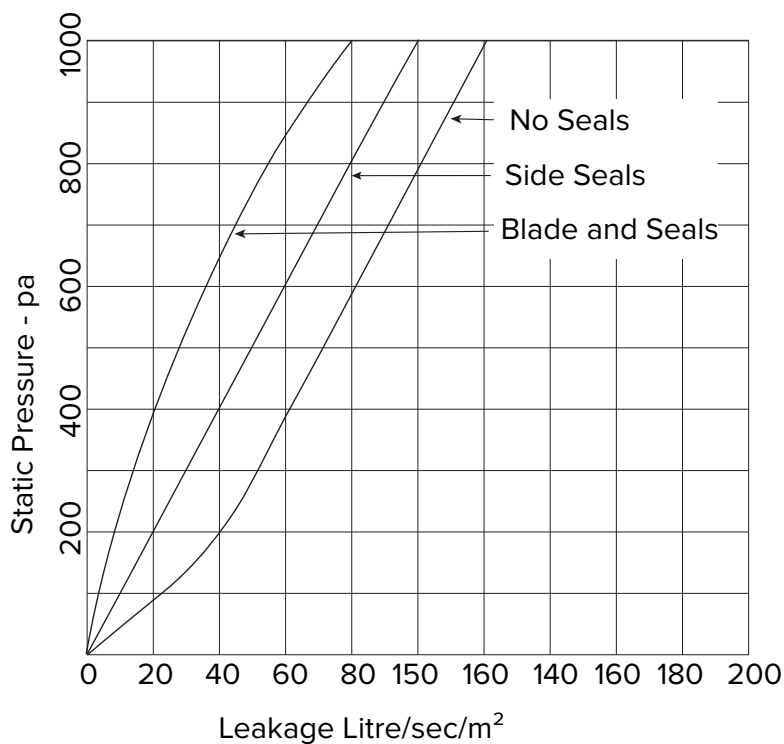
### VCD and MVCD Airflow Characteristic

Typical airflow curve for showing percentage of total airflow for various blade opening positions.



### VCD and MVCD Leakage Characteristic

Typical leakage chart for VCD and MVCD volume dampers.



# 5.1 DAMPERS

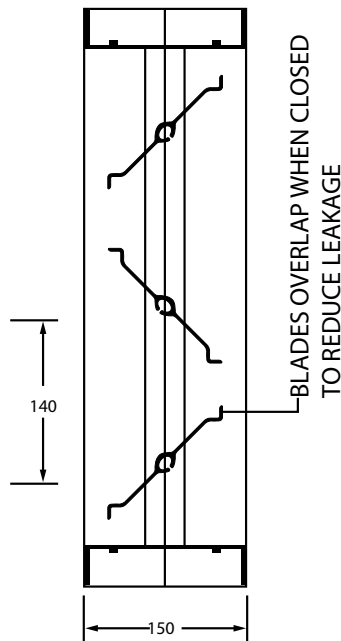
## VOLUME CONTROL DAMPER (VCD)

127

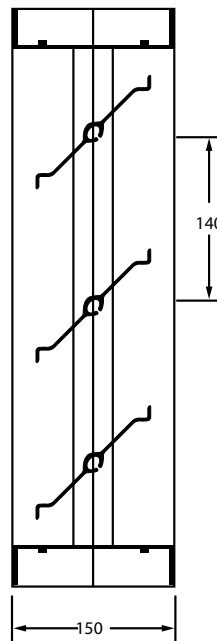


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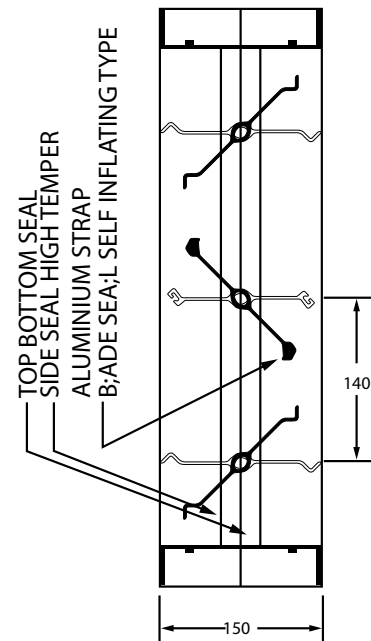
**V - O**  
OPPOSED BLADE  
ECONOMY



**V - P**  
PARALLEL BLADE  
ECONOMY



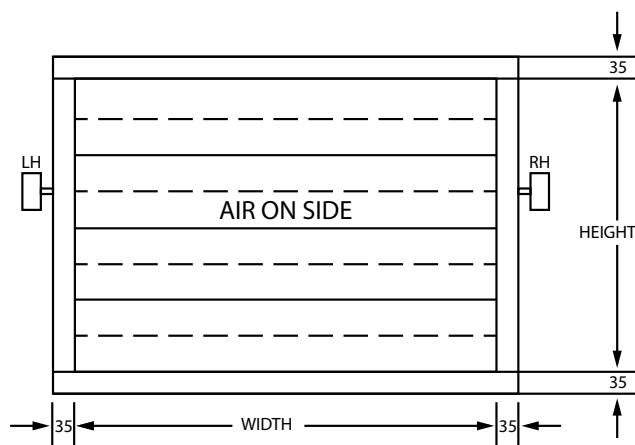
**V - L**  
LOW LEAKAGE  
BLADE & SIDE SEALS



- SHAFT = Hexagonal.
- FRAME = 2-mm extruded aluminium

- BLADES = extruded aluminium.
- LINKAGES = 3-m x 20-mm aluminium.
- CORNERS = Screwed and welded.

## ORDERING DETAILS



## DETAILS REQUIRED FOR ORDERING

1. MODEL
  2. SIZE - WIDTH X HEIGHT
  3. DRIVE (No. OFF)  
(LOCATION)
- I.E.  
V - OM 600 X 600  
DRIVE LH X 1



Airfoil's Non Return Damper is designed to reduce backdraft of air through air conditioning and exhaust ventilation systems.

The frame is manufactured from marine grade extruded aluminium which ensures optimal strength and rigidity whilst the blades are manufactured from lightweight aluminium to ensure maximum damper responsiveness.

All Airfoil's Non Return Dampers are manufactured to 'airway size'.



#### Non Return Damper Options



*Manufactured to any 'airway size'*



*The blade stack can be linked or unlinked*

#### Product specification codes:

**NRD**

Non return damper

Specification: Product code + size.

Example: **NRD 200x200** Non return damper  
200mm x 200mm



**PROJECT: UTZON ROOM OPERA HOUSE, SYDNEY**

## 5.3 DAMPERS

### BACK DRAFT DAMPER (BDD)

129



Back Draft Dampers are designed to allow airflow in one direction and prevent reverse airflow. They give an effective back draft seal in ducted systems.

Airfoil's Back Draft Damper is made from high-grade galvanised sheet metal and the butterfly blades are made from lightweight aluminium. They are held in the closed position with low resistance steel springs. The airflow from the fans open the blades when the system is active, then close when the system is off. This stops reverse airflow or back draft through the duct.

Airfoil's Back Draft Damper are usually used in conjunction with in-line fans, but may also be used as simple backdraft dampers in a duct system.



#### Product specification codes:

<b>BDD100</b>	Back Draft Damper 100mm	<b>BDD250</b>	Back Draft Damper 250mm
<b>BDD125</b>	Back Draft Damper 125mm	<b>BDD300</b>	Back Draft Damper 300mm
<b>BDD150</b>	Back Draft Damper 150mm	<b>BDD350</b>	Back Draft Damper 350mm
<b>BDD200</b>	Back Draft Damper 350mm		Nominal neck size.

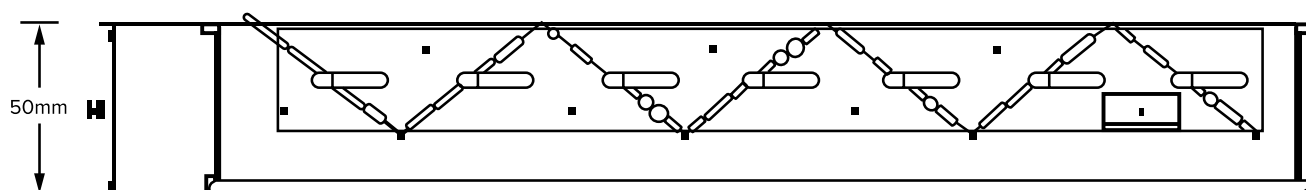
PROJECT: CHARLES STURT UNIVERSITY PORT MACQUARIE, NSW



Airfoil's Opposed Blade Damper (OBD) is manufactured from high quality extruded aluminium. The frame has been specifically designed to easily clip on to a variety of grille faces for ease of installation. It's suitable for use to balance a variety of grille types including eggcrate, double deflection, half chevron, bar grille or ceiling mounted diffusers.

The adjusting screw is easily accessible through the face of the grille, allowing for precise air balancing. The Opposed Blade Damper comes in black anodised as standard.

Cross Sectional Diagram



Performance Data

OBD Area (m2)	L/s	45	65	75	90	110
0.02	Static Pressure (Pa)	0.5	1	1.4	2.5	4
OBD Area (m2)	L/s	90	125	140	155	170
0.05	Static Pressure (Pa)	0.5	1	2.5	3.8	5
OBD Area (m2)	L/s	150	190	240	290	330
0.1	Static Pressure (Pa)	0.5	1.5	2.5	4	5.5
OBD Area (m2)	L/s	250	300	350	390	450
0.15	Static Pressure (Pa)	1.5	2	3	4.5	6
OBD Area (m2)	L/s	380	430	480	540	600
0.18	Static Pressure (Pa)	1.5	2	2.5	4	5.5

### Product specification codes:

**OBD** Opposed Blade Damper

Specification: Product code + size.

Example: **OBD 250x250**

Opposed Blade Damper 250mm x 250mm



## 5.5 DAMPERS

### STREAM SPLITTER DAMPER (SS)

131

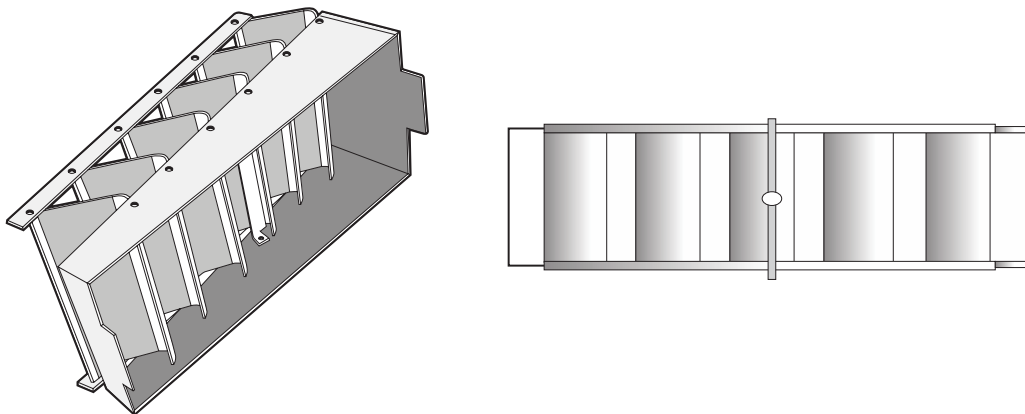
Quality System  
Quality  
Endorsed  
Company  
ISO 9001  
SAI GLOBAL

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Airfoil's Stream Splitter Dampers can be manufactured to any size and are adjusted with a screw through the face of the diffuser. This allows for an even discharge of air through the face of the grille through a series of air scoops and can be fitted to the neck of the grille or duct take off.



Cross Sectional Diagram



#### Product specification codes:

**SS** Stream Splitter Damper

Specification: Product code + size.

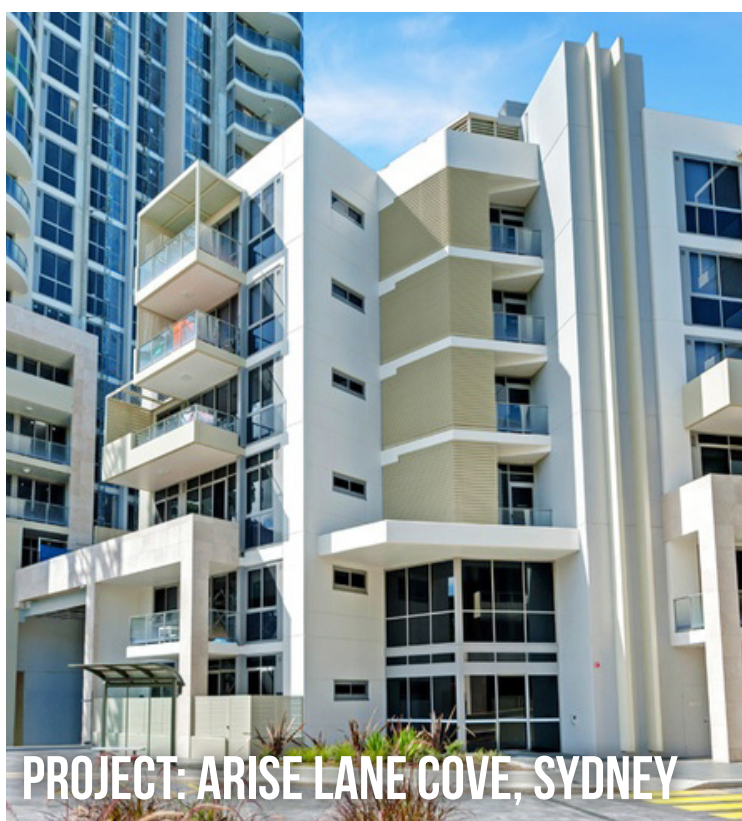
Example: **SS 300x800** Stream Splitter Damper  
300mm x 800mm

**PROJECT: OPAL AGED CARE, ASHFIELD, SYDNEY**





The Motorised Line Damper allows the end user the flexibility to remotely open and close air flows to designated areas. The spiral casing offers easy attachment to the standard flexible duct sizes. Airfoil stocks the complete range of Motorised Line Dampers in 240V and 24V with a full range of electrical components such as touch pads, transformers and zone cables.



### Motorised Line Damper Options

- > Available in 24V or 240V
- > Available in all standard sizes
- > Optional touch pads, transformers and zone cables

### Product specification codes:

<b>MOTLD1524V</b>	24V Motorised Line Damper 150mm dia	<b>MOTLD1524V</b>	24V Motorised Line Damper 150mm dia
<b>MOTLD2024V</b>	24V Motorised Line Damper 200mm dia	<b>MOTLD2024V</b>	24V Motorised Line Damper 200mm dia
<b>MOTLD2524V</b>	24V Motorised Line Damper 250mm dia	<b>MOTLD2524V</b>	24V Motorised Line Damper 250mm dia
<b>MOTLD3024V</b>	24V Motorised Line Damper 300mm dia	<b>MOTLD3024V</b>	24V Motorised Line Damper 300mm dia
<b>MOTLD3524V</b>	24V Motorised Line Damper 350mm dia	<b>MOTLD3524V</b>	24V Motorised Line Damper 350mm dia
<b>MOTLD4024V</b>	24V Motorised Line Damper 400mm dia	<b>MOTLD4024V</b>	24V Motorised Line Damper 400mm dia
<b>MOTLD4524V</b>	24V Motorised Line Damper 450mm dia	<b>MOTLD4524V</b>	24V Motorised Line Damper 450mm dia

## 5.7 DAMPERS

### INTUMESCENT FIRE DAMPER (IFD)

133

Quality System  
Quality  
Endorsed  
Company  
ISO 9001  
SAI QL 08AL

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The Intumescent Fire Damper is ideal for use in applications whereby it is necessary for systems of natural and mechanical ventilation to pass through a fire resistant wall or floor. Airfoil is a proud distributor of the Kilargo range of Intumescent Fire Dampers.

The Kilargo Intumescent Fire Damper is manufactured with parallel intumescent slats mounted in a rigid steel frame. In the event of a fire, the increase in temperature will cause the intumescent slats to expand and fuse together to provide a fire and hot smoke barrier. Intumescent Fire Dampers are available as a square or round cell and are also available mounted in sleeve.

Stock sizes are held, however, any size can be manufactured upon request.



#### Product specification codes:

**IFD** Intumescent Fire Damper

**PROJECT: KFC MERRYLANDS, SYDNEY**













# 6.0

# SHEET METAL



## 6.1 SHEET METAL SWIRL CUSHION BOX (SWCB)

137



Airfoil's Swirl Cushion box is manufactured to suit our range of Swirl Diffusers. It can be produced in steel or our fire-rated pre-insulated poly panel board. The box is manufactured with an internal "T" brace and comes complete with the root nut to match the centre swirl screw for easy installation.

The fitting can be manufactured to any desired specification allowing for special height requirements and difficult spigot placements.

Airfoil's range of fire-rated pre-insulated poly panel board cushion boxes are a lightweight alternative to our metal versions.



### Product specification codes:

**SWCB** Swirl Cushion Box

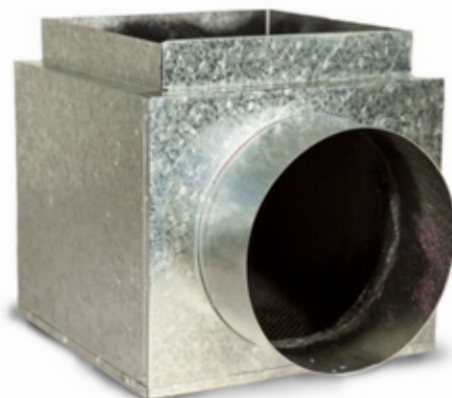
**AIRFOIL FACTORY, SYDNEY**



Airfoil's Cushion Boxes are designed to "cushion" air movement through the grille in supply air applications. They are manufactured from 0.55 mm galvanised sheet metal to the highest standard and come in a variety of insulation 5mm and 10mm rubber or 13mm, 25mm, 38mm and 50mm fibreglass.

The Airfoil Cushion Box may be "stepped" allowing the insulation to be covered and not exposed.

The Cushion Box is used with most of Airfoil's range of grilles including our Louvre Face Diffuser (LFD), Bevelle Diffuser (BD) and Swirl Diffusers (CDS).



### Cushion Box Options

> *No insulation, 5mm rubber, 10mm rubber, 13mm fibreglass, 25mm fibreglass, 38mm fibreglass or 50mm fibreglass are all available on request*

> *Optional "stepped" construction allows the insulation to be covered*

### Product specification codes:

**ICB** Insulated Cushion Box

**PCB** Plain Cushion Box





## 6.3 SHEET METAL LINEAR BOX SIDE BOOT (LBSB)

139



Airfoil's Linear Box Side Boot is manufactured from 0.55mm galvanised sheet metal. The box can be insulated in 5mm rubber, 10mm rubber, 13mm fibreglass, 25mm fibreglass, 38mm fibreglass or 50mm fibreglass. The spigot is placed on the long side as standard.

Airfoil can manufacture a user-friendly "H" box which enables the boot to be placed at any interval and allows the diffuser to be used for both supply and return applications.

Airfoil's Linear Box Side Boot is commonly used with our Linear Slot and Linear Bar Grille range.

### Linear Box Side Boot Options

> No insulation, 5mm rubber, 10mm rubber, 13mm fibreglass, 25mm fibreglass, 38mm fibreglass or 50mm fibreglass are all available on request

> Optional 'H' box for supply and return applications

> Optional "stepped" design

### Product specification codes:

**LBSB** Linear Box Side Boot

PROJECT: LOUIS VUITTON, SYDNEY





Airfoil's Linear Box End Boot are manufactured from 0.55 mm galvanised sheet metal to the highest standard.

They have a spigot placement adjacent to the open end, but differs to the side boot due to the spigot placement being on the short side or end of the box. This particular configuration is useful in areas of restricted ceiling space.

The Linear Box End Boot is compatible with all Airfoil's grille range.



### Linear Box End Boot Options

> *No insulation, 5mm rubber, 10mm rubber, 13mm fibreglass, 25mm fibreglass, 38mm fibreglass or 50mm fibreglass are all available on request*

### Product specification codes:

**LBEB** Linear Box End Boot





## 6.5 SHEET METAL UNI BOOT (UB)

141



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Airfoil's Uni Boot is manufactured from 0.55 mm galvanised sheet metal to the highest standard. It has a spigot placement opposite the open end (top entry) and is predominantly used in sideblow applications where it may be necessary to achieve maximum throw across the conditioned space.

The Uni Boot is compatible with most of Airfoil's range of grilles.

### Uni Boot Options

> No insulation, 5mm rubber, 10mm rubber, 13mm fibreglass, 25mm fibreglass, 38mm fibreglass or 50mm fibreglass are all available on request

> Optional stepped design

### Product specification codes:

**UB** Uni Boot



PROJECT: HAROLD PARK, SYDNEY



Airfoil's Return Air Boxes are manufactured from 0.55 mm galvanised sheet metal to the highest standard. The design allows the box to return air from the face of the Airfoil grille.

The **Top Entry Model** allows the sheet metal spigots to be placed opposite the open end of the box.

The **Side Entry Model** allows the sheet metal spigots to be placed at the side adjacent to the open end.

The Return Air Box is generally used in conjunction with Airfoil's range of Return Air Grilles.



Top Entry



Side Entry



### Return Air Box Options

- > *Standard insulation 5mm rubber. Optional 10mm rubber or 13mm, 25mm, 38mm or 50mm fibreglass are all available on request*
- > *Optional "stepped" design*
- > *Top entry or side entry models*
- > *Multiple duct inlets/outlets*

### Product specification codes:

**RABTE** Return Air Box with Top Entry

**RABSE** Return Air Box with Side Entry

## 6.7 SHEET METAL V-BOX (VB)

143



One way V-Box

Airfoil's V-Boxes are manufactured from 0.55 mm galvanised sheet steel and can be manufactured in either a square to round 1 way, 2 way or 3 way configuration. Standard insulation is an internal 5mm rubber. Optional insulation types include 10mm rubber, 13mm fibreglass, 25mm fibreglass, 38mm fibreglass or 50mm fibreglass are all available upon request.



Two way V-Box



Three way V-Box

### V-Box Options

- > 1 way, 2 way or 3 way configuration
- > Optional "stepped" designed

- > Standard insulation 5mm rubber. Optional 10mm rubber or 13mm, 25mm, 38mm, 50mm fibreglass are all available on request

### Product specification codes:

**VB1** One way V-Box

**VB2** Two way V-Box

**VB3** Three way V-Box



PROJECT: KNOX GRAMMAR SCHOOL, WAHROONGA, NSW



All three different fittings are used in domestic and commercial applications to attach flexible duct to allow the contractor to effectively deliver, supply and return air in a desired configuration plan.

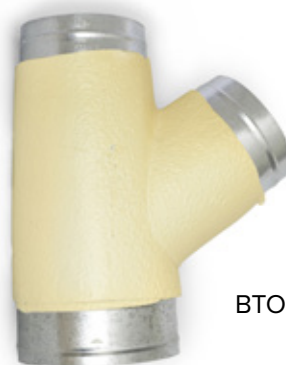
Airfoil's metal Y Fittings, Branch Take Off (BTO) Fittings and Double Branch Takeoff (DBTO) are manufactured from 0.55 mm galvanised sheet metal to the highest standards and come insulated as standard.



**AIRFOIL FACTORY, SYDNEY**



DBTO



BTO



YP

### Duct Fittings Insulated Metal Options

> *Metal insulated or poly insulated*

> *Plain metal or poly*

> *Optional Volume Control Blade*

### Product specification codes:

<b>YP</b>	Y Piece Fittings Insulated Metal
<b>BTO</b>	Branch Take Off Fittings Insulated Metal
<b>DBTO</b>	Double Branch Take Off Fittings Insulated Metal

# 6.8 SHEET METAL DUCT FITTINGS INSULATED METAL

145



## Product ordering codes:

YP666 METAL	Y Fitting Insulated Metal 6" x 6" x 6"
YP866 METAL	Y Fitting Insulated Metal 8" x 6" x 6"
YP888 METAL	Y Fitting Insulated Metal 8" x 8" x 8"
YP1088 METAL	Y Fitting Insulated Metal 10" x 8" x 8"
YP101010 METAL	Y Fitting Insulated Metal 10" x 10" x 10"
YP121010 METAL	Y Fitting Insulated Metal 12" x 10" x 10"
YP121212 METAL	Y Fitting Insulated Metal 12" x 12" x 12"
YP141010 METAL	Y Fitting Insulated Metal 14" x 10" x 10"
YP141210 METAL	Y Fitting Insulated Metal 14" x 12" x 10"
YP141212 METAL	Y Fitting Insulated Metal 14" x 12" x 12"
YP141414 METAL	Y Fitting Insulated Metal 14" x 14" x 14"
YP161010 METAL	Y Fitting Insulated Metal 16" x 10" x 10"
YP161212 METAL	Y Fitting Insulated Metal 16" x 12" x 12"
YP161412 METAL	Y Fitting Insulated Metal 16" x 14" x 12"
YP161414 METAL	Y Fitting Insulated Metal 16" x 14" x 14"
YP161616 METAL	Y Fitting Insulated Metal 16" x 16" x 16"
YP181212 METAL	Y Fitting Insulated Metal 18" x 12" x 12"
YP181412 METAL	Y Fitting Insulated Metal 18" x 14" x 12"
YP181414 METAL	Y Fitting Insulated Metal 18" x 14" x 14"
YP181616 METAL	Y Fitting Insulated Metal 18" x 16" x 16"
BT0866 METAL	Branch Take Off Fittings Insulated Metal 8" x 6" x 6"
BT0886 METAL	Branch Take Off Fittings Insulated Metal 8" x 8" x 6"
BT0888 METAL	Branch Take Off Fittings Insulated Metal 8" x 8" x 8"
BT01066 METAL	Branch Take Off Fittings Insulated Metal 10" x 6" x 6"
BT01086 METAL	Branch Take Off Fittings Insulated Metal 10" x 8" x 6"
BT01088 METAL	Branch Take Off Fittings Insulated Metal 10" x 8" x 8"
BT010106 METAL	Branch Take Off Fittings Insulated Metal 10" x 10" x 6"
BT010108 METAL	Branch Take Off Fittings Insulated Metal 10" x 10" x 8"
BT0101010 METAL	Branch Take Off Fittings Insulated Metal 10" x 10" x 10"
BT01288 METAL	Branch Take Off Fittings Insulated Metal 12" x 8" x 8"
BT012106 METAL	Branch Take Off Fittings Insulated Metal 12" x 10" x 6"
BT012108 METAL	Branch Take Off Fittings Insulated Metal 12" x 10" x 8"
BT0121010 METAL	Branch Take Off Fittings Insulated Metal 12" x 10" x 10"
BT012126 METAL	Branch Take Off Fittings Insulated Metal 12" x 12" x 6"
BT012128 METAL	Branch Take Off Fittings Insulated Metal 12" x 12" x 8"
BT0121210 METAL	Branch Take Off Fittings Insulated Metal 12" x 12" x 10"
BT0141010 METAL	Branch Take Off Fittings Insulated Metal 14" x 10" x 10"
BT0141210 METAL	Branch Take Off Fittings Insulated Metal 14" x 12" x 10"
BT0141212 METAL	Branch Take Off Fittings Insulated Metal 14" x 12" x 12"
BT0141410 METAL	Branch Take Off Fittings Insulated Metal 14" x 14" x 10"
BT0141412 METAL	Branch Take Off Fittings Insulated Metal 14" x 14" x 12"
BT0161212 METAL	Branch Take Off Fittings Insulated Metal 16" x 12" x 12"
BT0161412 METAL	Branch Take Off Fittings Insulated Metal 16" x 14" x 12"
BT0161612 METAL	Branch Take Off Fittings Insulated Metal 16" x 16" x 12"
BT0161614 METAL	Branch Take Off Fittings Insulated Metal 16" x 16" x 14"
DBTO8666 METAL	Branch Take Off Fittings Insulated Metal 8" x 6" x 6" x 6"
DBTO8866 METAL	Branch Take Off Fittings Insulated Metal 8" x 8" x 6" x 6"
DBTO10666 METAL	Branch Take Off Fittings Insulated Metal 10" x 6" x 6" x 6"
DBTO10866 METAL	Branch Take Off Fittings Insulated Metal 10" x 8" x 6" x 6"
DBTO10888 METAL	Branch Take Off Fittings Insulated Metal 10" x 8" x 8" x 8"
DBTO101066 METAL	Branch Take Off Fittings Insulated Metal 10" x 10" x 6" x 6"
DBTO101086 METAL	Branch Take Off Fittings Insulated Metal 10" x 10" x 8" x 6"
DBTO101088 METAL	Branch Take Off Fittings Insulated Metal 10" x 10" x 8" x 8"
DBTO12866 METAL	Branch Take Off Fittings Insulated Metal 12" x 8" x 6" x 6"
DBTO12886 METAL	Branch Take Off Fittings Insulated Metal 12" x 8" x 8" x 6"
DBTO12888 METAL	Branch Take Off Fittings Insulated Metal 12" x 8" x 8" x 8"
DBTO121066 METAL	Branch Take Off Fittings Insulated Metal 12" x 10" x 6" x 6"
DBTO121086 METAL	Branch Take Off Fittings Insulated Metal 12" x 10" x 8" x 6"
DBTO121088 METAL	Branch Take Off Fittings Insulated Metal 12" x 10" x 8" x 8"
DBTO12101010 METAL	Branch Take Off Fittings Insulated Metal 12" x 10" x 10" x 10"
DBTO121288 METAL	Branch Take Off Fittings Insulated Metal 12" x 12" x 8" x 8"
DBTO12121010 METAL	Branch Take Off Fittings Insulated Metal 12" x 12" x 10" x 10"
DBTO14101010 METAL	Branch Take Off Fittings Insulated Metal 14" x 10" x 10" x 10"
DBTO141288 METAL	Branch Take Off Fittings Insulated Metal 14" x 12" x 8" x 8"
DBTO14121010 METAL	Branch Take Off Fittings Insulated Metal 14" x 12" x 10" x 10"
DBTO14121210 METAL	Branch Take Off Fittings Insulated Metal 14" x 12" x 12" x 10"
DBTO14121212 METAL	Branch Take Off Fittings Insulated Metal 14" x 12" x 12" x 12"
DBTO141488 METAL	Branch Take Off Fittings Insulated Metal 14" x 14" x 8" x 8"
DBTO14141010 METAL	Branch Take Off Fittings Insulated Metal 14" x 14" x 10" x 10"
DBTO14141212 METAL	Branch Take Off Fittings Insulated Metal 14" x 14" x 12" x 12"
DBTO16101010 METAL	Branch Take Off Fittings Insulated Metal 16" x 10" x 10" x 10"
DBTO16121010 METAL	Branch Take Off Fittings Insulated Metal 16" x 12" x 10" x 10"
DBTO16121212 METAL	Branch Take Off Fittings Insulated Metal 16" x 12" x 12" x 12"
DBTO16141212 METAL	Branch Take Off Fittings Insulated Metal 16" x 14" x 10" x 10"
DBTO16141212 METAL	Branch Take Off Fittings Insulated Metal 16" x 14" x 12" x 12"
DBTO16141414 METAL	Branch Take Off Fittings Insulated Metal 16" x 14" x 14" x 14"

Reducers are used in joining applications for duct and airflow management. Airfoil's Reducers are manufactured from 0.55 mm galvanised sheet metal to the highest standard and are available in all standard sizes.



**AIRFOIL FACTORY, SYDNEY**



## Reducer Options

> *Available in all standard sizes  
and can be manufactured to  
specifications*

### Product specification codes:

<b>RED86</b>	Reducer 8" to 6"	<b>RED1210</b>	Reducer 12" to 10"	<b>RED1614</b>	Reducer 16" to 14"	<b>RED1816</b>	Reducer 18" to 16"
<b>RED108</b>	Reducer 10" to 8"	<b>RED1412</b>	Reducer 14" to 12"	<b>RED1814</b>	Reducer 18" to 14"	<b>RED2018</b>	Reducer 20" to 18"



**PROJECT: MCDONALDS, GREGORY HILLS, NSW**



## 6.10 SHEET METAL COLLARS (C)

147



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Joining Collar

Airfoil's Joining Collar (JC) is used to join flexible duct in various applications. Manufactured from 0.55 mm galvanised sheet metal to the highest standard, Airfoil's Joining Collar suits all common duct sizes.

Airfoil's Starting Collar (SC) is commonly used where flexible duct is mounted to rigid duct.

Airfoil also offers the Starting Collar with an optionally fitted Volume Control Blade (SCVCB) for balancing air flows during commissioning.

### Product ordering codes:

<b>JC10</b>	Joining Collar 100mm diameter
<b>JC15</b>	Joining Collar 150mm diameter
<b>JC20</b>	Joining Collar 200mm diameter
<b>JC25</b>	Joining Collar 250mm diameter
<b>JC30</b>	Joining Collar 300mm diameter
<b>JC35</b>	Joining Collar 350mm diameter
<b>JC40</b>	Joining Collar 400mm diameter
<b>JC45</b>	Joining Collar 450mm diameter
<b>JC50</b>	Joining Collar 500mm diameter
<b>SC15</b>	Starting Collar 150mm diameter
<b>SC20</b>	Starting Collar 200mm diameter
<b>SC25</b>	Starting Collar 250mm diameter
<b>SC30</b>	Starting Collar 300mm diameter
<b>SC35</b>	Starting Collar 350mm diameter
<b>SC40</b>	Starting Collar 400mm diameter
<b>SC45</b>	Starting Collar 450mm diameter
<b>SC50</b>	Starting Collar 500mm diameter
<b>SCVCB15</b>	Starting Collar with Volume Control Blade 150mm diameter
<b>SCVCB20</b>	Starting Collar with Volume Control Blade 200mm diameter
<b>SCVCB25</b>	Starting Collar with Volume Control Blade 250mm diameter
<b>SCVCB30</b>	Starting Collar with Volume Control Blade 300mm diameter
<b>SCVCB35</b>	Starting Collar with Volume Control Blade 350mm diameter
<b>SCVCB40</b>	Starting Collar with Volume Control Blade 400mm diameter
<b>SCVCB45</b>	Starting Collar with Volume Control Blade 450mm diameter
<b>SCVCB50</b>	Starting Collar with Volume Control Blade 500mm diameter



Starting Collar



Starting Collar with Volume Control Blade

### Collar Options

> *Joining collar, starting collar or starting collar with volume control blade*

> *Available in all common duct sizes, can be manufactured to specifications*

### Product specification codes:

<b>JC</b>	Joining Collar
<b>SC</b>	Starting Collar
<b>SCVCB</b>	Starting Collar with Volume Control Blade



## 6.11 SHEET METAL SQUARE TO ROUND REDUCER WITH FIXING CLIPS

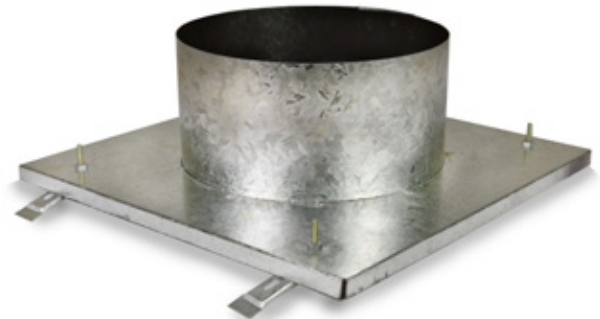
148

Airfoil's Square to Round Reducer with fixing clips are manufactured out of 0.55 galvanised steel to the highest standard. They are finished with matte black paint for a discreet presence when in place. It comes complete with fitted root nuts that holds four metal clips to fasten to a gyprock application.

The Fixing Clip is used for single gyprock applications.

The Z clip is used for double gyprock applications and to also fit our Airfoil flushed face diffusers.

Airfoil's Square to Round Reducer with fixing clips are commonly used on all supply and return air grilles. Airfoil's reducer necks are cost effective and easily installed.



Square to Round Reducer with fixing clips



Square to Round Reducer with Z fixing clips



**AIRFOIL FACTORY, SYDNEY**



**PROJECT: SUNDALE, GOLD COAST**

### Product specification codes:

- FCRN** Square to Round Reducer with fixing clips
- ZCRN** Square to Round Reducer with Z fixing clips

## 6.12 SHEET METAL REDUCER NECKS (RN)

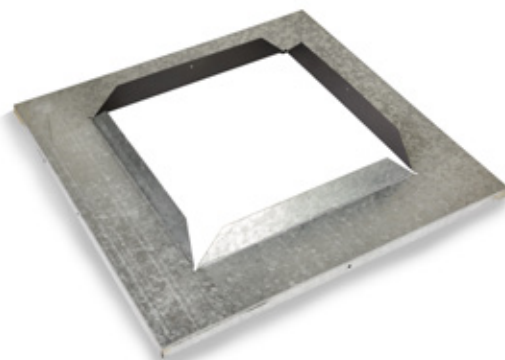
149



Square to Round Reducer Neck



Square to Round Reducer Neck



Square to Square Reducer Neck

### Product specification codes:

<b>RN1515</b>	Square to Square Reducer Neck 150mm x 150mm	<b>RN200</b>	Square to Round Reducer Neck 200mm diameter
<b>RN225225</b>	Square to Square Reducer Neck 225mm x 225mm	<b>RN250</b>	Square to Round Reducer Neck 250mm diameter
<b>RN3030</b>	Square to Square Reducer Neck 300mm x 300 mm	<b>RN300</b>	Square to Round Reducer Neck 300mm diameter
<b>RN375375</b>	Square to Square Reducer Neck 375mm x 375mm	<b>RN350</b>	Square to Round Reducer Neck 350mm diameter
<b>RN150</b>	Square to Round Reducer Neck 150mm diameter	<b>RN400</b>	Square to Round Reducer Neck 400mm diameter



AIRFOIL FACTORY, SYDNEY



Airfoil's Blanking Plates are manufactured from 0.55 mm black colourbond material to the highest standard. The plate allows for the diffuser to be blanked inactive to provide the correct air distribution movement.

Generally used with Airfoil's Louvre Face Diffuser (LD) and Bevelled Diffuser (BD) range.



### Product specification codes:

**BP** Blanking Plate



## 6.14 SHEET METAL DRIP TRAY (DT)

151



Drip Trays are generally placed below an air conditioning unit or in areas of high condensation.

Airfoil's Drip Trays are manufactured from 0.55 mm galvanised sheet metal to the highest standard. Generally 40mm deep, they come complete with the trap.

Airfoil's Drip Trays can be manufactured to any specification.

### Product specification codes:

<b>DT11383</b>	Drip Tray 1130mm x 830mm x 50mm	<b>DT14383</b>	Drip Tray 1430mm x 830mm x 50mm
<b>DT14353</b>	Drip Tray 1430mm x 530mm x 50mm	<b>DT15090</b>	Drip Tray 1500mm x 950mm x 50mm

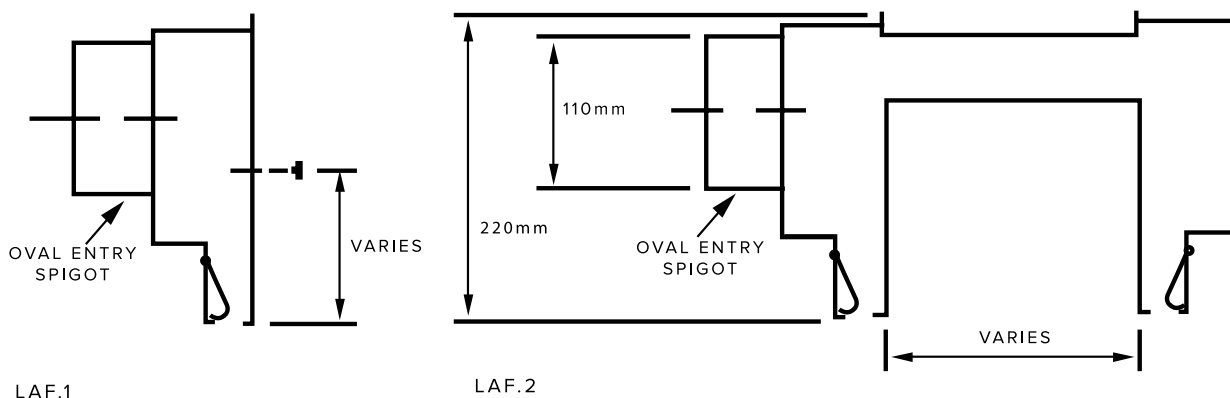
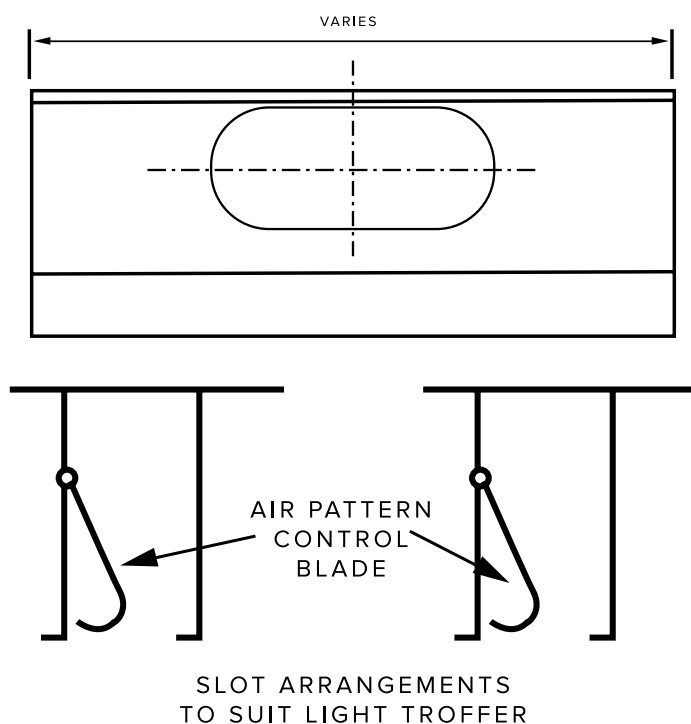


AIRFOIL FACTORY, SYDNEY



Airfoil's Light Air Boot is installed behind a specialised light fitting and is custom-made to any specification. It is made from 0.55mm galvanised steel to the highest standard and comes complete with an internal "J" blade to balance all air movement. Installation is easy with an optional fixed button. The face is finished in black for discreet appearance on installation. Airfoil's Light Air Boot is designed for supply and return air applications.

Sectional diagram



**Product specification codes:**

**SLAB** Single Light Air Boot

**DLAB** Double Light Air Boot







# 7.0 DUCT





# 7.1 FLEXIBLE DUCT 3-ZERO PLAIN FLEX (PF)

155



Airfoil's 3-Zero flexible nude core has been tested and meets all requirements of Australian Standards AS 4254.1 2012 and Building Codes of Australia Domestic and Commercial Air Handling Systems.

The duct has a black inner core with a metalised outer surface multi-layered construction containing high-level grade flame retardant water based adhesive with high tensile wire helix encapsulated.

The operating pressure range is 1000 Pa positive to 200 Pa negative and the operating temperature range is -10C to +80C.

Available sizes are 4", 5", 6", 8", 10", 12", 14", 16", 18", 20" and is available in standard or acoustic.

## Product specification codes:

<b>PF4 6M</b>	4 inch 3-ZERO Plain Flex 6 metres	<b>PF4 3M</b>	4 inch 3-ZERO Plain Flex 3 metres
<b>PF5 6M</b>	5 inch 3-ZERO Plain Flex 6 metres	<b>PF5 3M</b>	5 inch 3-ZERO Plain Flex 3 metres
<b>PF6 6M</b>	6 inch 3-ZERO Plain Flex 6 metres	<b>PF6 3M</b>	6 inch 3-ZERO Plain Flex 3 metres
<b>PF8 6M</b>	8 inch 3-ZERO Plain Flex 6 metres	<b>PF8 3M</b>	8 inch 3-ZERO Plain Flex 3 metres
<b>PF10 6M</b>	10 inch 3-ZERO Plain Flex 6 metres	<b>PF10 3M</b>	10 inch 3-ZERO Plain Flex 3 metres
<b>PF12 6M</b>	12 inch 3-ZERO Plain Flex 6 metres	<b>PF12 3M</b>	12 inch 3-ZERO Plain Flex 3 metres
<b>PF14 6M</b>	14 inch 3-ZERO Plain Flex 6 metres	<b>PF14 3M</b>	14 inch 3-ZERO Plain Flex 3 metres
<b>PF16 6M</b>	16 inch 3-ZERO Plain Flex 6 metres	<b>PF16 3M</b>	16 inch 3-ZERO Plain Flex 3 metres
<b>PF18 6M</b>	18 inch 3-ZERO Plain Flex 6 metres	<b>PF16 3M</b>	18 inch 3-ZERO Plain Flex 3 metres
<b>PF20 6M</b>	20 inch 3-ZERO Plain Flex 6 metres	<b>PF20 3M</b>	20 inch 3-ZERO Plain Flex 3 metres

AIRFOIL FACTORY, SYDNEY



Airfoil's 3-Zero R0.6 flexible duct has been tested and meets all requirements of Australian Standards AS 4254.1 2012 and Building Codes of Australia Domestic and Commercial Air Handling Systems.

The duct has a black inner core with a metalised outer surface multi-layered construction containing high-level grade flame retardant water based adhesive with high tensile wire helix encapsulated. The Metalised Outer Layer has a multi-layered construction containing high quality grade flame retardant adhesive. The Polyester Insulation Blanket achieves a thermal rating of R0.6 with a thickness of 25mm.

The operating pressure range is 1000 Pa positive to 200 Pa negative and the operating temperature range is -10C to +80C.

Available sizes are 4", 5", 6", 8" 10", 12", 14", 16", 18", 20" in standard or acoustic and in 3 or 6 metre lengths.



### Product specification codes:

<b>FF 46R0.6 6M</b>	4 inch 3-ZERO R0.6 Flame Flex 6 metres	<b>FF 46R0.6 3M</b>	4 inch 3-ZERO R0.6 Flame Flex 3 metres
<b>FF 56R0.6 6M</b>	5 inch 3-ZERO R0.6 Flame Flex 6 metres	<b>FF 56R0.6 3M</b>	5 inch 3-ZERO R0.6 Flame Flex 3 metres
<b>FF 66R0.6 6M</b>	6 inch 3-ZERO R0.6 Flame Flex 6 metres	<b>FF 66R0.6 3M</b>	6 inch 3-ZERO R0.6 Flame Flex 3 metres
<b>FF 86R0.6 6M</b>	8 inch 3-ZERO R0.6 Flame Flex 6 metres	<b>FF 86R0.6 3M</b>	8 inch 3-ZERO R0.6 Flame Flex 3 metres
<b>FF 106R0.6 6M</b>	10 inch 3-ZERO R0.6 Flame Flex 6 metres	<b>FF 106R0.6 3M</b>	10 inch 3-ZERO R0.6 Flame Flex 3 metres
<b>FF 126R0.6 6M</b>	12 inch 3-ZERO R0.6 Flame Flex 6 metres	<b>FF 126R0.6 3M</b>	12 inch 3-ZERO R0.6 Flame Flex 3 metres
<b>FF 146R0.6 6M</b>	14 inch 3-ZERO R0.6 Flame Flex 6 metres	<b>FF 146R0.6 3M</b>	14 inch 3-ZERO R0.6 Flame Flex 3 metres
<b>FF 166R0.6 6M</b>	16 inch 3-ZERO R0.6 Flame Flex 6 metres	<b>FF 166R0.6 3M</b>	16 inch 3-ZERO R0.6 Flame Flex 3 metres
<b>FF 186R0.6 6M</b>	18 inch 3-ZERO R0.6 Flame Flex 6 metres	<b>FF 186R0.6 3M</b>	18 inch 3-ZERO R0.6 Flame Flex 3 metres
<b>FF 206R0.6 6M</b>	20 inch 3-ZERO R0.6 Flame Flex 6 metres	<b>FF 206R0.6 3M</b>	20 inch 3-ZERO R0.6 Flame Flex 3 metres



**PROJECT: ZARA, BRISBANE**



## 7.3 FLEXIBLE DUCT

### 3-ZERO R1.0 FLAME FLEX (FF)

157



**AIRFOIL**  
GRILLES  
DUCT  
FITTINGS  
*making it happen sooner...*



Airfoil's 3-Zero R1.0 flexible duct has been tested and meets all requirements of Australian Standards AS 4254.1 2012 and Building Codes of Australia Domestic and Commercial Air Handling Systems.

The duct has a black inner core with a metalised outer surface multi-layered construction containing high-level grade flame retardant water based adhesive with high tensile wire helix encapsulated. The Metalised Outer Layer has a multi-layered construction containing high quality grade flame retardant adhesive. The Polyester Insulation Blanket achieves a thermal rating of R1.0 with a thickness of 70mm.

The operating pressure range is 1000 Pa positive to 200 Pa negative and the operating temperature range is -10C to +80C.

Available sizes are 4", 5", 6", 8" 10", 12", 14", 16", 18", 20" in standard or acoustic and in 3 or 6 metre lengths.

#### Product specification codes:

<b>FF 4R1.0 6M</b>	4 inch 3-ZERO R1.0 Flame Flex 6 metres	<b>FF 4R1.0 3M</b>	4 inch 3-ZERO R1.0 Flame Flex 3 metres
<b>FF 5R1.0 6M</b>	5 inch 3-ZERO R1.0 Flame Flex 6 metres	<b>FF 5R1.0 3M</b>	5 inch 3-ZERO R1.0 Flame Flex 3 metres
<b>FF 6R1.0 6M</b>	6 inch 3-ZERO R1.0 Flame Flex 6 metres	<b>FF 6R1.0 3M</b>	6 inch 3-ZERO R1.0 Flame Flex 3 metres
<b>FF 8R1.0 6M</b>	8 inch 3-ZERO R1.0 Flame Flex 6 metres	<b>FF 8R1.0 3M</b>	8 inch 3-ZERO R1.0 Flame Flex 3 metres
<b>FF 10R1.0 6M</b>	10 inch 3-ZERO R1.0 Flame Flex 6 metres	<b>FF 10R1.0 3M</b>	10 inch 3-ZERO R1.0 Flame Flex 3 metres
<b>FF 12R1.0 6M</b>	12 inch 3-ZERO R1.0 Flame Flex 6 metres	<b>FF 12R1.0 3M</b>	12 inch 3-ZERO R1.0 Flame Flex 3 metres
<b>FF 14R1.0 6M</b>	14 inch 3-ZERO R1.0 Flame Flex 6 metres	<b>FF 14R1.0 3M</b>	14 inch 3-ZERO R1.0 Flame Flex 3 metres
<b>FF 16R1.0 6M</b>	16 inch 3-ZERO R1.0 Flame Flex 6 metres	<b>FF 16R1.0 3M</b>	16 inch 3-ZERO R1.0 Flame Flex 3 metres
<b>FF 18R1.0 6M</b>	18 inch 3-ZERO R1.0 Flame Flex 6 metres	<b>FF 18R1.0 3M</b>	18 inch 3-ZERO R1.0 Flame Flex 3 metres
<b>FF 20R1.0 6M</b>	20 inch 3-ZERO R1.0 Flame Flex 6 metres	<b>FF 20R1.0 3M</b>	20 inch 3-ZERO R1.0 Flame Flex 3 metres



**AIRFOIL FACTORY, SYDNEY**



Airfoil's 3-Zero R1.5 flexible duct has been tested and meets all requirements of Australian Standards AS 4254.1 2012 and Building Codes of Australia Domestic and Commercial Air Handling Systems.

The duct has a black inner core with a metalised outer surface multi-layered construction containing high-level grade flame retardant water based adhesive with high tensile wire helix encapsulated. The Metalised Outer Layer has a multi-layered construction containing high quality grade flame retardant adhesive. The Polyester Insulation Blanket achieves a thermal rating of R1.5 with a thickness of 90mm.

The operating pressure range is 1000 Pa positive to 200 Pa negative and the operating temperature range is -10C to +80C.

Available sizes are 4", 5", 6", 8" 10", 12", 14", 16", 18", 20" in standard or acoustic and in 3 or 6 metre lengths.



## Product specification codes:

<b>FF4R1.5 6M</b>	4 inch 3-ZERO R1.5 Flame Flex 6 metres	<b>FF4R1.5 3M</b>	4 inch 3-ZERO R1.5 Flame Flex 3 metres
<b>FF5R1.5 6M</b>	5 inch 3-ZERO R1.5 Flame Flex 6 metres	<b>FF5R1.5 3M</b>	5 inch 3-ZERO R1.5 Flame Flex 3 metres
<b>FF6R1.5 6M</b>	6 inch 3-ZERO R1.5 Flame Flex 6 metres	<b>FF6R1.5 3M</b>	6 inch 3-ZERO R1.5 Flame Flex 3 metres
<b>FF8R1.5 6M</b>	8 inch 3-ZERO R1.5 Flame Flex 6 metres	<b>FF8R1.5 3M</b>	8 inch 3-ZERO R1.5 Flame Flex 3 metres
<b>FF10R1.5 6M</b>	10 inch 3-ZERO R1.5 Flame Flex 6 metres	<b>FF10R1.5 3M</b>	10 inch 3-ZERO R1.5 Flame Flex 3 metres
<b>FF12R1.5 6M</b>	12 inch 3-ZERO R1.5 Flame Flex 6 metres	<b>FF12R1.5 3M</b>	12 inch 3-ZERO R1.5 Flame Flex 3 metres
<b>FF14R1.5 6M</b>	14 inch 3-ZERO R1.5 Flame Flex 6 metres	<b>FF14R1.5 3M</b>	14 inch 3-ZERO R1.5 Flame Flex 3 metres
<b>FF16R1.5 6M</b>	16 inch 3-ZERO R1.5 Flame Flex 6 metres	<b>FF16R1.5 3M</b>	16 inch 3-ZERO R1.5 Flame Flex 3 metres
<b>FF18R1.5 6M</b>	18 inch 3-ZERO R1.5 Flame Flex 6 metres	<b>FF18R1.5 3M</b>	18 inch 3-ZERO R1.5 Flame Flex 3 metres
<b>FF20R1.5 6M</b>	20 inch 3-ZERO R1.5 Flame Flex 6 metres	<b>FF20R1.5 3M</b>	20 inch 3-ZERO R1.5 Flame Flex 3 metres



**PROJECT: WYNYARD STATION, SYDNEY**



# 7.5 FLEXIBLE DUCT

## 3-ZERO R2.0 FLAME FLEX (FF)

159



Airfoil's 3-Zero R2.0 flexible duct has been tested and meets all requirements of Australian Standards AS 4254.1 2012 and Building Codes of Australia Domestic and Commercial Air Handling Systems.

The duct has a black inner core with a metalised outer surface multi-layered construction containing high-level grade flame retardant water based adhesive with high tensile wire helix encapsulated. The Metalised Outer Layer has a multi-layered construction containing high quality grade flame retardant adhesive. The Polyester Insulation Blanket achieves a thermal rating of R2.0 with a thickness of 90mm.

The operating pressure range is 1000 Pa positive to 200 Pa negative and the operating temperature range is -10C to +80C.

Available sizes are 4", 5", 6", 8" 10", 12", 14", 16", 18", 20" in standard or acoustic and in 3 or 6 metre lengths.

### Product specification codes:

<b>FF 4R2.0 6M</b>	4 inch 3-ZERO R2.0 Flame Flex Acoustic 6 metres	<b>FF 4R2.0 6M</b>	4 inch 3-ZERO R2.0 Flame Flex Acoustic 6 metres
<b>FF 5R2.0 6M</b>	5 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres	<b>FF 5R2.0 6M</b>	5 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres
<b>FF 6R2.0 6M</b>	6 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres	<b>FF 6R2.0 6M</b>	6 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres
<b>FF 8R2.0 6M</b>	8 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres	<b>FF 8R2.0 6M</b>	8 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres
<b>FF 10R2.0 6M</b>	10 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres	<b>FF 10R2.0 6M</b>	10 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres
<b>FF 12R2.0 6M</b>	12 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres	<b>FF 12R2.0 6M</b>	12 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres
<b>FF 14R2.0 6M</b>	14 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres	<b>FF 14R2.0 6M</b>	14 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres
<b>FF 16R2.0 6M</b>	16 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres	<b>FF 16R2.0 6M</b>	16 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres
<b>FF 18R2.0 6M</b>	18 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres	<b>FF 18R2.0 6M</b>	18 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres
<b>FF 20R2.0 6M</b>	20 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres	<b>FF 20R2.0 6M</b>	20 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres



PROJECT: WOOLWORTHS CROWS NEST, SYDNEY



Airfoil's 3-Zero R0.6 flexible acoustic duct has been tested and meets all requirements of Australian Standards AS 4254.1 2012 and Building Codes of Australia Domestic and Commercial Air Handling Systems.

The duct has a black inner core with a metalised outer surface multi-layered construction containing high-level grade flame retardant water based adhesive with high tensile wire helix encapsulated. The Metalised Outer Layer has a multi-layered construction containing high quality grade flame retardant adhesive. The Polyester Insulation Blanket achieves a thermal rating of R0.6 with a thickness of 25mm.

The operating pressure range is 1000 Pa positive to 200 Pa negative and the operating temperature range is -10C to +80C.

Available sizes are 4", 5", 6", 8", 10", 12", 14", 16", 18", 20" in standard or acoustic and in 3 or 6 metre lengths.



## Product specification codes:

<b>FFAC 46R0.6 6M</b>	4 inch 3-ZERO R0.6 Flame Flex Acoustic 6 metres	<b>FFAC 46R0.6 3M</b>	4 inch 3-ZERO R0.6 Flame Flex Acoustic 3 metres
<b>FFAC 56R0.6 6M</b>	5 inch 3-ZERO R0.6 Flame Flex Acoustic 6 metres	<b>FFAC 56R0.6 3M</b>	5 inch 3-ZERO R0.6 Flame Flex Acoustic 3 metres
<b>FFAC 66R0.6 6M</b>	6 inch 3-ZERO R0.6 Flame Flex Acoustic 6 metres	<b>FFAC 66R0.6 3M</b>	6 inch 3-ZERO R0.6 Flame Flex Acoustic 3 metres
<b>FFAC 86R0.6 6M</b>	8 inch 3-ZERO R0.6 Flame Flex Acoustic 6 metres	<b>FFAC 86R0.6 3M</b>	8 inch 3-ZERO R0.6 Flame Flex Acoustic 3 metres
<b>FFAC 106R0.6 6M</b>	10 inch 3-ZERO R0.6 Flame Flex Acoustic 6 metres	<b>FFAC 106R0.6 3M</b>	10 inch 3-ZERO R0.6 Flame Flex Acoustic 3 metres
<b>FFAC 126R0.6 6M</b>	12 inch 3-ZERO R0.6 Flame Flex Acoustic 6 metres	<b>FFAC 126R0.6 3M</b>	12 inch 3-ZERO R0.6 Flame Flex Acoustic 3 metres
<b>FFAC 146R0.6 6M</b>	14 inch 3-ZERO R0.6 Flame Flex Acoustic 6 metres	<b>FFAC 146R0.6 3M</b>	14 inch 3-ZERO R0.6 Flame Flex Acoustic 3 metres
<b>FFAC 166R0.6 6M</b>	16 inch 3-ZERO R0.6 Flame Flex Acoustic 6 metres	<b>FFAC 166R0.6 3M</b>	16 inch 3-ZERO R0.6 Flame Flex Acoustic 3 metres
<b>FFAC 186R0.6 6M</b>	18 inch 3-ZERO R0.6 Flame Flex Acoustic 6 metres	<b>FFAC 186R0.6 3M</b>	18 inch 3-ZERO R0.6 Flame Flex Acoustic 3 metres
<b>FFAC 206R0.6 6M</b>	20 inch 3-ZERO R0.6 Flame Flex Acoustic 6 metres	<b>FFAC 206R0.6 3M</b>	20 inch 3-ZERO R0.6 Flame Flex Acoustic 3 metres





# 7.7 FLEXIBLE DUCT

## 3-ZERO R1.0 FLAME FLEX ACOUSTIC (FFAC)

161



Airfoil's 3-Zero R1.0 flexible acoustic duct has been tested and meets all requirements of Australian Standards AS 4254.1 2012 and Building Codes of Australia Domestic and Commercial Air Handling Systems.

The duct has a black inner core with a metalised outer surface multi-layered construction containing high-level grade flame retardant water based adhesive with high tensile wire helix encapsulated. The Metalised Outer Layer has a multi-layered construction containing high quality grade flame retardant adhesive. The Polyester Insulation Blanket achieves a thermal rating of R1.0 with a thickness of 70mm.

The operating pressure range is 1000 Pa positive to 200 Pa negative and the operating temperature range is -10C to +80C.

Available sizes are 4", 5", 6", 8" 10", 12", 14", 16", 18", 20" in standard or acoustic and in 3 or 6 metre lengths.

### Product specification codes:

<b>FFAC 4R1.0 6M</b>	4 inch 3-ZERO R1.0 Flame Flex Acoustic 6 metres	<b>FFAC 4R1.0 3M</b>	4 inch 3-ZERO R1.0 Flame Flex Acoustic 3 metres
<b>FFAC 5R1.0 6M</b>	5 inch 3-ZERO R1.0 Flame Flex Acoustic 6 metres	<b>FFAC 5R1.0 3M</b>	5 inch 3-ZERO R1.0 Flame Flex Acoustic 3 metres
<b>FFAC 6R1.0 6M</b>	6 inch 3-ZERO R1.0 Flame Flex Acoustic 6 metres	<b>FFAC 6R1.0 3M</b>	6 inch 3-ZERO R1.0 Flame Flex Acoustic 3 metres
<b>FFAC 8R1.0 6M</b>	8 inch 3-ZERO R1.0 Flame Flex Acoustic 6 metres	<b>FFAC 8R1.0 3M</b>	8 inch 3-ZERO R1.0 Flame Flex Acoustic 3 metres
<b>FFAC 10R1.0 6M</b>	10 inch 3-ZERO R1.0 Flame Flex Acoustic 6 metres	<b>FFAC 10R1.0 3M</b>	10 inch 3-ZERO R1.0 Flame Flex Acoustic 3 metres
<b>FFAC 12R1.0 6M</b>	12 inch 3-ZERO R1.0 Flame Flex Acoustic 6 metres	<b>FFAC 12R1.0 3M</b>	12 inch 3-ZERO R1.0 Flame Flex Acoustic 3 metres
<b>FFAC 14R1.0 6M</b>	14 inch 3-ZERO R1.0 Flame Flex Acoustic 6 metres	<b>FFAC 14R1.0 3M</b>	14 inch 3-ZERO R1.0 Flame Flex Acoustic 3 metres
<b>FFAC 16R1.0 6M</b>	16 inch 3-ZERO R1.0 Flame Flex Acoustic 6 metres	<b>FFAC 16R1.0 3M</b>	16 inch 3-ZERO R1.0 Flame Flex Acoustic 3 metres
<b>FFAC 18R1.0 6M</b>	18 inch 3-ZERO R1.0 Flame Flex Acoustic 6 metres	<b>FFAC 18R1.0 3M</b>	18 inch 3-ZERO R1.0 Flame Flex Acoustic 3 metres
<b>FFAC 20R1.0 6M</b>	20 inch 3-ZERO R1.0 Flame Flex Acoustic 6 metres	<b>FFAC 20R1.0 3M</b>	20 inch 3-ZERO R1.0 Flame Flex Acoustic 3 metres



PROJECT: 200 GEORGE STREET, SYDNEY



Airfoil's 3-Zero R1.5 flexible acoustic duct has been tested and meets all requirements of Australian Standards AS 4254.1 2012 and Building Codes of Australia Domestic and Commercial Air Handling Systems.

The duct has a black inner core with a metalised outer surface multi-layered construction containing high-level grade flame retardant water based adhesive with high tensile wire helix encapsulated. The Metalised Outer Layer has a multi-layered construction containing high quality grade flame retardant adhesive. The Polyester Insulation Blanket achieves a thermal rating of R1.5 with a thickness of 90mm.

The operating pressure range is 1000 Pa positive to 200 Pa negative and the operating temperature range is -10C to +80C.

Available sizes are 4", 5", 6", 8" 10", 12", 14", 16", 18", 20" in standard or acoustic and in 3 or 6 metre lengths.



### Product specification codes:

<b>FFAC 4R1.5 6M</b>	4 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres	<b>FFAC 4R1.5 6M</b>	4 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres
<b>FFAC 5R1.5 6M</b>	5 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres	<b>FFAC 5R1.5 6M</b>	5 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres
<b>FFAC 6R1.5 6M</b>	6 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres	<b>FFAC 6R1.5 6M</b>	6 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres
<b>FFAC 8R1.5 6M</b>	8 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres	<b>FFAC 8R1.5 6M</b>	8 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres
<b>FFAC 10R1.5 6M</b>	10 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres	<b>FFAC 10R1.5 6M</b>	10 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres
<b>FFAC 12R1.5 6M</b>	12 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres	<b>FFAC 12R1.5 6M</b>	12 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres
<b>FFAC 14R1.5 6M</b>	14 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres	<b>FFAC 14R1.5 6M</b>	14 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres
<b>FFAC 16R1.5 6M</b>	16 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres	<b>FFAC 16R1.5 6M</b>	16 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres
<b>FFAC 18R1.5 6M</b>	18 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres	<b>FFAC 18R1.5 6M</b>	18 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres
<b>FFAC 20R1.5 6M</b>	20 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres	<b>FFAC 20R1.5 6M</b>	20 inch 3-ZERO R1.5 Flame Flex Acoustic 6 metres





# 7.9 FLEXIBLE DUCT

## 3-ZERO R2.0 FLAME FLEX ACOUSTIC (FFAC)

163



Airfoil's 3-Zero R2.0 flexible acoustic duct has been tested and meets all requirements of Australian Standards AS 4254.1 2012 and Building Codes of Australia Domestic and Commercial Air Handling Systems.

The duct has a black inner core with a metalised outer surface multi-layered construction containing high-level grade flame retardant water based adhesive with high tensile wire helix encapsulated. The Metalised Outer Layer has a multi-layered construction containing high quality grade flame retardant adhesive. The Polyester Insulation Blanket achieves a thermal rating of R2.0 with a thickness of 90mm.

The operating pressure range is 1000 Pa positive to 200 Pa negative and the operating temperature range is -10C to +80C.

Available sizes are 4", 5", 6", 8" 10", 12", 14", 16", 18", 20" in standard or acoustic and in 3 or 6 metre lengths.

### Product specification codes:

<b>FFAC 4R2.0 6M</b>	4 inch 3-ZERO R2.0 Flame Flex Acoustic 6 metres	<b>FFAC 4R2.0 3M</b>	4 inch 3-ZERO R2.0 Flame Flex Acoustic 3 metres
<b>FFAC 5R2.0 6M</b>	5 inch 3-ZERO R2.0 Flame Flex Acoustic 6 metres	<b>FFAC 5R2.0 3M</b>	5 inch 3-ZERO R2.0 Flame Flex Acoustic 3 metres
<b>FFAC 6R2.0 6M</b>	6 inch 3-ZERO R2.0 Flame Flex Acoustic 6 metres	<b>FFAC 6R2.0 3M</b>	6 inch 3-ZERO R2.0 Flame Flex Acoustic 3 metres
<b>FFAC 8R2.0 6M</b>	8 inch 3-ZERO R2.0 Flame Flex Acoustic 6 metres	<b>FFAC 8R2.0 3M</b>	8 inch 3-ZERO R2.0 Flame Flex Acoustic 3 metres
<b>FFAC 10R2.0 6M</b>	10 inch 3-ZERO R2.0 Flame Flex Acoustic 6 metres	<b>FFAC 10R2.0 3M</b>	10 inch 3-ZERO R2.0 Flame Flex Acoustic 3 metres
<b>FFAC 12R2.0 6M</b>	12 inch 3-ZERO R2.0 Flame Flex Acoustic 6 metres	<b>FFAC 12R2.0 3M</b>	12 inch 3-ZERO R2.0 Flame Flex Acoustic 3 metres
<b>FFAC 14R2.0 6M</b>	14 inch 3-ZERO R2.0 Flame Flex Acoustic 6 metres	<b>FFAC 14R2.0 3M</b>	14 inch 3-ZERO R2.0 Flame Flex Acoustic 3 metres
<b>FFAC 16R2.0 6M</b>	16 inch 3-ZERO R2.0 Flame Flex Acoustic 6 metres	<b>FFAC 16R2.0 3M</b>	16 inch 3-ZERO R2.0 Flame Flex Acoustic 3 metres
<b>FFAC 18R2.0 6M</b>	18 inch 3-ZERO R2.0 Flame Flex Acoustic 6 metres	<b>FFAC 18R2.0 3M</b>	18 inch 3-ZERO R2.0 Flame Flex Acoustic 3 metres
<b>FFAC 20R2.0 6M</b>	20 inch 3-ZERO R2.0 Flame Flex Acoustic 6 metres	<b>FFAC 20R2.0 3M</b>	20 inch 3-ZERO R2.0 Flame Flex Acoustic 3 metres



PROJECT: WET & WILD EASTERN CREEK, NSW



Airfoil's 4-Zero nude core duct has been tested and meets all requirements of Australian Standards AS 4254.1 2012 and Building Codes of Australia Domestic and Commercial Air Handling Systems.

This duct has an Aluminium/Polyester inner surface, Metalised Polyester outer surface multi-layered construction containing high-level flame retardant Water based adhesive with high tensile wire helix encapsulated. The operating pressure range is 1000 Pa positive to 200 Pa negative and the operating temperature range is -10C to +80C.

Available sizes are 4", 5", 6", 8" 10", 12", 14", 16", 18", 20" in standard or acoustic and in 3 or 6 metre lengths.



### Product specification codes:

<b>PF44 6M</b>	4 inch 4-ZERO Plain Flex 6 metres	<b>PF44 3M</b>	4 inch 3-ZERO Plain Flex 3 metres
<b>PF54 6M</b>	5 inch 4-ZERO Plain Flex 6 metres	<b>PF54 3M</b>	5 inch 3-ZERO Plain Flex 3 metres
<b>PF64 6M</b>	6 inch 4-ZERO Plain Flex 6 metres	<b>PF64 3M</b>	6 inch 3-ZERO Plain Flex 3 metres
<b>PF84 6M</b>	8 inch 4-ZERO Plain Flex 6 metres	<b>PF84 3M</b>	8 inch 3-ZERO Plain Flex 3 metres
<b>PF104 6M</b>	10 inch 4-ZERO Plain Flex 6 metres	<b>PF104 3M</b>	10 inch 3-ZERO Plain Flex 3 metres
<b>PF124 6M</b>	12 inch 4-ZERO Plain Flex 6 metres	<b>PF124 3M</b>	12 inch 3-ZERO Plain Flex 3 metres
<b>PF144 6M</b>	14 inch 4-ZERO Plain Flex 6 metres	<b>PF144 3M</b>	14 inch 3-ZERO Plain Flex 3 metres
<b>PF164 6M</b>	16 inch 4-ZERO Plain Flex 6 metres	<b>PF164 3M</b>	16 inch 3-ZERO Plain Flex 3 metres
<b>PF184 6M</b>	18 inch 4-ZERO Plain Flex 6 metres	<b>PF164 3M</b>	18 inch 3-ZERO Plain Flex 3 metres
<b>PF204 6M</b>	20 inch 4-ZERO Plain Flex 6 metres	<b>PF204 3M</b>	20 inch 3-ZERO Plain Flex 3 metres



**AIRFOIL FACTORY, SYDNEY**



# 7.11 FLEXIBLE DUCT

## 4-ZERO R0.6 PYRO FLEX (PYF)

165



Airfoil's 4-Zero R0.6 flexible duct has been tested and meets all requirements of Australian Standards AS 4254.1 2012 and Building Codes of Australia Domestic and Commercial Air Handling Systems.

The Aluminium 4-Zero Inner Core with Metalised Outer surface has a multi-layered construction containing high-level grade Flame Retardant Water based adhesive with high tensile wire helix encapsulated. The Metalised Outer Layer has a multi-layered construction containing high quality grade flame retardant adhesive. The Polyester Insulation Blanket achieves a thermal rating of R0.6 with a thickness of 25mm.

The operating pressure range is 1000 Pa positive to 200 Pa negative and the operating temperature range is -10C to +80C.

Available sizes are 4", 5", 6", 8" 10", 12", 14", 16", 18", 20" in standard or acoustic and in 3 or 6 metre lengths.

### Product specification codes:

<b>PYF 4R0.6 6M</b>	4 inch 4-ZERO R0.6 Pyro Flex 6 metres	<b>PYF 4R0.6 3M</b>	4 inch 4-ZERO R0.6 Pyro Flex 3 metres
<b>PYF 5R0.6 6M</b>	5 inch 4-ZERO R0.6 Pyro Flex 6 metres	<b>PYF 5R0.6 3M</b>	5 inch 4-ZERO R0.6 Pyro Flex 3 metres
<b>PYF 6R0.6 6M</b>	6 inch 4-ZERO R0.6 Pyro Flex 6 metres	<b>PYF 6R0.6 3M</b>	6 inch 4-ZERO R0.6 Pyro Flex 3 metres
<b>PYF 8R0.6 6M</b>	8 inch 4-ZERO R0.6 Pyro Flex 6 metres	<b>PYF 8R0.6 3M</b>	8 inch 4-ZERO R0.6 Pyro Flex 3 metres
<b>PYF 10R0.6 6M</b>	10 inch 4-ZERO R0.6 Pyro Flex 6 metres	<b>PYF 10R0.6 3M</b>	10 inch 4-ZERO R0.6 Pyro Flex 3 metres
<b>PYF 12R0.6 6M</b>	12 inch 4-ZERO R0.6 Pyro Flex 6 metres	<b>PYF 12R0.6 3M</b>	12 inch 4-ZERO R0.6 Pyro Flex 3 metres
<b>PYF 14R0.6 6M</b>	14 inch 4-ZERO R0.6 Pyro Flex 6 metres	<b>PYF 14R0.6 3M</b>	14 inch 4-ZERO R0.6 Pyro Flex 3 metres
<b>PYF 16R0.6 6M</b>	16 inch 4-ZERO R0.6 Pyro Flex 6 metres	<b>PYF 16R0.6 3M</b>	16 inch 4-ZERO R0.6 Pyro Flex 3 metres
<b>PYF 18R0.6 6M</b>	18 inch 4-ZERO R0.6 Pyro Flex 6 metres	<b>PYF 18R0.6 3M</b>	18 inch 4-ZERO R0.6 Pyro Flex 3 metres
<b>PYF 20R0.6 6M</b>	20 inch 4-ZERO R0.6 Pyro Flex 6 metres	<b>PYF 20R0.6 3M</b>	20 inch 4-ZERO R0.6 Pyro Flex 3 metres

PROJECT: MACQUARIE PARK VILLAGE, NSW





Airfoil's 4-Zero R1.0 flexible duct has been tested and meets all requirements of Australian Standards AS 4254.1 2012 and Building Codes of Australia Domestic and Commercial Air Handling Systems.

The Aluminium 4-Zero Inner Core with Metalised Outer surface has a multi-layered construction containing high-level grade Flame Retardant Water based adhesive with high tensile wire helix encapsulated. The Metalised Outer Layer has a multi-layered construction containing high quality grade flame retardant adhesive. The Polyester Insulation Blanket achieves a thermal rating of R1.0 with a thickness of 70mm.

The operating pressure range is 1000 Pa positive to 200 Pa negative and the operating temperature range is -10C to +80C.

Available sizes are 4", 5", 6", 8" 10", 12", 14", 16", 18", 20" in standard or acoustic and in 3 or 6 metre lengths.



### Product specification codes:

<b>PYF 4R1.0 6M</b>	4 inch 4-ZERO R1.0 Pyro Flex 6 metres	<b>PYF 4R1.0 3M</b>	4 inch 4-ZERO R1.0 Pyro Flex 3 metres
<b>PYF 5R1.0 6M</b>	5 inch 4-ZERO R1.0 Pyro Flex 6 metres	<b>PYF 5R1.0 3M</b>	5 inch 4-ZERO R1.0 Pyro Flex 3 metres
<b>PYF 6R1.0 6M</b>	6 inch 4-ZERO R1.0 Pyro Flex 6 metres	<b>PYF 6R1.0 3M</b>	6 inch 4-ZERO R1.0 Pyro Flex 3 metres
<b>PYF 8R1.0 6M</b>	8 inch 4-ZERO R1.0 Pyro Flex 6 metres	<b>PYF 8R1.0 3M</b>	8 inch 4-ZERO R1.0 Pyro Flex 3 metres
<b>PYF 10R1.0 6M</b>	10 inch 4-ZERO R1.0 Pyro Flex 6 metres	<b>PYF 10R1.0 3M</b>	10 inch 4-ZERO R1.0 Pyro Flex 3 metres
<b>PYF 12R1.0 6M</b>	12 inch 4-ZERO R1.0 Pyro Flex 6 metres	<b>PYF 12R1.0 3M</b>	12 inch 4-ZERO R1.0 Pyro Flex 3 metres
<b>PYF 14R1.0 6M</b>	14 inch 4-ZERO R1.0 Pyro Flex 6 metres	<b>PYF 14R1.0 3M</b>	14 inch 4-ZERO R1.0 Pyro Flex 3 metres
<b>PYF 16R1.0 6M</b>	16 inch 4-ZERO R1.0 Pyro Flex 6 metres	<b>PYF 16R1.0 3M</b>	16 inch 4-ZERO R1.0 Pyro Flex 3 metres
<b>PYF 18R1.0 6M</b>	18 inch 4-ZERO R1.0 Pyro Flex 6 metres	<b>PYF 18R1.0 3M</b>	18 inch 4-ZERO R1.0 Pyro Flex 3 metres
<b>PYF 20R1.0 6M</b>	20 inch 4-ZERO R1.0 Pyro Flex 6 metres	<b>PYF 20R1.0 3M</b>	20 inch 4-ZERO R1.0 Pyro Flex 3 metres



# 7.13 FLEXIBLE DUCT

## 4-ZERO R1.5 PYRO FLEX (PYF)

167



Airfoil's 4-Zero R1.5 flexible duct has been tested and meets all requirements of Australian Standards AS 4254.1 2012 and Building Codes of Australia Domestic and Commercial Air Handling Systems.

The Aluminium 4-Zero Inner Core with Metalised Outer surface has a multi-layered construction containing high-level grade Flame Retardant Water based adhesive with high tensile wire helix encapsulated. The Metalised Outer Layer has a multi-layered construction containing high quality grade flame retardant adhesive. The Polyester Insulation Blanket achieves a thermal rating of R1.5 with a thickness of 90mm.

The operating pressure range is 1000 Pa positive to 200 Pa negative and the operating temperature range is -10C to +80C.

Available sizes are 4", 5", 6", 8" 10", 12", 14", 16", 18", 20" in standard or acoustic and in 3 or 6 metre lengths.

### Product specification codes:

<b>PYF 4R1.5 6M</b>	4 inch 4-ZERO R1.5 Pyro Flex 6 metres	<b>PYF 4R1.5 6M</b>	4 inch 4-ZERO R1.5 Pyro Flex 6 metres
<b>PYF 5R1.5 6M</b>	5 inch 4-ZERO R1.5 Pyro Flex 6 metres	<b>PYF 5R1.5 6M</b>	5 inch 4-ZERO R1.5 Pyro Flex 6 metres
<b>PYF 6R1.5 6M</b>	6 inch 4-ZERO R1.5 Pyro Flex 6 metres	<b>PYF 6R1.5 6M</b>	6 inch 4-ZERO R1.5 Pyro Flex 6 metres
<b>PYF 8R1.5 6M</b>	8 inch 4-ZERO R1.5 Pyro Flex 6 metres	<b>PYF 8R1.5 6M</b>	8 inch 4-ZERO R1.5 Pyro Flex 6 metres
<b>PYF 10R1.5 6M</b>	10 inch 4-ZERO R1.5 Pyro Flex 6 metres	<b>PYF 10R1.5 6M</b>	10 inch 4-ZERO R1.5 Pyro Flex 6 metres
<b>PYF 12R1.5 6M</b>	12 inch 4-ZERO R1.5 Pyro Flex 6 metres	<b>PYF 12R1.5 6M</b>	12 inch 4-ZERO R1.5 Pyro Flex 6 metres
<b>PYF 14R1.5 6M</b>	14 inch 4-ZERO R1.5 Pyro Flex 6 metres	<b>PYF 14R1.5 6M</b>	14 inch 4-ZERO R1.5 Pyro Flex 6 metres
<b>PYF 16R1.5 6M</b>	16 inch 4-ZERO R1.5 Pyro Flex 6 metres	<b>PYF 16R1.5 6M</b>	16 inch 4-ZERO R1.5 Pyro Flex 6 metres
<b>PYF 18R1.5 6M</b>	18 inch 4-ZERO R1.5 Pyro Flex 6 metres	<b>PYF 18R1.5 6M</b>	18 inch 4-ZERO R1.5 Pyro Flex 6 metres
<b>PYF 20R1.5 6M</b>	20 inch 4-ZERO R1.5 Pyro Flex 6 metres	<b>PYF 20R1.5 6M</b>	20 inch 4-ZERO R1.5 Pyro Flex 6 metres



PROJECT: COFFS HARBOUR JUSTICE PRECINCT, NSW

Airfoil's 4-Zero R2.0 flexible duct has been tested and meets all requirements of Australian Standards AS 4254.1 2012 and Building Codes of Australia Domestic and Commercial Air Handling Systems.

The Aluminium 4-Zero Inner Core with Metalised Outer surface has a multi-layered construction containing high-level grade Flame Retardant Water based adhesive with high tensile wire helix encapsulated. The Metalised Outer Layer has a multi-layered construction containing high quality grade flame retardant adhesive. The Polyester Insulation Blanket achieves a thermal rating of R2.0 with a thickness of 90mm.

The operating pressure range is 1000 Pa positive to 200 Pa negative and the operating temperature range is -10C to +80C.

Available sizes are 4", 5", 6", 8" 10", 12", 14", 16", 18", 20" in standard or acoustic and in 3 or 6 metre lengths.



### Product specification codes:

<b>PYF 4R2.0 6M</b>	4 inch 4-ZERO R2.0 Pyro Flex 6 metres	<b>PYF 4R2.0 3M</b>	4 inch 4-ZERO R2.0 Pyro Flex 3 metres
<b>PYF 5R2.0 6M</b>	5 inch 4-ZERO R2.0 Pyro Flex 6 metres	<b>PYF 5R2.0 3M</b>	5 inch 4-ZERO R2.0 Pyro Flex 3 metres
<b>PYF 6R2.0 6M</b>	6 inch 4-ZERO R2.0 Pyro Flex 6 metres	<b>PYF 6R2.0 3M</b>	6 inch 4-ZERO R2.0 Pyro Flex 3 metres
<b>PYF 8R2.0 6M</b>	8 inch 4-ZERO R2.0 Pyro Flex 6 metres	<b>PYF 8R2.0 3M</b>	8 inch 4-ZERO R2.0 Pyro Flex 3 metres
<b>PYF 10R2.0 6M</b>	10 inch 4-ZERO R2.0 Pyro Flex 6 metres	<b>PYF 10R2.0 3M</b>	10 inch 4-ZERO R2.0 Pyro Flex 3 metres
<b>PYF 12R2.0 6M</b>	12 inch 4-ZERO R2.0 Pyro Flex 6 metres	<b>PYF 12R2.0 3M</b>	12 inch 4-ZERO R2.0 Pyro Flex 3 metres
<b>PYF 14R2.0 6M</b>	14 inch 4-ZERO R2.0 Pyro Flex 6 metres	<b>PYF 14R2.0 3M</b>	14 inch 4-ZERO R2.0 Pyro Flex 3 metres
<b>PYF 16R2.0 6M</b>	16 inch 4-ZERO R2.0 Pyro Flex 6 metres	<b>PYF 16R2.0 3M</b>	16 inch 4-ZERO R2.0 Pyro Flex 3 metres
<b>PYF 18R2.0 6M</b>	18 inch 4-ZERO R2.0 Pyro Flex 6 metres	<b>PYF 18R2.0 3M</b>	18 inch 4-ZERO R2.0 Pyro Flex 3 metres
<b>PYF 20R2.0 6M</b>	20 inch 4-ZERO R2.0 Pyro Flex 6 metres	<b>PYF 20R2.0 3M</b>	20 inch 4-ZERO R2.0 Pyro Flex 3 metres





# 7.15 FLEXIBLE DUCT

## 4-ZERO R0.6 PYRO FLEX ACOUSTIC (PYFAC)

169



**AIRFOIL**  
GRILLES  
DUCT  
FITTINGS  
*making it happen sooner...*



Airfoil's 4-Zero R0.6 flexible acoustic duct has been tested and meets all requirements of Australian Standards AS 4254.1 2012 and Building Codes of Australia Domestic and Commercial Air Handling Systems.

The Aluminium 4-Zero Inner Core with Metalised Outer surface has a multi-layered construction containing high-level grade Flame Retardant Water based adhesive with high tensile wire helix encapsulated. The Metalised Outer Layer has a multi-layered construction containing high quality grade flame retardant adhesive. The Polyester Insulation Blanket achieves a thermal rating of R0.6 with a thickness of 25mm.

The operating pressure range is 1000 Pa positive to 200 Pa negative and the operating temperature range is -10C to +80C.

Available sizes are 4", 5", 6", 8", 10", 12", 14", 16", 18", 20" in standard or acoustic and in 3 or 6 metre lengths.

### Product specification codes:

<b>PYFAC 4R0.6 6M</b>	4 inch 4-ZERO R0.6 Pyro Flex Acoustic 6 metres	<b>PYFAC 4R0.6 3M</b>	4 inch 4-ZERO R0.6 Pyro Flex Acoustic 3 metres
<b>PYFAC 5R0.6 6M</b>	5 inch 4-ZERO R0.6 Pyro Flex Acoustic 6 metres	<b>PYFAC 5R0.6 3M</b>	5 inch 4-ZERO R0.6 Pyro Flex Acoustic 3 metres
<b>PYFAC 6R0.6 6M</b>	6 inch 4-ZERO R0.6 Pyro Flex Acoustic 6 metres	<b>PYFAC 6R0.6 3M</b>	6 inch 4-ZERO R0.6 Pyro Flex Acoustic 3 metres
<b>PYFAC 8R0.6 6M</b>	8 inch 4-ZERO R0.6 Pyro Flex Acoustic 6 metres	<b>PYFAC 8R0.6 3M</b>	8 inch 4-ZERO R0.6 Pyro Flex Acoustic 3 metres
<b>PYFAC 10R0.6 6M</b>	10 inch 4-ZERO R0.6 Pyro Flex Acoustic 6 metres	<b>PYFAC 10R0.6 3M</b>	10 inch 4-ZERO R0.6 Pyro Flex Acoustic 3 metres
<b>PYFAC 12R0.6 6M</b>	12 inch 4-ZERO R0.6 Pyro Flex Acoustic 6 metres	<b>PYFAC 12R0.6 3M</b>	12 inch 4-ZERO R0.6 Pyro Flex Acoustic 3 metres
<b>PYFAC 14R0.6 6M</b>	14 inch 4-ZERO R0.6 Pyro Flex Acoustic 6 metres	<b>PYFAC 14R0.6 3M</b>	14 inch 4-ZERO R0.6 Pyro Flex Acoustic 3 metres
<b>PYFAC 16R0.6 6M</b>	16 inch 4-ZERO R0.6 Pyro Flex Acoustic 6 metres	<b>PYFAC 16R0.6 3M</b>	16 inch 4-ZERO R0.6 Pyro Flex Acoustic 3 metres
<b>PYFAC 18R0.6 6M</b>	18 inch 4-ZERO R0.6 Pyro Flex Acoustic 6 metres	<b>PYFAC 18R0.6 3M</b>	18 inch 4-ZERO R0.6 Pyro Flex Acoustic 3 metres
<b>PYFAC 20R0.6 6M</b>	20 inch 4-ZERO R0.6 Pyro Flex Acoustic 6 metres	<b>PYFAC 20R0.6 3M</b>	20 inch 4-ZERO R0.6 Pyro Flex Acoustic 3 metres



**PROJECT: SOKYO RESTAURANT, THE STAR, SYDNEY**



Airfoil's 4-Zero R1.0 flexible acoustic duct has been tested and meets all requirements of Australian Standards AS 4254.1 2012 and Building Codes of Australia Domestic and Commercial Air Handling Systems.

The Aluminium 4-Zero Inner Core with Metalised Outer surface has a multi-layered construction containing high-level grade Flame Retardant Water based adhesive with high tensile wire helix encapsulated. The Metalised Outer Layer has a multi-layered construction containing high quality grade flame retardant adhesive. The Polyester Insulation Blanket achieves a thermal rating of R1.0 with a thickness of 70mm.

The operating pressure range is 1000 Pa positive to 200 Pa negative and the operating temperature range is -10C to +80C.

Available sizes are 4", 5", 6", 8", 10", 12", 14", 16", 18", 20" in standard or acoustic and in 3 or 6 metre lengths.



### Product specification codes:

<b>PYFAC 4R1.0 6M</b>	4 inch 4-ZERO R1.0 Pyro Flex Acoustic 6 metres	<b>PYFAC 4R1.0 3M</b>	4 inch 4-ZERO R1.0 Pyro Flex Acoustic 3 metres
<b>PYFAC 5R1.0 6M</b>	5 inch 4-ZERO R1.0 Pyro Flex Acoustic 6 metres	<b>PYFAC 5R1.0 3M</b>	5 inch 4-ZERO R1.0 Pyro Flex Acoustic 3 metres
<b>PYFAC 6R1.0 6M</b>	6 inch 4-ZERO R1.0 Pyro Flex Acoustic 6 metres	<b>PYFAC 6R1.0 3M</b>	6 inch 4-ZERO R1.0 Pyro Flex Acoustic 3 metres
<b>PYFAC 8R1.0 6M</b>	8 inch 4-ZERO R1.0 Pyro Flex Acoustic 6 metres	<b>PYFAC 8R1.0 3M</b>	8 inch 4-ZERO R1.0 Pyro Flex Acoustic 3 metres
<b>PYFAC 10R1.0 6M</b>	10 inch 4-ZERO R1.0 Pyro Flex Acoustic 6 metres	<b>PYFAC 10R1.0 3M</b>	10 inch 4-ZERO R1.0 Pyro Flex Acoustic 3 metres
<b>PYFAC 12R1.0 6M</b>	12 inch 4-ZERO R1.0 Pyro Flex Acoustic 6 metres	<b>PYFAC 12R1.0 3M</b>	12 inch 4-ZERO R1.0 Pyro Flex Acoustic 3 metres
<b>PYFAC 14R1.0 6M</b>	14 inch 4-ZERO R1.0 Pyro Flex Acoustic 6 metres	<b>PYFAC 14R1.0 3M</b>	14 inch 4-ZERO R1.0 Pyro Flex Acoustic 3 metres
<b>PYFAC 16R1.0 6M</b>	16 inch 4-ZERO R1.0 Pyro Flex Acoustic 6 metres	<b>PYFAC 16R1.0 3M</b>	16 inch 4-ZERO R1.0 Pyro Flex Acoustic 3 metres
<b>PYFAC 18R1.0 6M</b>	18 inch 4-ZERO R1.0 Pyro Flex Acoustic 6 metres	<b>PYFAC 18R1.0 3M</b>	18 inch 4-ZERO R1.0 Pyro Flex Acoustic 3 metres
<b>PYFAC 20R1.0 6M</b>	20 inch 4-ZERO R1.0 Pyro Flex Acoustic 6 metres	<b>PYFAC 20R1.0 3M</b>	20 inch 4-ZERO R1.0 Pyro Flex Acoustic 3 metres



# 7.17 FLEXIBLE DUCT

## 4-ZERO R1.5 PYRO FLEX ACOUSTIC (PYFAC)



Airfoil's 4-Zero R1.5 flexible acoustic duct has been tested and meets all requirements of Australian Standards AS 4254.1 2012 and Building Codes of Australia Domestic and Commercial Air Handling Systems.

The Aluminium 4-Zero Inner Core with Metalised Outer surface has a multi-layered construction containing high-level grade Flame Retardant Water based adhesive with high tensile wire helix encapsulated. The Metalised Outer Layer has a multi-layered construction containing high quality grade flame retardant adhesive. The Polyester Insulation Blanket achieves a thermal rating of R1.5 with a thickness of 70mm.

The operating pressure range is 1000 Pa positive to 200 Pa negative and the operating temperature range is -10C to +80C.

Available sizes are 4", 5", 6", 8" 10", 12", 14", 16", 18", 20" in standard or acoustic and in 3 or 6 metre lengths.

### Product specification codes:

<b>PYFAC 4R1.5 6M</b>	4 inch 4-ZERO R1.5 Pyro Flex Acoustic 6 metres	<b>PYFAC 4R1.5 6M</b>	4 inch 4-ZERO R1.5 Pyro Flex Acoustic 6 metres
<b>PYFAC 5R1.5 6M</b>	5 inch 4-ZERO R1.5 Pyro Flex Acoustic 6 metres	<b>PYFAC 5R1.5 6M</b>	5 inch 4-ZERO R1.5 Pyro Flex Acoustic 6 metres
<b>PYFAC 6R1.5 6M</b>	6 inch 4-ZERO R1.5 Pyro Flex Acoustic 6 metres	<b>PYFAC 6R1.5 6M</b>	6 inch 4-ZERO R1.5 Pyro Flex Acoustic 6 metres
<b>PYFAC 8R1.5 6M</b>	8 inch 4-ZERO R1.5 Pyro Flex Acoustic 6 metres	<b>PYFAC 8R1.5 6M</b>	8 inch 4-ZERO R1.5 Pyro Flex Acoustic 6 metres
<b>PYFAC 10R1.5 6M</b>	10 inch 4-ZERO R1.5 Pyro Flex Acoustic 6 metres	<b>PYFAC 10R1.5 6M</b>	10 inch 4-ZERO R1.5 Pyro Flex Acoustic 6 metres
<b>PYFAC 12R1.5 6M</b>	12 inch 4-ZERO R1.5 Pyro Flex Acoustic 6 metres	<b>PYFAC 12R1.5 6M</b>	12 inch 4-ZERO R1.5 Pyro Flex Acoustic 6 metres
<b>PYFAC 14R1.5 6M</b>	14 inch 4-ZERO R1.5 Pyro Flex Acoustic 6 metres	<b>PYFAC 14R1.5 6M</b>	14 inch 4-ZERO R1.5 Pyro Flex Acoustic 6 metres
<b>PYFAC 16R1.5 6M</b>	16 inch 4-ZERO R1.5 Pyro Flex Acoustic 6 metres	<b>PYFAC 16R1.5 6M</b>	16 inch 4-ZERO R1.5 Pyro Flex Acoustic 6 metres
<b>PYFAC 18R1.5 6M</b>	18 inch 4-ZERO R1.5 Pyro Flex Acoustic 6 metres	<b>PYFAC 18R1.5 6M</b>	18 inch 4-ZERO R1.5 Pyro Flex Acoustic 6 metres
<b>PYFAC 20R1.5 6M</b>	20 inch 4-ZERO R1.5 Pyro Flex Acoustic 6 metres	<b>PYFAC 20R1.5 6M</b>	20 inch 4-ZERO R1.5 Pyro Flex Acoustic 6 metres

**PROJECT: CONVENTION CENTRE, DARLING HARBOUR, SYDNEY**





Airfoil's 4-Zero R2.0 flexible acoustic duct has been tested and meets all requirements of Australian Standards AS 4254.1 2012 and Building Codes of Australia Domestic and Commercial Air Handling Systems.

The Aluminium 4-Zero Inner Core with Metalised Outer surface has a multi-layered construction containing high-level grade Flame Retardant Water based adhesive with high tensile wire helix encapsulated. The Metalised Outer Layer has a multi-layered construction containing high quality grade flame retardant adhesive. The Polyester Insulation Blanket achieves a thermal rating of R2.0 with a thickness of 90mm.

The operating pressure range is 1000 Pa positive to 200 Pa negative and the operating temperature range is -10C to +80C.

Available sizes are 4", 5", 6", 8", 10", 12", 14", 16", 18", 20" in standard or acoustic and in 3 or 6 metre lengths.



### Product specification codes:

<b>PYFAC 4R2.0 6M</b>	4 inch 4-ZERO R2.0 Pyro Flex Acoustic 6 metres	<b>PYFAC 4R2.0 3M</b>	4 inch 4-ZERO R2.0 Pyro Flex Acoustic 3 metres
<b>PYFAC 5R2.0 6M</b>	5 inch 4-ZERO R2.0 Pyro Flex Acoustic 6 metres	<b>PYFAC 5R2.0 3M</b>	5 inch 4-ZERO R2.0 Pyro Flex Acoustic 3 metres
<b>PYFAC 6R2.0 6M</b>	6 inch 4-ZERO R2.0 Pyro Flex Acoustic 6 metres	<b>PYFAC 6R2.0 3M</b>	6 inch 4-ZERO R2.0 Pyro Flex Acoustic 3 metres
<b>PYFAC 8R2.0 6M</b>	8 inch 4-ZERO R2.0 Pyro Flex Acoustic 6 metres	<b>PYFAC 8R2.0 3M</b>	8 inch 4-ZERO R2.0 Pyro Flex Acoustic 3 metres
<b>PYFAC 10R2.0 6M</b>	10 inch 4-ZERO R2.0 Pyro Flex Acoustic 6 metres	<b>PYFAC 10R2.0 3M</b>	10 inch 4-ZERO R2.0 Pyro Flex Acoustic 3 metres
<b>PYFAC 12R2.0 6M</b>	12 inch 4-ZERO R2.0 Pyro Flex Acoustic 6 metres	<b>PYFAC 12R2.0 3M</b>	12 inch 4-ZERO R2.0 Pyro Flex Acoustic 3 metres
<b>PYFAC 14R2.0 6M</b>	14 inch 4-ZERO R2.0 Pyro Flex Acoustic 6 metres	<b>PYFAC 14R2.0 3M</b>	14 inch 4-ZERO R2.0 Pyro Flex Acoustic 3 metres
<b>PYFAC 16R2.0 6M</b>	16 inch 4-ZERO R2.0 Pyro Flex Acoustic 6 metres	<b>PYFAC 16R2.0 3M</b>	16 inch 4-ZERO R2.0 Pyro Flex Acoustic 3 metres
<b>PYFAC 18R2.0 6M</b>	18 inch 4-ZERO R2.0 Pyro Flex Acoustic 6 metres	<b>PYFAC 18R2.0 3M</b>	18 inch 4-ZERO R2.0 Pyro Flex Acoustic 3 metres
<b>PYFAC 20R2.0 6M</b>	20 inch 4-ZERO R2.0 Pyro Flex Acoustic 6 metres	<b>PYFAC 20R2.0 3M</b>	20 inch 4-ZERO R2.0 Pyro Flex Acoustic 3 metres



**AIRFOIL FACTORY, SYDNEY**





## 7.19 FLEXIBLE DUCT SEMI RIGID ALUMINIUM DUCT (SRAD)

173



**AIRFOIL**  
GRILLES  
DUCT  
FITTINGS  
*making it happen sooner...*



Airfoil's Semi Rigid Aluminium Duct is made from high quality aluminium that provides excellent flexibility without loss of strength. This lightweight 3 metre duct is easy to use and manipulate on installation, provides air tight seams without the need for adhesives and is highly puncture and corrosion resistant. The Triple Locked corrugated construction with a high operating temperature and low pressure loss makes it perfect for commercial and domestic applications; kitchen range hoods, bathrooms and laundry ventilation.

### Technical Data

Temperature Rating -30C to +240C

Manufactured material thickness 0.10mm

Complies with Australian Standards – AS1668.1

4 Zero Fire Rating complies to Australian Standards – 1530.3

### Product specification codes:

<b>SR100</b>	Semi Rigid Aluminium Duct 100mm diameter (4 inches) 3 metres length
<b>SR125</b>	Semi Rigid Aluminium Duct 125mm diameter (5 inches) 3 metres length
<b>SR150</b>	Semi Rigid Aluminium Duct 150mm diameter (6 inches) 3 metres length
<b>SR200</b>	Semi Rigid Aluminium Duct 200mm diameter (8 inches) 3 metres length
<b>SR250</b>	Semi Rigid Aluminium Duct 250mm diameter (10 inches) 3 metres length



**PROJECT: THE MATER HOSPITAL, SYDNEY**

## Climate Zone Maps

Australia has a varied climate, leading to different locations around the country having different heating and cooling requirements. To account for these differences the energy efficiency Deemed-to-Satisfy Provisions vary from location to location and for simplicity, locations with similar climates have been combined into eight climate zones.

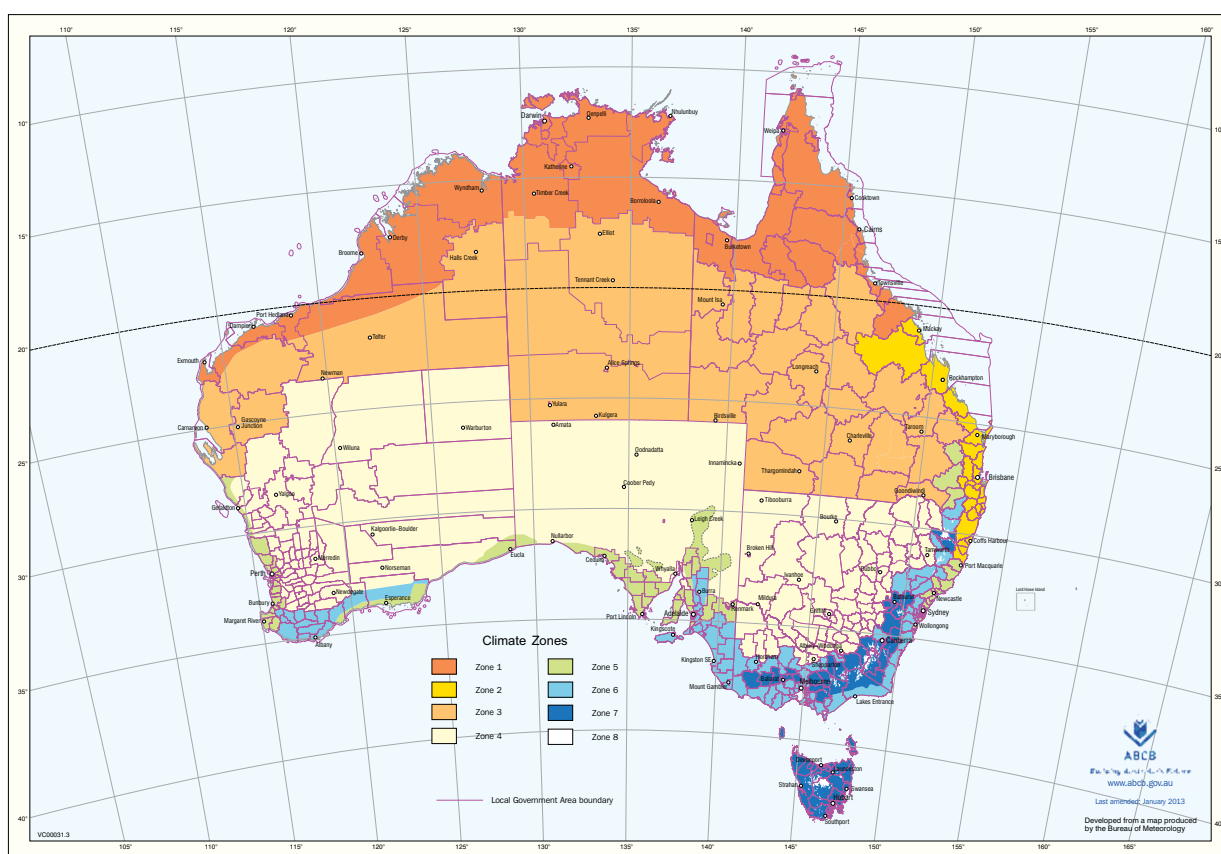
The following provides a brief description of each NCC climate zone:

Climate zone 1 - High humidity summer, warm winter  
Climate zone 2 - Warm humid summer, mild winter  
Climate zone 3 - Hot dry summer, warm winter

Climate zone 4 - Hot dry summer, cool winter  
Climate zone 5 - Warm temperate  
Climate zone 6 - Mild temperate  
Climate zone 7 - Cool temperate  
Climate zone 8 - Alpine

These eight climate zones are illustrated in the form of a climate zone map which was created using Bureau of Meteorology climatic data with two supplementary zones added to accommodate an additional temperate zone and alpine area. The climate zone boundaries are also aligned with local government areas and are therefore subject to change from time to time.

Location and element	Minimum Total R-Value for ductwork							
Location	1	2	3	4	5	6	7	8
Ductwork within conditioned space	R1.2	R1.2	R1.2	R1.0	R1.2	R1.0	R1.0	R1.6
Ductwork exposed to Sun	R3.0	R3.0	R3.0	R3.0	R3.0	R3.0	R3.0	R3.4
Ductwork in all other locations	R2.0	R2.0	R2.0	R2.0	R2.0	R2.0	R2.0	R2.4

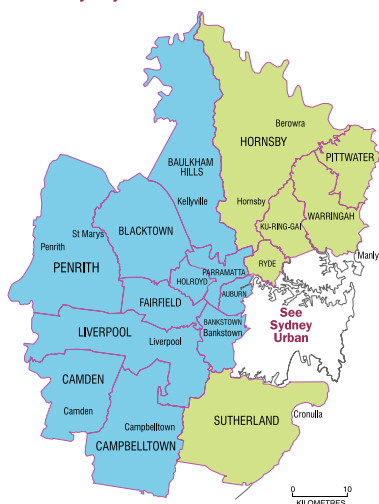


**Sydney Surrounds**

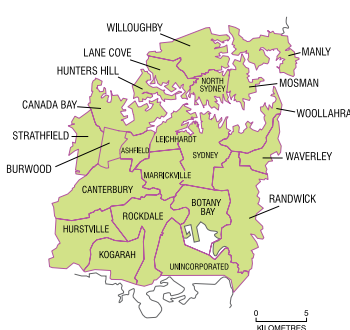
**Climate Zones**

- Zone 1
- Zone 2
- Zone 3
- Zone 4
- Zone 5
- Zone 6

## Sydney Surrounds



### Sydney Urban



### Climate Zones

- |   |      |
|---|------|
|  | Zone |
|  | Zone |
|  | Zone |
|  | Zone |
|  | Zone |
|  | Zone |
|  | Zone |
|  | Zone |

Local Government  
Area boundary



**Building Australia's Future**

[www.abcb.gov.au](http://www.abcb.gov.au)

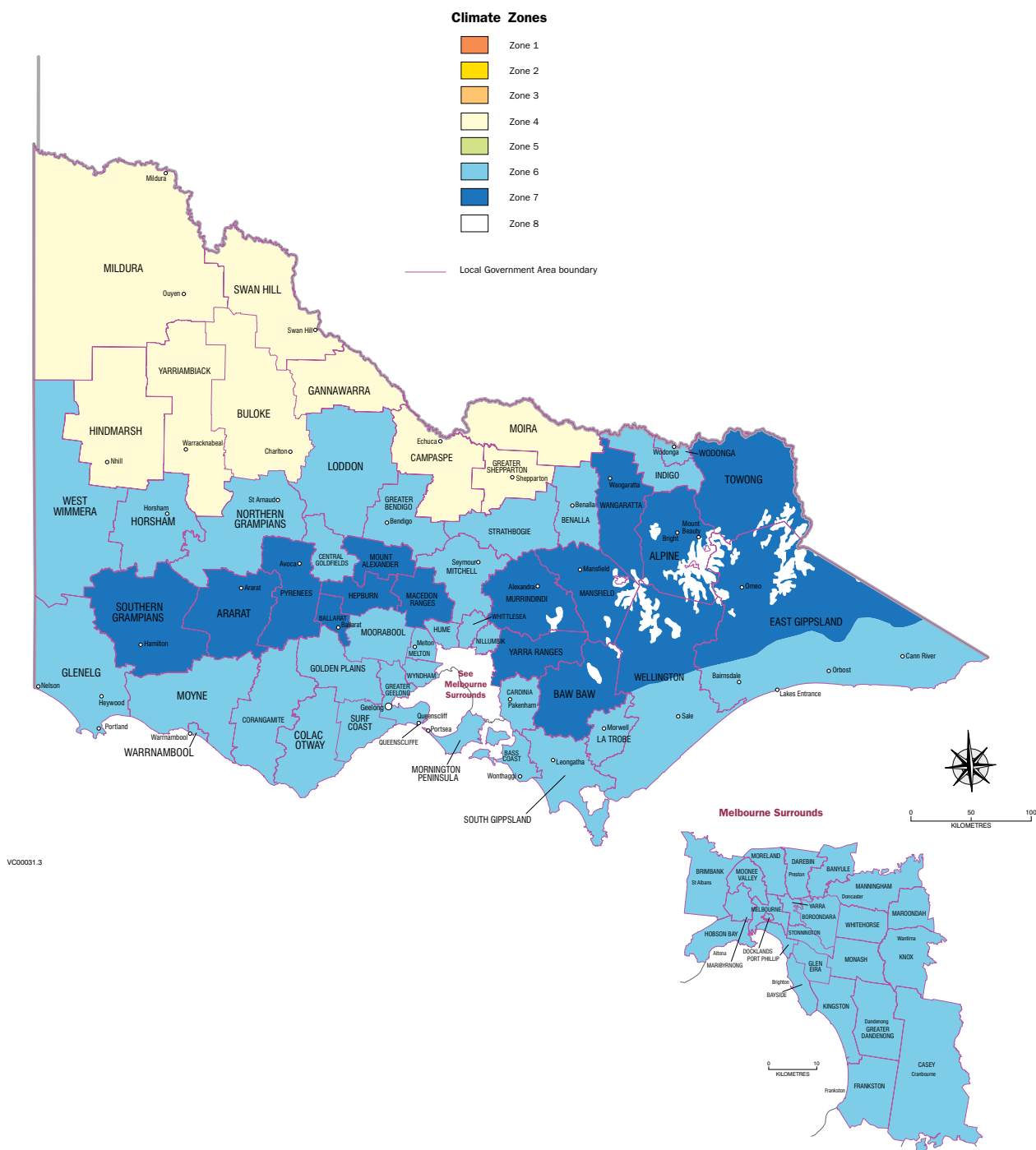
Last amended: May 2009

Developed from a map produced  
by the Bureau of Meteorology

[illegible]



## VICTORIA

[illegible]

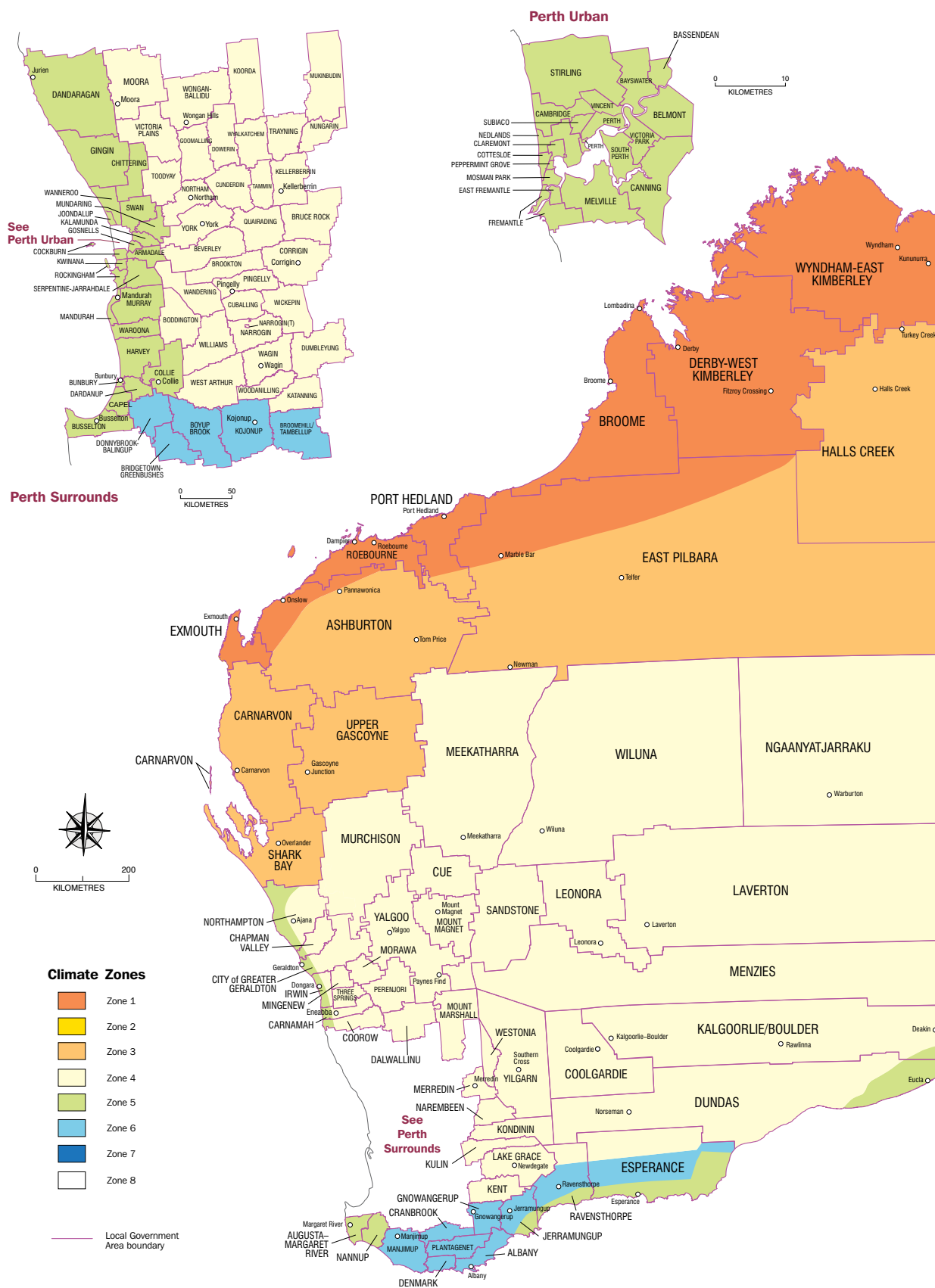
This map displays the state of Queensland, Australia, divided into its local government areas (LGAs). The LGAs are color-coded according to eight climate zones. A legend titled "Climate Zones" provides the key:

- Zone 1:** Dark orange
- Zone 2:** Yellow
- Zone 3:** Light orange
- Zone 4:** Very light orange
- Zone 5:** Green
- Zone 6:** Blue-green
- Zone 7:** Blue
- Zone 8:** White

The map includes numerous LGA names such as Torres Strait Island, Cook, Carpentaria, Etheridge, Flinders, Winton, Longreach, Barcoo, Bullock, Paroo, Balonne, Goondiwindi, Western Downs, Maranoa, Murweh, Blackall-Tambo, Central Highlands, Woobinda, Banana, North Burnett, Bundaberg, Gladstone, Rockhampton, Isaac, Whitsunday, Burdekin, Charters Towers, Richmond, McKinlay, Cloncurry, Boulia, Diamantina, Mount Isa, Burke, Croydon, Crookwell, Yarrabah, Cairns, Hope Vale, Kowanyama, Aurukun, Napranang, Mapoon, Lockhart River, Northern Peninsula Area, Mornington, Doomadgee, and Brisbane Surrounds. Major cities like Brisbane, Townsville, and Cairns are also indicated. A scale bar shows distances up to 250 kilometers, and a compass rose is located in the bottom left corner.

[illegible]

## WESTERN AUSTRALIA





A map of the Northern Territory of Australia, divided into administrative regions. The regions are color-coded: West Arnhem (orange), East Arnhem (light orange), Roper Gulf (light orange), Katherine (light orange), Victoria-Daly (light orange), Barkly (light orange), Central Desert (light orange), Alice Springs (light orange), and MacDonnell (light orange). Major towns and locations are marked with dots and labeled: Darwin, Palmerston, Litchfield, West Arnhem, East Arnhem, Katherine, Roper Gulf, Victoria-Daly, Barkly, Central Desert, Alice Springs, and MacDonnell. The map also shows the Gulf of Carpentaria, the Timor Sea, and the Indian Ocean. A scale bar indicates distances up to 200 kilometers, and a compass rose shows the cardinal directions.

[illegible]

**South Australian Aboriginal Local Government Bodies**

- 1 Anangu Pitjantjatjara
- 2 Gerard
- 3 Maralinga Tjarutja
- 4 Nepabunna
- 5 Yalata

**Adelaide Surrounds**

**Adelaide Urban**

**Climate Zones**

- Zone 1
- Zone 2
- Zone 3
- Zone 4
- Zone 5
- Zone 6
- Zone 7
- Zone 8

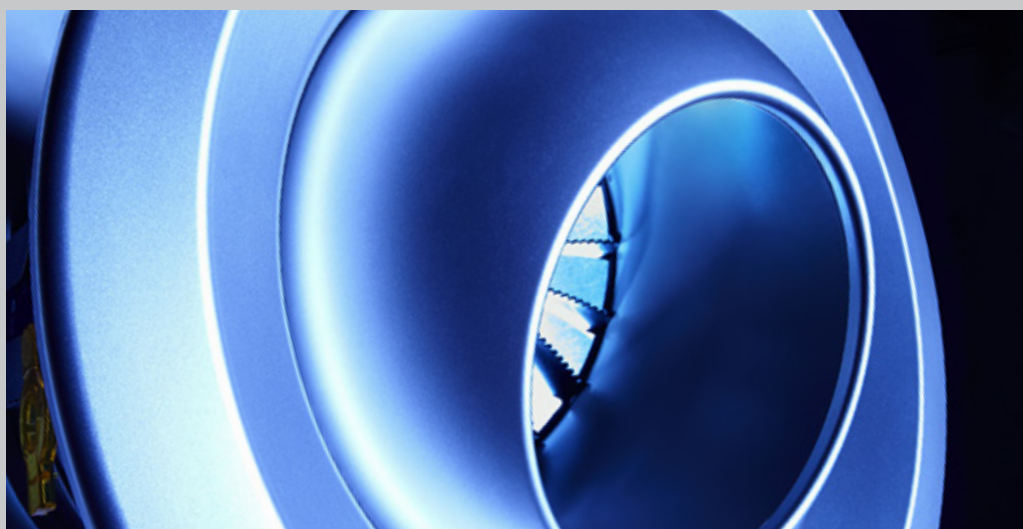
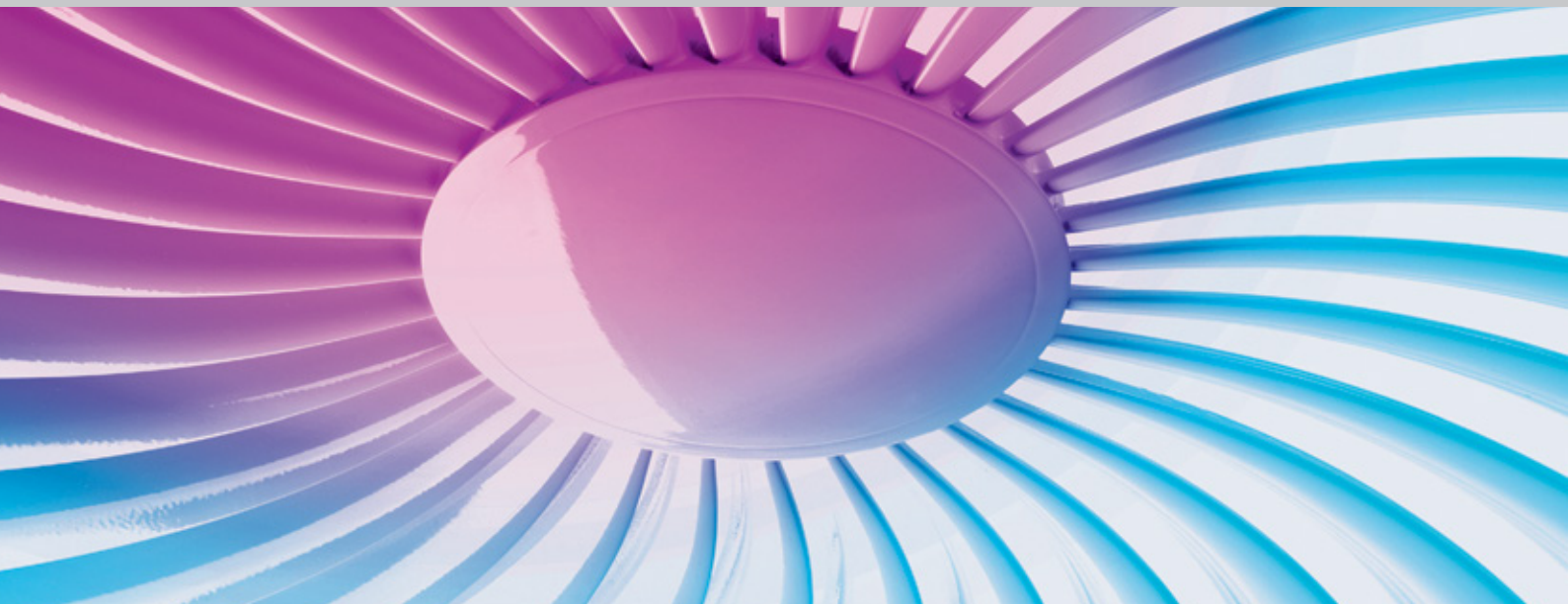
**Local Government Area boundary**

**Aboriginal & Torres Strait Islander Local Government Area Bodies**

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**TROX<sup>®</sup> TECHNIK**  
The art of handling air

The table below shows where TROX products can be used in relation to the required air change rates;

Room height up to 4.0 metres						
Air change rate (hr <sup>-1</sup> )	Air Flow Control	Grille	Slot diffuser	Swirl diffuser	Blade diffuser	Perforated diffuser
≤ 10	CAV	++	++	++	++	++
	VAV	+	+	++	+	+
10 - 20	CAV	-	++*	++	++	++
	VAV	-	++*	++	+	+
20 - 30	CAV	-	-	++	-	-
	VAV	-	-	++	-	-

#### LEGEND

CAV – Constant volume system

VAV – Variable volume system

++ Very suitable

+ Suitable

- Not suitable

\* With alternating horizontal discharge (suitable with slot diffuser only)

#### UNIT CONVERSION FACTORS

Physical quantity	IP Unit	Conversion factor	SI Unit	SI Symbol
<b>Length</b>	inch	25.4	millimetre	mm
	feet	0.304	metre	m
<b>Area</b>	square feet	0.0929	square metre	m <sup>2</sup>
<b>Volume</b>	cubic foot	0.0283	cubic metre	m <sup>3</sup>
<b>Velocity</b>	foot/minute	0.0051	metre/second	m/s
<b>Volume flow rate</b>	cubic foot/minute	0.472	litre/second	l/s
	cubic metre/hour	0.278	litre/second	l/s
<b>Pressure</b>	inch of water	249.1	Pascal	Pa
	foot of water	2.989	kiloPascal	kPa
	bar	100	kiloPascal	kPa
<b>Energy</b>	British thermal unit	1.055	kiloJoule	kJ
<b>Power</b>	British thermal unit/hour	0.293	Watt	W
	horsepower	0.745	kiloWatt	kW
	ton of refrigeration	3.517	kiloWatt	kW
<b>Temperature</b>	Fahrenheit	(°F-32) ÷ 1.8	Celsius	°C

It is important to note that performance data for air diffusion products as published by TROX were tested to international standards under uniform air flow and pressure conditions at the point of entry. If non-uniform entry condition occur on site, this could have the following impact on air distribution in the room;

- The throw and spread of the supply air stream will not correspond with the manufacturer's published data.
- Higher regenerated noise can be expected from the air terminal devices.
- The supply air stream from the air terminal device may not create the Coanda effect as expected.
- It may be difficult to obtain accurate air flow or velocity measurements during site commissioning.

Hence, it is advisable to adopt good engineering practices to ensure uniform air flow and pressure conditions at the entry point for all supply air terminal devices as recommended by ASHRAE or CIBSE Design Guidelines.

**Table 1:** Comparison between 4-way throw and swirl diffusers suitable for 600 mm T-bar suspended ceiling complete with plenum box (for ceiling height between 2.8 and 3.8 m).

TROX Product Type	Air Flow <sup>1</sup> (l/s)	Max. ΔP (Pa)	Spacing between the diffuser & wall X (m)	Spacing (A/B) between diffusers (m)	Plenum box ht. (mm)	Inlet spigot, Ø (mm)	Type of Ceiling Diffuser	Comments
ADTL-4/KM/ 500 x 500	330	43	2.7 to 5.7	4.8 to 6.0	475	298	Square Face with 4-way throw	This type of diffuser can handle higher air flow than swirl diffuser. Hence, fewer diffusers will be required.
ADLQL-P-H-M-S/ 600T	200	35	1.5 to 2.1	3.0 to 4.2	455	299	Round face with radial discharge	
ADLR-Q-ZH-M/ 598 -7	310	36	2.1 to 4.8	3.6 to 4.8	503	298		
ADLR-Q-ZH-M/ 598 - 8	365	40	1.8 to 4.8	4.8	503	298	Square face swirl diffuser. (NOTE: This is also available with round face.)	This type of diffuser is best suited for VAV system as it can handle lower flow rates with minimal down draft. It can also be used on CAV system but it delivers lower air flow rate compared to the ADT diffuser.
FD-Q-Z-H-M/ 600	160	40	1.5 to 4.2	3.6 to 4.8	350	248		
VDW-Q-Z-H-M/ 600 x 24	185	47	1.5 to 4.2	3.6 to 4.2	345	248		
VDW-Q-Z-H-M/ 600 x 48	200	43	1.5 to 4.2	3.6 to 4.2	345	248		
VDW-Q-Z-H-M/ 600 x 48	175	43	2.1 to 4.2	3.6 to 4.2	345	248		

NOTE: The selections given above are based on the following assumptions;

- Recommended air flow rate given above is based on the damper blade is set to partially closed at 45°.
- Temperature differential between supply air and room temperature, ΔT is 10°C.
- The floor to ceiling height is between 2.8 and 3.0 metres high.
- The design NC rating required is NC 35, assuming 8 dB room attenuation.
- The diffusers are fitted with side inlet plenum with volume control damper.
- Average air velocity within the occupied space is at 0.25 ± 0.10 m/s. But VL may be as high as 0.4 m/s.
- The diffuser arrangement is assumed to be symmetry.

Most of the ceiling diffusers and slot diffusers found in TROX KLIMA Asia Pacific Catalogue or in this Quick Selection Guide are meant to be mounted at ceiling heights from 2.6 up to 4.0m high. For ceiling heights **greater than 3.8 metres high**, customers are advised to use one of the following;

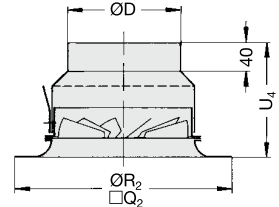
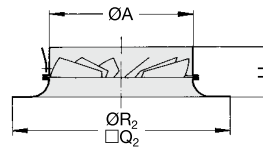
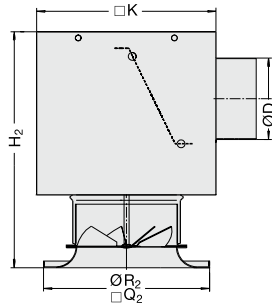
- Type 'VDL' Swirl Diffusers
- Type 'VD' Swirl Diffusers

As a rule of thumb, if the room is very wide (i.e., in excess of 8 metres) and preferably without any columns within the centre of the room, then jet nozzles or drum louvers should be considered, provided that the floor to ceiling height is greater than 4 metres high.



# 8.3 TROX SWIRL DIFFUSERS TYPE RFD

185



RFD-Q

RFD-Q/R-D-A

RFD-Q/R-D-K

RFD-Q/R-D-US

**Air Flow Rate (l/s) - For single row arrangement**

Size	Distance between diffusers, A (m)						
	0	1.2	1.8	2.4	3.0	3.6	4.2
125	35	33	28	29	32	35	35
160	50	44	39	39	42	47	50
200	69	69	47	47	53	58	67
250	110	110	58	58	61	67	78
315	169	169	86	86	92	100	114
400	228	242	97	103	114	131	144

**Dimensions (mm)**

Size	ØA	ØD	H2	U2	U4	Q2	ØR2	K
125	123	98	284	75	153	198	200	216
160	158	123	309	78	158	248	250	266
200	198	158	339	78	161	248	300	290
250	248	198	384	75	166	298	350	476
315	313	248	444	88	183	398	450	567
400	398	313	509	88	193	498	580	615

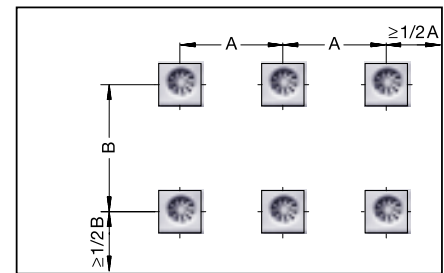
**Air Flow Rate (l/s) -  
For multiple row arrangement**

Size	B (m)	Distance between diffusers, A (m)					
		1.2	1.8	2.4	3.0	3.6	4.2
125	2.4	15	15	18	22	25	29
160		21	21	25	29	35	39
200		28	28	32	38	44	47
250		32	32	35	46	51	57
315				51	64	75	83
400					81	92	103
125	3.0	21	21	22	24	28	32
160		28	28	29	31	36	42
200		35	35	38	40	47	53
250		43	43	46	46	56	61
315		61	61	67	67	83	89
400				81	72	103	114
125	3.6	26	25	26	28	32	35
160		36	33	35	35	42	47
200		44	42	44	47	53	58
250		56	53	53	56	58	67
315		78	75	78	81	81	100
400		86	86	92	97	103	133
125	4.2	33	29	29	32	35	35
160		44	39	9	42	47	50
200		56	47	47	53	58	69
250		67	58	58	61	67	72
315		97	86	86	92	100	106
400		103	97	106	119	133	133

**Minimum  
flow rate**

Size	$\dot{V}_{min}$
125	10
160	14
200	17
250	31
315	50
400	69

**Diffuser layout**



## Nomenclature

$\dot{V}$  in l/s = Flow rate

$\dot{V}_{min}$  in l/s = Minimum flow rate

A, B in m = Distance between two diffusers

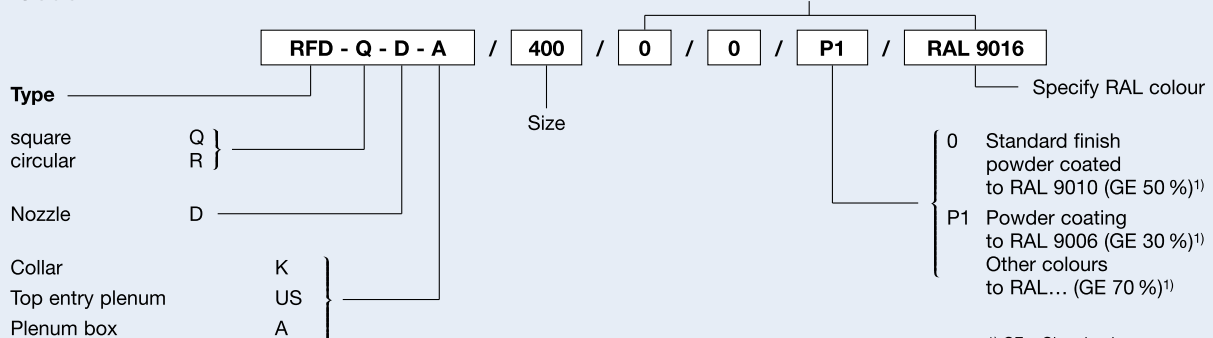
## Note

In all cases, the sound power level is  $L_{WA} \leq 40$  dB(A) per diffuser and the pressure drop  $\Delta p_t \leq 45$  Pa.

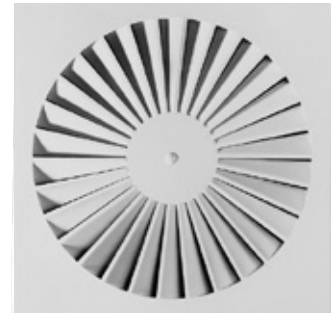
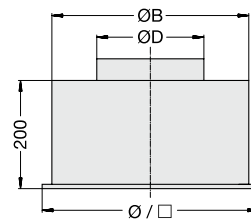
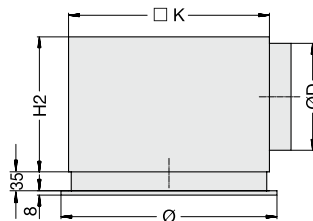
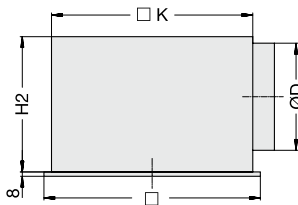
Selection valid for ceiling height 2.7 m to 3 m.

## Order Code

These codes need not be completed for standard products



**Note:** For further details, please refer to TROX KLIMA Asia Pacific catalogue Ref. 2/4/EN/--.



## FD-Q

## FD-Q-...-H

## FD-R-...-H

## FD-Q/R-...-V

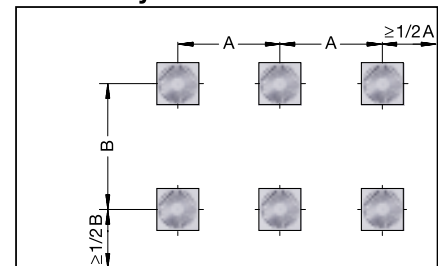
Air Flow Rate (l/s) - For single row arrangement							
Size	Distance between diffusers, A (m)						
	0	1.2	1.8	2.4	3.0	3.6	4.2
300	56	56	56	56	56	56	56
400	110	100	86	92	92	110	110
500	144	119	100	106	106	136	144
600	164	128	111	119	119	150	164
625	164	128	111	119	119	150	164

Dimensions (mm)						
Size	K	Ø	ØB	ØD	H <sub>2</sub>	K
300	298	300	280	158	250	290
400	398	400	364	198	295	372
500	498	500	462	198	295	476
600	598	600	559	248	345	567
625	623	623	559	248	345	567

Air Flow Rate (l/s) - For multiple row arrangement							
Size	B (m)	Distance between diffusers, A (m)					
		1.2	1.8	2.4	3.0	3.6	4.2
300	3.0	47	42	44	47	56	56
400		69	61	64	64	81	94
500		83	72	75	78	97	111
600		92		81	83	106	119
625		92		81	83	106	119
300	3.6	56	50	53	56	56	56
400		83	75	78	81	81	110
500		100	89	92	97	97	136
600		108	94	100	103	103	150
625		108	94	100	103	103	150
300	4.2	56	56	56	56	56	56
400		97	86	92	92	110	110
500		119	103	108	111	136	136
600		128	111	119	119	150	150
625		128	111	119	119	150	150

Recommended min. flow (l/s)	
Size	$\dot{V}_{min}$
300	28
400	50
500	60
600	81
625	81

## Diffuser layout



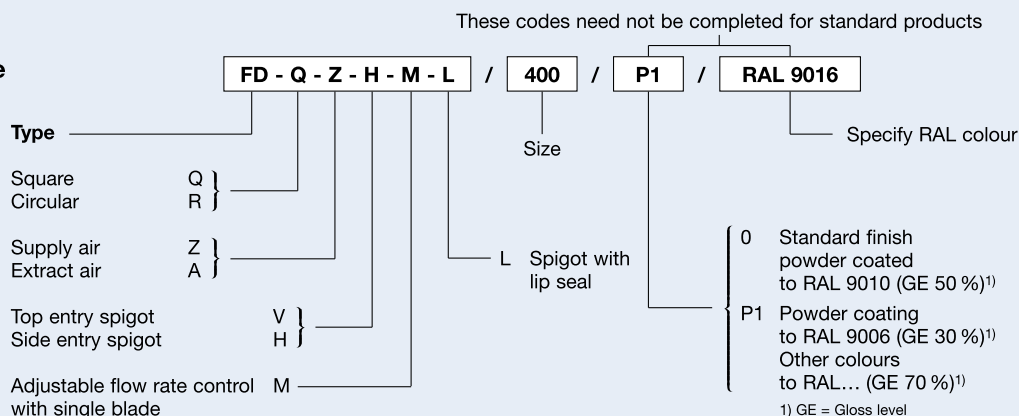
## Nomenclature

$\dot{V}$  in l/s = Flow rate  
 $\dot{V}_{min}$  in l/s = Minimum flow rate  
 A, B in m = Distance between two diffusers

## Note

In all cases, the sound power level  $L_{WA} \leq 40$  dB(A) per diffuser and the pressure drop  $\Delta p_t \leq 30$  Pa.  
 Selection valid for ceiling height = 2.7...3 m.

## Order Code

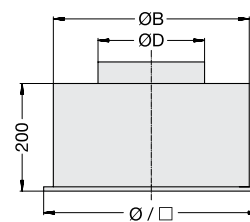
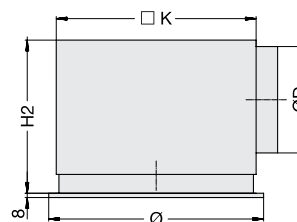
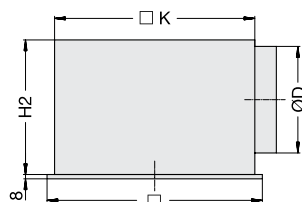


**Note:** For further details, please refer to TROX KLIMA Asia Pacific catalogue Ref. 2/6/EN/--

# 8.3 TROX SWIRL DIFFUSERS

## TYPE 'TDF-SILENT AIR'

187



TDF-SA-Q-...

TDF-SA-Q-...-H

TDF-SA-R-...-H

TDF-SA-Q/R-...-V

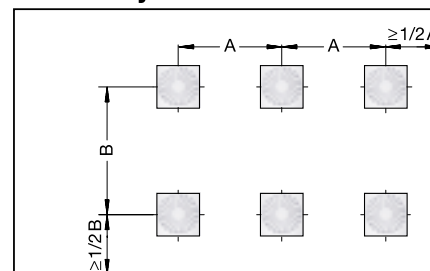
Air Flow Rate (l/s) - For single row arrangement							
Size	Distance between diffusers, A (m)						
	0	1.2	1.8	2.4	3.0	3.6	4.2
300	64	64	64	64	64	64	64
400	119	72	72	72	72	72	78
500	142	108	111	111	111	111	117
600	181	131	131	131	131	131	139
625	181	131	131	131	131	131	139

Dimensions (mm)						
Size	□	Ø	ØB	ØD	H <sub>2</sub>	□ K
300	298	300	280	158	250	290
400	398	400	364	198	295	372
500	498	500	462	198	295	476
600	598	600	559	248	345	567
625	623	623	559	248	345	587

Air Flow Rate (l/s) - For multiple row arrangement							
Size	B (m)	Distance between diffusers, A (m)					
		1.2	1.8	2.4	3.0	3.6	4.2
300	3.0	50	50	50	50	53	64
400		64	64	64	64	67	72
500		81	81	81	81	94	108
600		100	100	100	100	114	131
625		100	100	100	100	114	131
300	3.6	56	56	56	56	56	64
400		67	67	69	75	75	75
500		94	92	92	92	94	111
600		111	106	106	106	111	131
625		111	106	106	106	111	131
300	4.2	64	64	64	64	64	64
400		72	75	72	75	75	97
500		108	108	108	108	108	122
600		131	131	131	131	131	139
625		131	131	131	131	131	139

Recommended min. flow (l/s)	
Size	$\dot{V}_{min}$
300	31
400	50
500	60
600	81
625	81

### Diffuser layout



### Nomenclature

$\dot{V}$  in l/s = Flow rate  
 $\dot{V}_{min}$  in l/s = Minimum flow rate  
A, B in m = Distance between two diffusers

### Note

In all cases, the sound power level is  $L_{WA} \leq 40$  dB(A) per diffuser and the pressure drop  $\Delta p_t \leq 40$  Pa.  
Selection valid for ceiling height = 2.7...3 m.

These codes need not be completed for standard products

**Order Code**

TDF-SA - Q - Z - M - L / 400 / P1 / RAL 9016

Type: Square (Q), Circular (R)  
Supply air (Z), Extract air (A)  
Adjustable flow rate control with single blade (M)  
Spigot with lip seal (L)

Size: 400

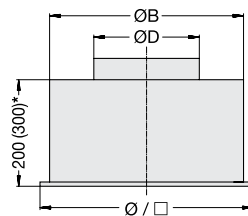
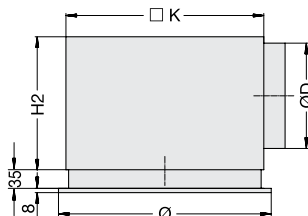
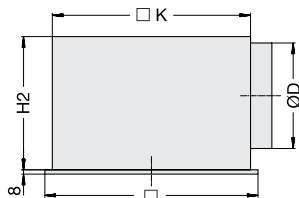
Specify RAL colour: P1 (RAL 9016)

0 Standard finish powder coated to RAL 9010 (GE 50 %)<sup>1)</sup>  
P1 Powder coating to RAL 9006 (GE 30 %)<sup>1)</sup>  
Other colours to RAL... (GE 70 %)<sup>1)</sup>

<sup>1)</sup> GE = Gloss level

**Note:** For further details, please refer to TROX KLIMA Asia Pacific catalogue Ref. 2/6.2/EN/--.





\* Size: 600 x 48 / 625 x 54



### VDW-Q

### VDW-Q-...-H

### VDW-R-...-H

### VDW-Q/R-...-V

#### Air Flow Rate (l/s) - For single row arrangement

Size	Distance between diffusers, A (m)						
	0	1.2	1.8	2.4	3.0	3.6	4.2
300 x 8	69	58	53	56	58	69	69
400 x 16	108	78	78	83	86	108	108
500 x 24	128	97	92	94	94	119	128
600 x 24	183	111	111	119	128	158	183
600 x 48	228	139	125	139	139	181	211
625 x 24	183	111	111	119	128	158	183
625 x 54	231	147	139	150	156	197	233

#### Air Flow Rate (l/s) - For multiple row arrangement

Size	B (m)	Distance between diffusers, A (m)					
		1.2	1.8	2.4	3.0	3.6	4.2
300 x 8	3.0	43	39	42	44	53	58
400 x 16		56	56	58	64	81	92
500 x 24		67	61	64	83	83	92
600 x 24		81	81	86	97	117	136
600 x 48		100	100	100	100	125	147
625 x 24		81	81	86	97	117	136
625 x 54						142	164
300 x 8	3.6	50	47	50	53	64	69
400 x 16		67	67	69	81	89	108
500 x 24		81	75	81	81	117	125
600 x 24		94	94	106	117	139	161
600 x 48		117	108	117	125	139	181
625 x 24		94	94	106	117	139	161
625 x 54				128	139	156	197
300 x 8	4.2	58	53	56	58	69	69
400 x 16		78	75	83	89	108	108
500 x 24		97	92	94	94	125	128
600 x 24		111	111	119	133	158	183
600 x 48		139	131	139	147	186	217
625 x 24		111	111	119	133	158	183
625 x 54		150	139	150	164	197	228

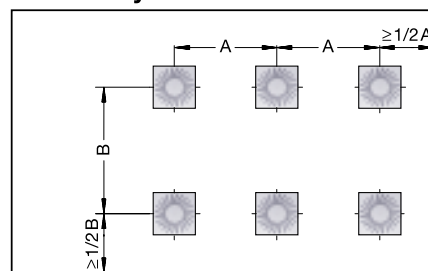
#### Dimensions (mm)

Size	□	Ø	ØB	ØD	H <sub>2</sub>	□ K
300 x 8	298	300	280	158	250	290
400 x 16	398	400	364	198	295	372
500 x 24	498	500	462	198	295	476
600 x 24	598	600	559	248	345	567
600 x 48	598	600	580	248	345	590
625 x 54	623	-	605	248	345	615

#### Minimum flow rate

Size	$\dot{V}_{min}$
300 x 8	54
400 x 16	108
500 x 24	144
600 x 24	216
600 x 48	360
625 x 54	432

#### Diffuser layout



#### Nomenclature

$\dot{V}$  in l/s = Flow rate  
 $\dot{V}_{min}$  in l/s = Minimum flow rate  
A, B in m = Distance between two diffusers

#### Note

In all cases, the sound power level is  $L_{WA} \leq 40$  dB(A) per diffuser and the pressure drop  $\Delta p_i \leq 40$  Pa.  
Selection valid for ceiling height = 2.7...3 m.

#### Order Code

VDW - R - Z - V - M - L		/	600 x 24	/	Q21	/	P1	/	RAL 9016	Specify RAL colour
Type			Size x No. of control blades							
Square	Q	}							0	Standard finish powder coated to RAL 9010 (GE 50 %)1)
Circular	R								P1	Powder coating to RAL 9006 (GE 30 %)1) Other colours to RAL... (GE 70 %)1)
Supply air	Z	}								
Extract air	A									
Top entry spigot	V	}								
Side entry spigot	H									
Adjustable flow rate control with single blade	M									
Spigot with lip seal	L									

# 8.3 TROX SWIRL DIFFUSERS TYPE 'VDL'

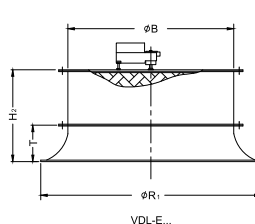
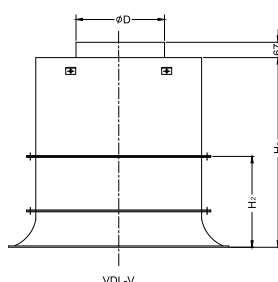
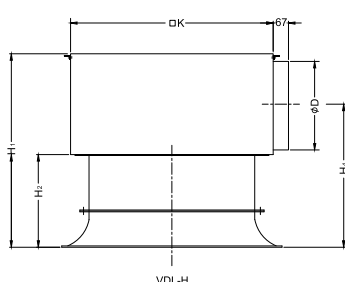
Type 'VDL-H'



## KEY FEATURES:

- Manually or automatically adjustable discharge angle.
- Suitable for cooling and heating application.
- Suitable for mounting height greater than 3.8 m high.
- Can be supplied with plenum box with either top or side entry spigot.
- Powder coating as standard finish in RAL 9010 matt white.

Size	B	D	D <sub>L</sub>	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	H <sub>4</sub>	K	R <sub>1</sub>	R <sub>2</sub>	T	n
315	318.5	248	368	483	203	425	342.5	435	464	382	63	6
400	403.5	313	450	603	238	534	420.5	500	567	464	80	6
630	633.5	398	690	848	383	748	615.5	750	871	708	125	6
800	803.5	498	853	1133	568	998	850.5	1000	1077	871	160	12



## Diffuser layout

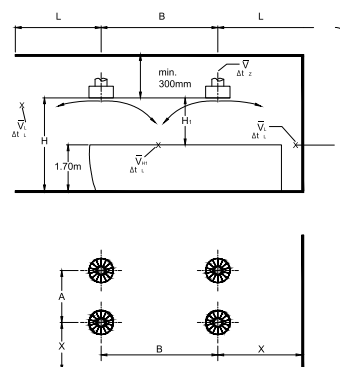


Table 1: Quick Selection for 'VDL-H' (without continuous ceiling)

Size	L <sub>WA</sub> in dB(A)	Flow (l/s)	ΔP (Pa)	Cooling Mode only				L (m)	LWNC
				Amin	H1	Amax	H1		
315	43	140	35	2.0	2.0	-	-	3.5	NC 35
	47	160	47	2.0	2.2	2.3	2.0	3.8	NC 40
400	41	230	28	2.0	2.5	2.3	2.0	4.0	NC 35
	47	280	38	2.0	3.0	2.8	2.0	4.8	NC 40
630	41	400	26	2.0	3.1	3.2	2.0	5.0	NC 35
	46	480	34	2.0	4.0	3.8	2.0	6.0	NC 40
800	41	510	25	2.0	4.0	3.5	2.0	5.8	NC 35
	46	600	31	2.0	5.0	4.0	2.0	6.5	NC 40

## Order Code

VDL-V-0 / 630 / P1 / RAL 9006

### Type

VDL-V - With top inlet  
VDL-H - With side inlet

### Rear Assemblies

0 - Face only.  
E1 - 220V; 50 Hz Two position control.  
E2 - 24V; 50 Hz Two position control.  
E3 - 24V; 0 to 10 V for proportional control.

**Diffuser size**  
315; 400; 630;  
800.

State RAL colour for 'P1' when non-standard colour is required.

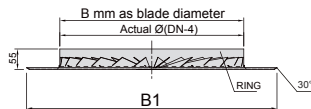
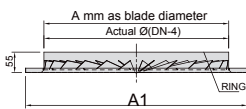
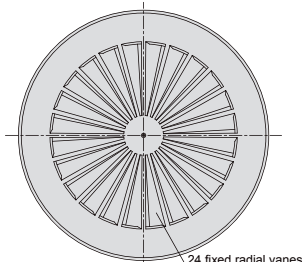
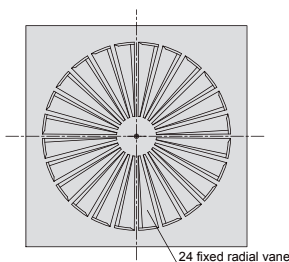
### Finish

Powder coating  
0 - Standard matt  
White in RAL 9010  
P1 - Special colour

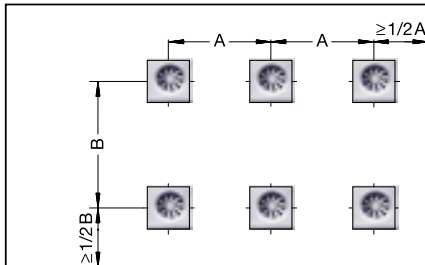
**Note:** For further details, please refer to TROX KLIMA Asia Pacific catalogue Ref. M2.2/9/EN/--.



The standard TROX TCS/400 – 600 High-Flow Swirl Diffuser is designed to fit into different T-Bar ceiling patterns as well as plaster board ceilings and is available in either a square or a round face plate ranging from 400 x 400 to 600 x 600 square or 400 Dia to 600 Dia. The diffuser has a radial airflow discharge pattern allowing for a high induction flow rate suitable for both variable and constant volume flow.



## Diffuser layout



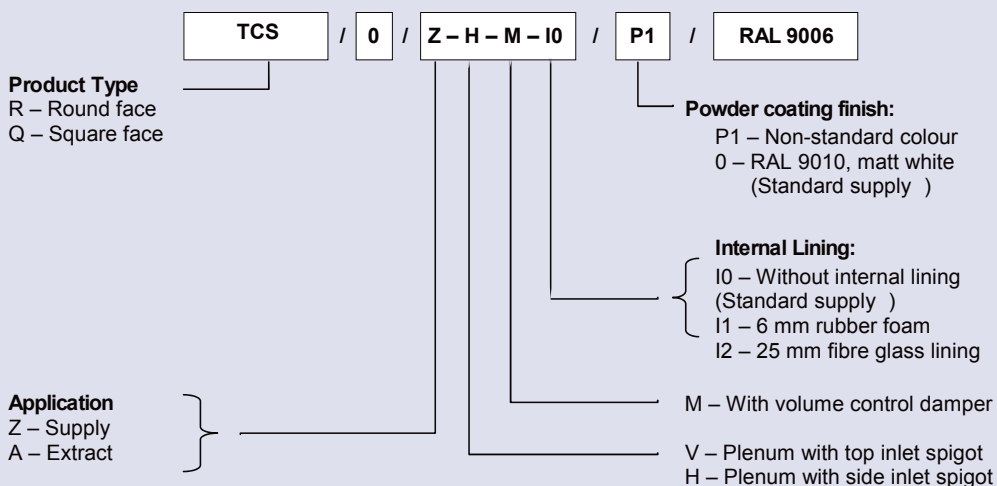
Air Flow Rate(l/s) for Multiple Rows*							
Size	B (m)	Distance between diffusers, A (m)					
		1.5	Vel m/s	2.0	Vel m/s	3.0	Vel m/s**
350	3.0	40	0.12	60	0.19	90	0.30
400		60	0.13	80	0.21	100	0.30
450		60	0.27	100	0.27	150	0.38
500		80	0.18	100	0.24	200	0.42
350	4.0	60	0.12	90	0.20	130	0.30
400		75	0.14	150	0.31	150	0.31
450		100	0.18	175	0.32	150	0.29
500		150	0.25	200	0.32	200	0.31
Distance between diffusers, A (m)							
	A = B (m)	3.0	Vel m/s	4.0	Vel m/s	5.0	Vel m/s
350		90	0.29	130	0.27	180	0.24
400		75	0.21	100	0.18	200	0.20
450		100	0.27	150	0.24	250	0.28
500		100	0.22	200	0.30	300	0.32

\* Selections are based on a standard ceiling height of 2.7 m – Maximum effective operating height 4.0 m

\*\* Vel =Velocity in the occupied zone 1.8 m AFFL

Diff Size	A Ø	A1 □	B Ø	B1 Ø
350	350	395 x 395	350	445
400	400,350	445 x 445	400	510
450	450,400,350	495 x 495	450	555
500	500,450,400,350	595 x 595	500	675

## Order Code



**Note:** For further details, please refer to TROX KLIMA Asia Pacific catalogue Ref. PI C 2.2/6. 1/EN/2



# 8.3 TROX SWIRL DIFFUSERS

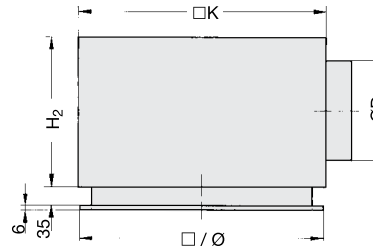
## TYPE 'ADLR'



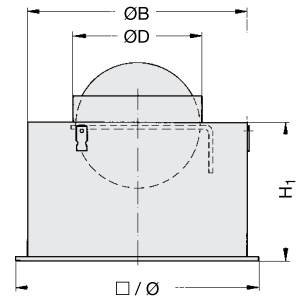
ADLR-Q



ADLR



ADLR-...-H



ADLR-...-V-M

Minimum distance between two diffusers																			
Size	Flow Rate, $\dot{V}$ (l/s)																		
	19	31	42	50	58	83	100	119	139	181	219	231	250	278	300	360	440	500	
1	1.2	2.0	2.3	2.5	2.7														
2		1.2	2.0	2.2	2.4	2.9	3.2	3.5											
3				1.2	2.3	2.8	3.0	3.3	3.5	4.1									
4					1.8	2.7	3.0	3.3	3.5	4.0	4.3	4.3							
5								2.5	3.5	3.8	4.2	4.3	4.4	4.6	4.8				
6									2.5	3.7	4.1	4.2	4.4	4.6	4.7	5.1			
7										2.5	3.9	4	4.2	4.4	4.6	5	5.4		
8											3.8	3.9	4.1	4.4	4.5	4.9	5.4	5.7	

Dimensions (mm)					
Size	Ø	ØB	ØD	H <sub>2</sub>	□K
1	244	202	123	220	266
2	300	258	158	250	290
3	356	314	198	295	372
4	412	370	248	345	476
5	468	426	248	345	476
6	542	482	313	410	567
7	598	538	313	410	590
8	654	594	313	410	615

### Nomenclature

$\dot{V}$  in l/s = Flow rate

$\dot{V}_{min}$  in l/s = Minimum flow rate

### Note

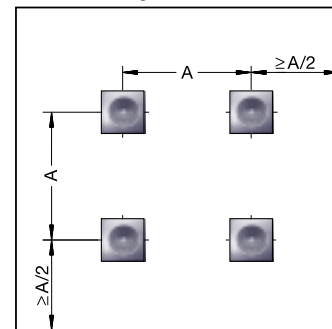
In all cases, the sound power level is  $L_{WA} \leq 40$  dB(A) per diffuser and the pressure drop  $\Delta p_t \leq 45$  Pa.

Selection valid for ceiling height = 2.7...3 m.

Available dimensions

Diffuser face ADLR-Q = □ 593, 598, 618 and 623 mm

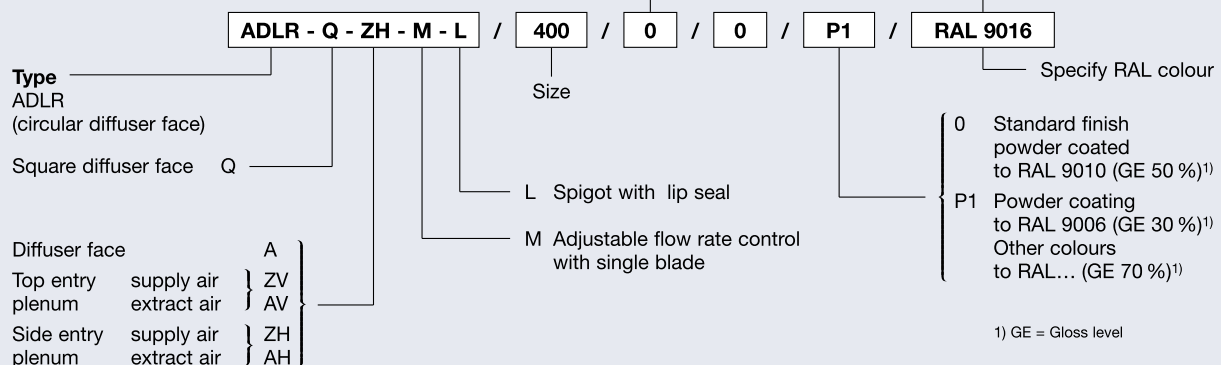
### Diffuser layout



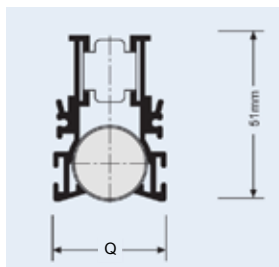
Minimum flow rate	
Size	$\dot{V}_{min}$
1	19
2	31
3	50
4	83
5	111
6	139
7	181
8	222

### Order Code

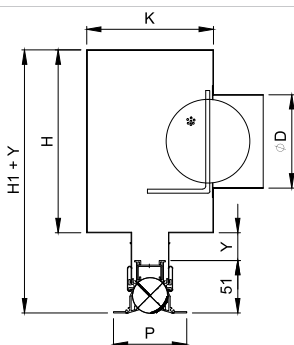
These codes need not be completed for standard products



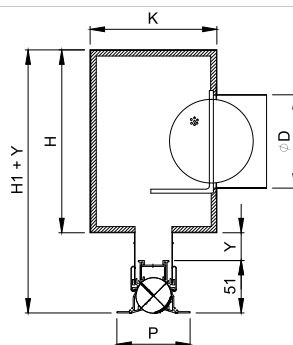
**Note:** For further details, please refer to TROX KLIMA Asia Pacific catalogue Ref. 2/16/EN/--.



Flangeless Slot Profile - Z4



VSD35-1...4-AK



VSD35-1...4-DK



VSD35

## Nomenclature

- $\dot{V}$  in l/s = Flow rate  
 $X$  in m = Throw distance  
 $L_1$  in mm = Length of plenum box  
 $A$  in m = Distance between 2 diffusers  
 $\bar{v}_{H1}$  in m/s = Time average air velocity between 2 diffusers  
 $\bar{v}_L$  in m/s = Time average upstream velocity at the wall

## Note

- Room height = 3 m  
 $\bar{v}_{H1} = 0.15 - 0.17$  m/s  
 $\bar{v}_L = 0.34 - 0.37$  m/s

Sound power level is  $L_{WA} \leq 40$  dB(A) in all cases  
 Pressure drop  $\Delta p_t \leq 35$  Pa

If required, the length of the diffuser face can be greater than the length of the plenum box.

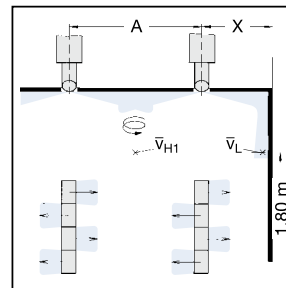
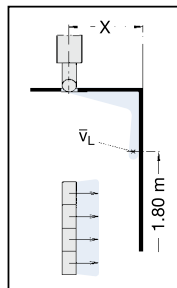
## Dimensions (mm)

No. of slots	P	Q	K	H1	H2	H	D
1	62	35	138	223	247	172	98
							123
2	93	66	176	253	277	202	123
							148
3	123	96	214	271	295	220	148
4	154	127	254	303	327	252	148
							198

## Diffuser layout

flow discharge horizontal, one direction

flow discharge alternating horizontal



## Order Code

These codes need not be completed for standard products

Type	VSD35 - 1 - AK - M - L	900 x 98 x y	C6	Z0	P1	RAL 9016	WH	WW
No. of slots	1 2 3 4	$L_1 \times D \times y^{(1)+2)}$	End cape <sup>4)</sup>			Specify RAL colour		0 black control blades WW white control blades
See leaflet for plenum box constructions	AK DK AA AS DS	Front without edge flange Integral edge flange	Z4 <sup>3)</sup> Z0			Horizontal left Horizontal right Alternating horizontal	HL HR WH	
Adjustable flow control	M	Standard finish E6-C-0 Powder coating P0 to RAL 9010 (GE 50 %) Powder coating to RAL 9006 (GE 30 %) Other colours to RAL... (GE 70 %)		0 P1		1) with concealed screw fix if y = 0 (Standard), further possible values for y = 30, 55, 80 and 104 mm 2) with screw fix if y = 0 (Standard) further possible values for y = 30, 55, 80, 105 and 129 mm 3) not with concealed slot fixture AS and DS 4) see leaflet or Internet		
Lip seal	L							

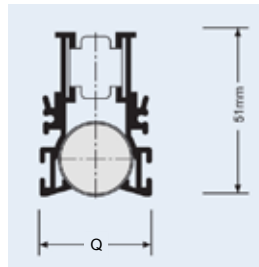
**Note:** For further details, please refer to TROX KLIMA Asia Pacific catalogue Ref. 2/2.6/EN/--.

# 8.4 TROX SLOT DIFFUSERS TYPE 'VSD 35'

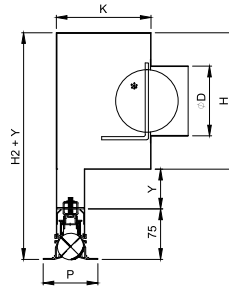
193



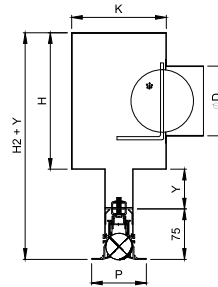
VSD35



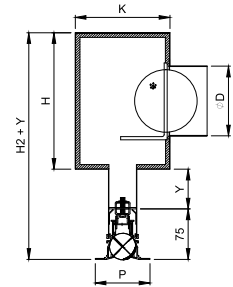
Flangeless Slot Profile - Z4



VSD35-1...4-AA



VSD35-1...4-AS



VSD35-1...4-DS

Throw distance, X (m) for VSD35 -1										
Air flow discharge in one direction only										
$\dot{V}$	Unit length, L <sub>1</sub> (mm)									
	600	750	900	1050	1200	1350	1500	1650	1800	1950
11	2.2									
14	4.2	2.2								
17	6.4	3.7	2.2							
19	8.2	5.4	3.4	2.2						
22		7.6	4.9	3.2	2.2					
25		8.7	6.4	4.5	3.1	2.2				
28			7.2	5.7	4.1	3.0	2.2			
31				7.2	5.3	3.9	2.9	2.2		
33				7.7	6.5	4.9	3.7	2.9	2.2	
39					8.2	7.1	5.4	4.3	3.4	2.8
44						8.5	7.6	6.0	4.9	3.9
50							8.7	8.1	6.4	5.4
56								8.8	8.1	6.9
61										7.5

Throw distance, X (m) for VSD35 -2										
Air flow discharge in one direction only										
$\dot{V}$	Unit length, L <sub>1</sub> (mm)									
	600	750	900	1050	1200	1350	1500	1650	1800	1950
22	5.5									
28	8.3	5.5	3.2							
33		7.5	5.5	3.2						
39			7.1	5.5	3.4					
44				6.7	5.5	3.6				
50				8.8	6.4	5.5	3.7			
56					8.3	6.2	5.5	3.8		
61						7.8	6.1	5.5	3.9	
67							7.5	5.9	5.5	3.9
72								7.3	5.8	5.5
78								8.7	7.1	5.8
83									8.3	6.9
89										8.0

Throw distance, X (m) for VSD35 -3										
Air flow discharge in one direction only										
$\dot{V}$	Unit length, L <sub>1</sub> (mm)									
	600	750	900	1050	1200	1350	1500	1650	1800	1950
28	5.1									
33	7.9	4.7								
39		6.7	4.1							
44			6.0							
50			7.9	5.4						
56				7.0	5.1					
61				8.8	6.4	4.8				
67					7.9	6.0				
72					7.2	5.6				
78						8.5	6.7	5.3		
83							7.9	6.3	5.1	
89								7.3	6.0	4.9
94								8.4	6.9	5.7
100									7.9	6.5
106										7.3
111										8.3

Throw distance, X (m) for VSD35 -4										
Air flow discharge in one direction only										
$\dot{V}$	Unit length, L <sub>1</sub> (mm)									
	600	750	900	1050	1200	1350	1500	1650	1800	1950
33	5.6									
39	8.1	4.8								
44		6.6								
50		8.7	5.6							
56			8.2	5.0						
61			8.7	6.4	4.5					
67				7.8	5.6					
72				8.8	6.9	5.2				
78					8.1	6.1	4.8			
83					8.4	7.2	5.6	4.5		
89						8.4	6.6	5.2		
94						8.6	7.6	6.1	4.9	
100							8.7	6.9	5.6	4.7
106								7.9	6.4	5.3
111								8.8	7.2	6.0
117									8.1	6.7
122										7.5
128										8.3

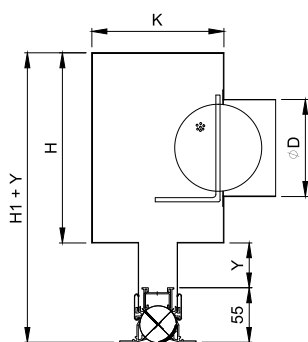
VSD35 slot diffuser with alternating horizontal discharge																				
No. of slots “n”	Air flow ranges (l/s)																			
	Unit length, L1 (mm)																			
	600		750		900		1050		1200		1350		1500		1650		1800		1950	
	$\dot{V}_{\min}$	$\dot{V}_{\max}$	$\dot{V}_{\min}$	$\dot{V}_{\max}$	$\dot{V}_{\min}$	$\dot{V}_{\max}$	$\dot{V}_{\min}$	$\dot{V}_{\max}$	$\dot{V}_{\min}$	$\dot{V}_{\max}$	$\dot{V}_{\min}$	$\dot{V}_{\max}$	$\dot{V}_{\min}$	$\dot{V}_{\max}$	$\dot{V}_{\min}$	$\dot{V}_{\max}$	$\dot{V}_{\min}$	$\dot{V}_{\max}$	$\dot{V}_{\min}$	$\dot{V}_{\max}$
1	11	27	14	30	17	34	19	36	18	41	20	43	20	47	25	54	15	58	21	60
2	25	41	19	45	39	52	26	56	30	60	34	65	38	68	41	81	45	86	49	90
3	24	60	38	68	36	77	40	84	46	89	51	95	57	102	63	119	68	126	74	131
4	50	81	38	80	45	104	53	98	60	106	68	109	75	117	83	142	90	148	98	154

**Note:** For further details, please refer to TROX KLIMA Asia Pacific catalogue Ref. 2/2.6/EN/--.

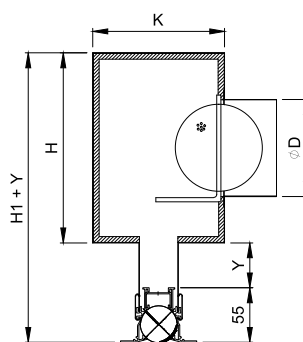




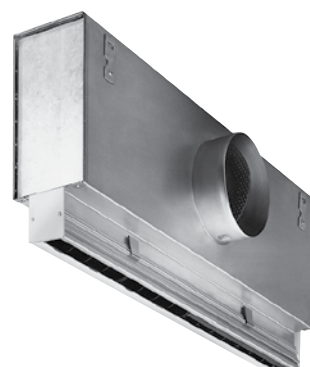
### Diffuser profile without flanges



**VSD50-1...2-AK**



**VSD50-1...2-DK**



## VSD50

## Nomenclature

 $\dot{V}$  in l/s = Flow rate

X in m = Throw distance

$L_1$  in mm = Length of plenum box

A in m = Distance between 2 diffusers

$\bar{v}_{H1}$  in m/s = Time average upstream velocity between 2 diffusers

 $\bar{v}_l$  in m/s = Time average upstream velocity at the wall

### Note

Room height = 3 m

$$\bar{V}_{H1} = 0.15 - 0.17 \text{ m/s}$$
$$\bar{v}_l = 0.34 - 0.37 \text{ m/s}$$

Sound power level is  $L_{WA} \leq 40$  dB(A) in all cases

Pressure drop  $\Delta p_t \leq 35 \text{ Pa}$ 

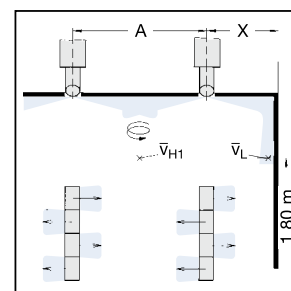
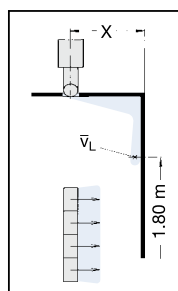
If required, the length of the diffuser face can be greater than the length of the plenum box.

Dimensions (mm)						
No. of slots	P	K	H1	H2	H	D
1	77	138	262	286	207	123
						148
2	123	176	302	326	247	148
						198

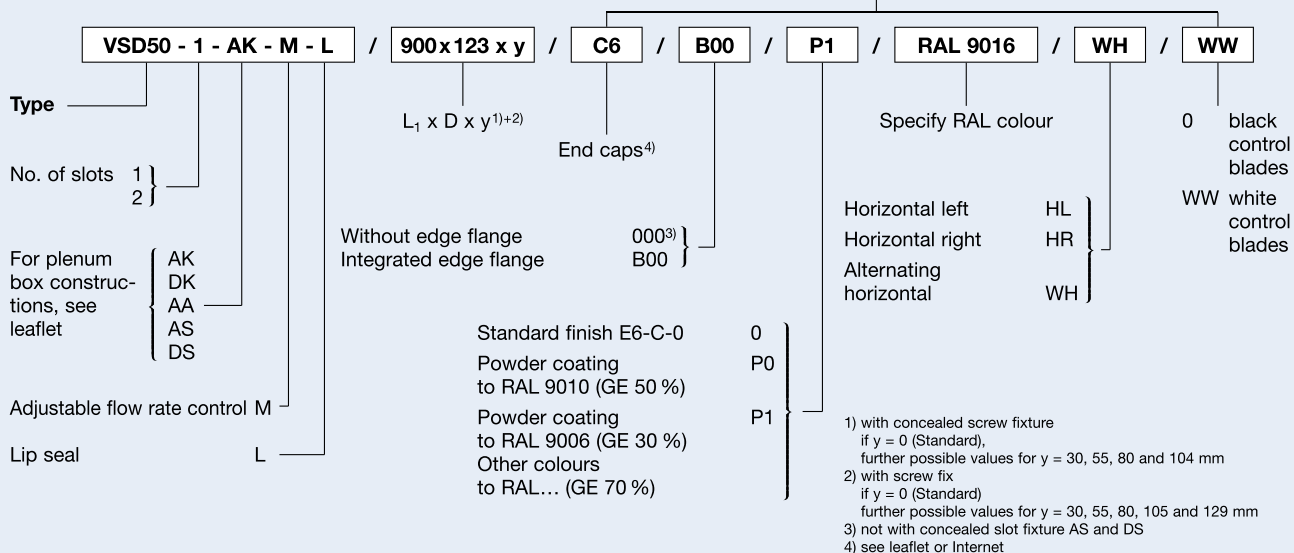
## Diffuser Layout

flow discharge horizontal, one direction

flow discharge alternating horizontal

**Order Code**

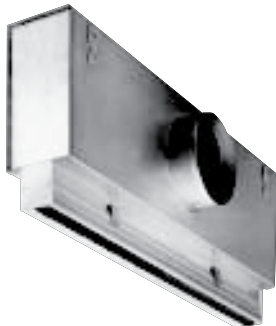
These codes need not be completed for standard products



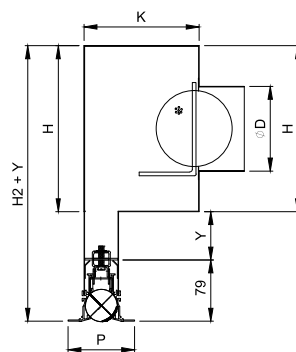
**Note:** For further details, please refer to TROX KLIMA Asia Pacific catalogue Ref. 2/2.7/EN/--.

# 8.4 TROX SLOT DIFFUSERS TYPE 'VSD 50'

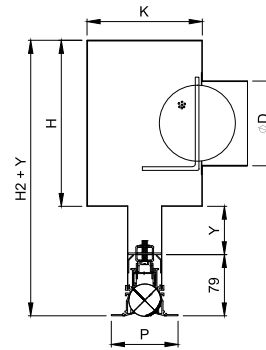
195



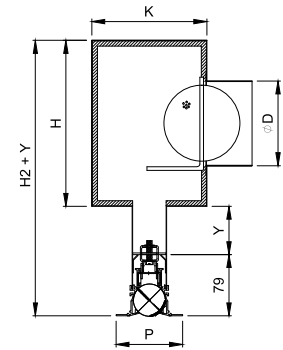
VSD50



VSD50-1...2-AA



VSD50-1...2-AS



VSD50-1...2-DS



Diffuser profile without flanges

## Throw distance, X (m) for VSD50 -1

Air flow discharge in one direction only

Unit length, L<sub>1</sub> (mm)

Ṃ	600	750	900	1050	1200	1350	1500	1650	1800	1950
11	3.0									
14	3.0	3.0								
17	4.0	3.0	3.0							
19	5.5	3.4	3.0	3.0						
22	7.1	4.6	3.2	3.0	3.0					
25		5.8	4.0	3.0	3.0	3.0				
28		7.1	5.0	3.6	3.0	3.0	3.0			
31		8.7	6.0	4.4	3.5	3.0	3.0	3.0		
33			7.1	5.3	4.0	3.2	3.0	3.0	3.0	
39				7.1	5.5	4.3	3.5	3.0	3.0	3.0
44					7.1	5.7	4.6	3.7	3.2	3.0
50						7.1	5.8	4.8	4.0	3.3
56						8.8	7.1	5.9	5.0	4.3
61							8.7	7.1	6.0	5.2
67								8.5	7.1	6.1
72									8.3	7.1
78										8.3

## Throw distance, X (m) for VSD50 -2

Air flow discharge in one direction only

Unit length, L<sub>1</sub> (mm)

Ṃ	600	750	900	1050	1200	1350	1500	1650	1800	1950
22	3.0									
25	5.5									
28	6.8	3.0								
31	8.1	5.3	3.0							
33		6.2	3.0	3.0						
39		8.4	5.9	3.0						
44			7.7	5.6	3.0					
50				7.1	5.5	3.0				
56				8.7	6.8	5.3	3.0			
61					8.1	6.5	5.3	3.0		
67						7.7	6.2	5.1	3.0	
72							7.3	6.1	5.0	
78							8.4	7.0	5.9	3.0
83								8.0	6.8	5.8
89									7.7	6.5
94									8.6	7.4
100										8.3

## VSD50 slot diffuser with alternating horizontal discharge

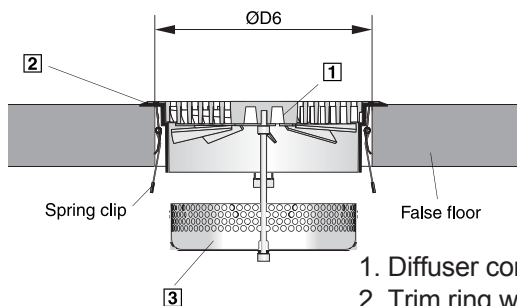
No. of  
slots  
"n"

Air flow ranges (l/s)

Unit length, L<sub>1</sub> (mm)

	600		750		900		1050		1200		1350		1500		1650		1800		1950	
	Ṃ <sub>min</sub>	Ṃ <sub>max</sub>	Ṃ <sub>min</sub>	Ṃ <sub>max</sub>	Ṃ <sub>min</sub>	Ṃ <sub>max</sub>	Ṃ <sub>min</sub>	Ṃ <sub>max</sub>	Ṃ <sub>min</sub>	Ṃ <sub>max</sub>	Ṃ <sub>min</sub>	Ṃ <sub>max</sub>	Ṃ <sub>min</sub>	Ṃ <sub>max</sub>	Ṃ <sub>min</sub>	Ṃ <sub>max</sub>	Ṃ <sub>min</sub>	Ṃ <sub>max</sub>	Ṃ <sub>min</sub>	Ṃ <sub>max</sub>
1	11	38	14	58	17	50	19	54	22	59	25	62	28	66	31	76	33	79	39	86
2	25	65	31	66	39	84	39	92	44	100	50	108	56	113	61	129	67	139	72	144

### Typical installation detail with trim ring



1. Diffuser core.
2. Trim ring with spring clip fixings.
3. Dirt tray with adjustable height.

### Type 'FBA' Floor Diffuser



FB

Plastic Floor Diffuser (FBK)		
Type	Discharge setting	
	Vertical V (l/s)	Horizontal V (l/s)
FBK-150	28	14
FBK-200	37	25

Aluminium Floor Diffuser (FBA)		
Type	Discharge setting	
	Vertical V (l/s)	Horizontal V (l/s)
FBA-150	30	17
FBA-200	37	25

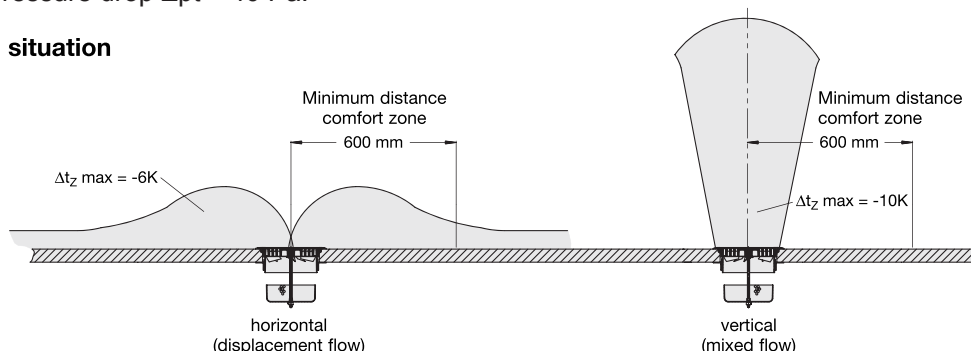
Dimensions			
Nominal size	Overall Face Size (mm)	Core Face Diameter (mm)	Floor Opening (mm)
150	200	149 Ø	170 – 180 Ø
200	250	199 Ø	220 – 230 Ø

### Notes:

1. Sound power level is  $LWA \leq 35$  dB(A) in all cases.
2. Total pressure drop  $\Delta p_t \leq 40$  Pa.

Note: Overall unit height is 167 mm

### Discharge situation



### Order Code

FBA - 1 - V - K - SM - A / 150	
Type	Size 150; 200
Surface of diffuser core and trim ring: in aluminium	A Plenum box
Die cast and deburred	1
Die cast, deburred, tumble fettled black stove enamel, face skimmed	3
Die cast, deburred, face skimmed	4
Adjustable swirl element <sup>2)</sup> for discharge control	V } H }
SM	Dirt trap including adjustable flow rate control at rear
SV	Dirt trap including adjustable flow rate control at face
K <sup>1)</sup>	Trim ring

- 1) For orders without trim ring, a spacing ring is provided for technical performance reasons and to ensure correct height
- 2) For orders without adjustable swirl element, the discharge direction is vertical

FBK - 1 - V - K - SM - A / 150 / V00	
Type	Size 150; 200
Surface of diffuser, core and trim ring: in plastic	Standard Plastic (PA6)
Dusty grey similar to RAL 7037	1
Black similar to RAL 9005	2
Adjustable swirl element <sup>2)</sup> for discharge control	V } H }
SM	Dirt trap including adjustable flow rate control at rear
SV	Dirt trap including adjustable flow rate control at front
K <sup>1)</sup>	Trim ring

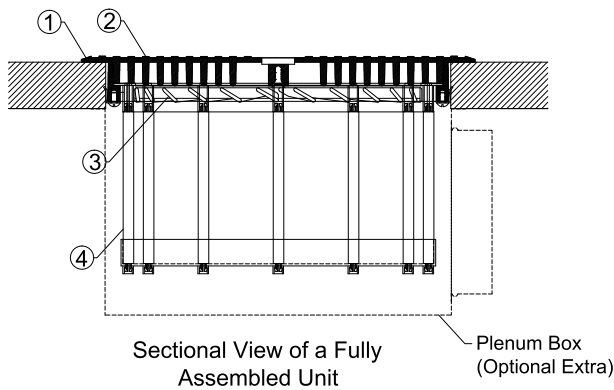
**Note:** For further details, please refer to TROX KLIMA Asia Pacific catalogue Ref. T 1.3/6/EN/--



# 8.5 TROX FLOOR DIFFUSERS

## TYPE 'FBA/250'

Type 'FBA/250' Floor Diffuser



### KEY FEATURES

- The diffuser core and trim ring are in aluminium die cast.
- Swirl plate and dirt trap are made from ABS plastic.
- Provides vertical air discharge pattern only.
- Dirt tray can be supply with or without damper blades.
- Removable diffuser core to clean the dirt tray.
- Maximum point load at the centre of the diffuser over an area of 25 mm<sup>2</sup> is 9 kN.

### RECOMMENDATIONS

- Temperature differential of the supply air should range between 2 to 6°C.
- Hole size in the floor tile should be 268 ± 2 mm in diameter.

### LEGEND

1. 250 mm diameter diffuser face.
2. Swirl plate.
3. Dirt trap.
4. Trim ring.
5. Overall height, H3 is 165 mm.

Table 1: Quick selection for 'FBA/250' diffuser.

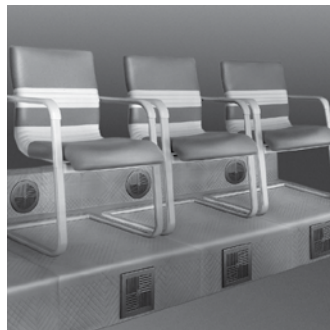
Diffuser Type/Size	Pressure Drop											
	5Pa		10Pa		15Pa		20Pa		25Pa		30Pa	
	l/s	NC	l/s	NC	l/s	NC	l/s	NC	l/s	NC	l/s	NC
<b>FBA/250</b>	36	>NC20	47	NC20	55	NC25	63	NC30	70	NC35	77	NC40

### Order Code

		<b>FBA - 3 - T - K - S - A</b>		/	250
Surfaces of diffuser core and trim flange :					250 Size
Die-cast and deburred	1				
Die-cast, deburred, stove-enamelled in black, face skimmed	3			A	Plenum Box
Die-cast, deburred, face skimmed	4			Ø	Without dirt trap
Control element for swirling discharge pattern	without swirl	Ø		S	Dirt trap without volume adjustments elements
	with swirl	T		SW	Dirt trap including winged volume adjustment elements
			K		Trim Flange

The Staircase Diffuser is designed to be used in theatres, auditoriums, concert halls or cinemas to supply air at a temperature differential of between 3 to 6 °C. They can be mounted vertically on steps or horizontally directly below the seat, where they are not expected to take live or dead load.

## Type 'SD' Staircase Diffuser



### Key features:

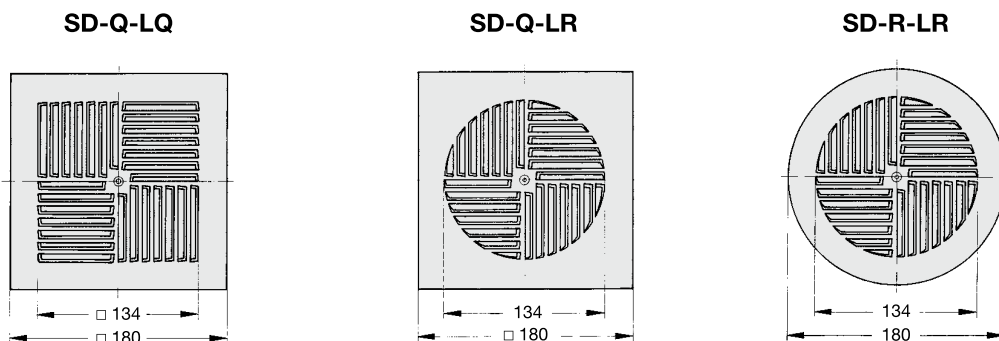
- Provide high induction rate to minimise draft.
- Made from galvanised sheet steel.
- Comes in one size only with either square face or round face (see diagrams below).

**Table 1:** Quick selection table of 'SD' Staircase Diffuser with sub-frame

TROX Product Code	Air flow (l/s)	ΔP (Pa)	Throw (m) @ 0.15 m/s	Remarks
<b>SD-Q-LQ</b>	16	14	0.55	With square discharge face
<b>SD-Q-LR</b>	14	13	0.50	With round discharge face
<b>SD-R-LR</b>				

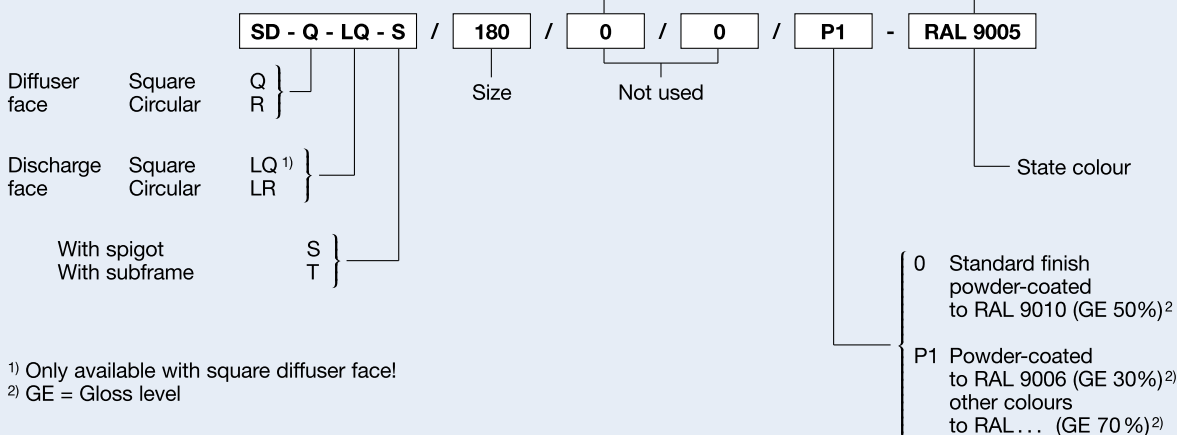
NOTE: Anticipated noise level is NC 20 assuming 8 dB room attenuation.

Options available:



### Order Code

These codes do not need to be completed for standard products



**Note:** For further details, please refer to TROX KLIMA Asia Pacific catalogue Ref. 1/9/EN/--.

# 8.6 TROX STAIRCASE DIFFUSERS

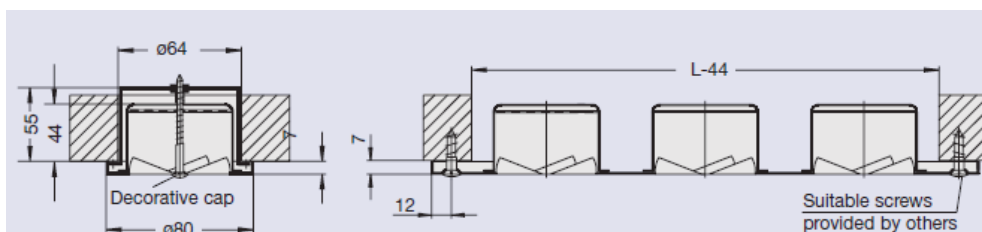
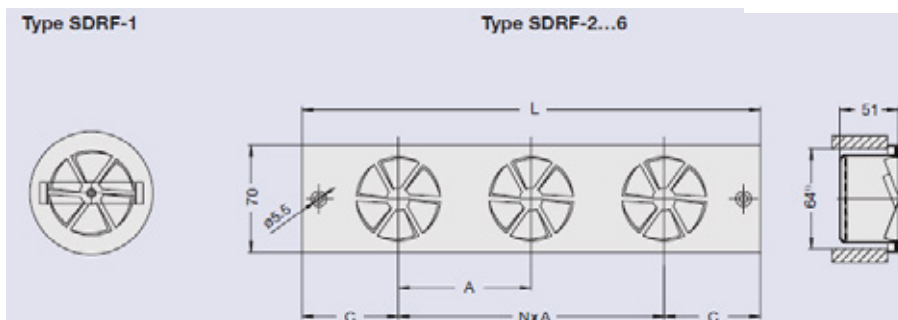
## TYPE 'SDRF'

The Staircase Diffuser is designed to be used in theatres, auditoriums, concert halls or cinemas to supply air at a temperature differential of between 3 to 6 °C. They can be mounted vertically on steps or horizontally directly below the seat.

### Key Features:

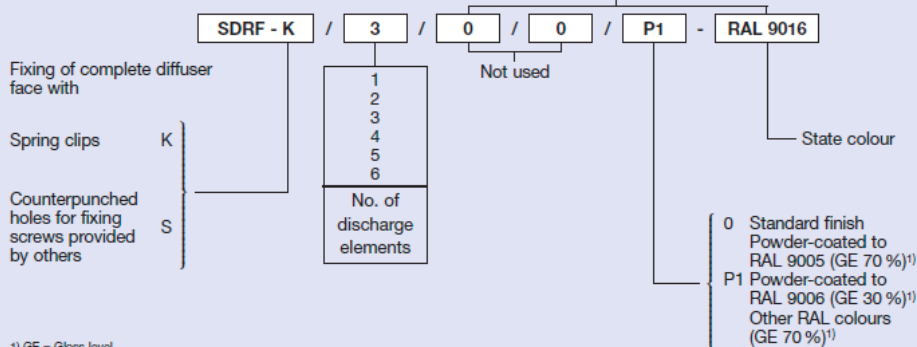
- The SDRF comprises a face plate with 1 to 6 standard stamped discharge elements
- Discharge elements are circular with fixed providing radial blades providing a swirl airflow pattern
- Draught free and silent airflow provision

Dimensions Type SDRF-2 to 6			
Type	L (mm)	C (mm)	N x A
SDRF-2	200	63	1 x 74
SDRF-3	300	63	2 x 87
SDRF-4	400	71	3 x 86
SDRF-5	500	66	4 x 92
SDRF-6	500	65	5 x 74



### Order Code

These codes need not be completed for standard products



**Note:**  
Type SDRF-1 circular faceplate!  
Types SDRF-2...6 rectangular face plate!

**Note:** For further details please refer to the TROX GmbH Catalogue 1/9.1/EN/3



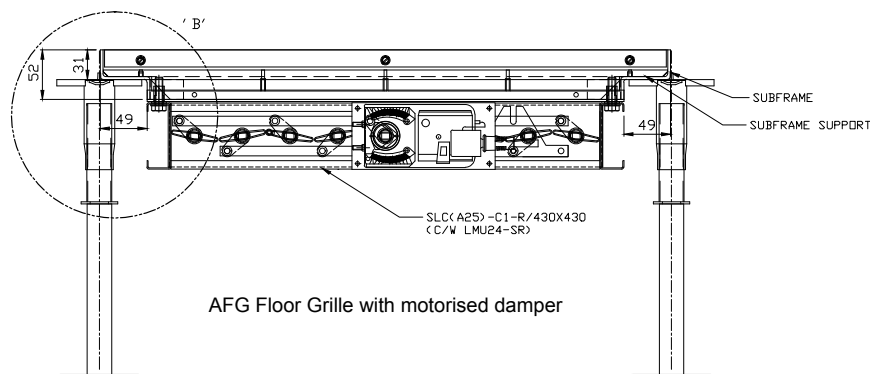
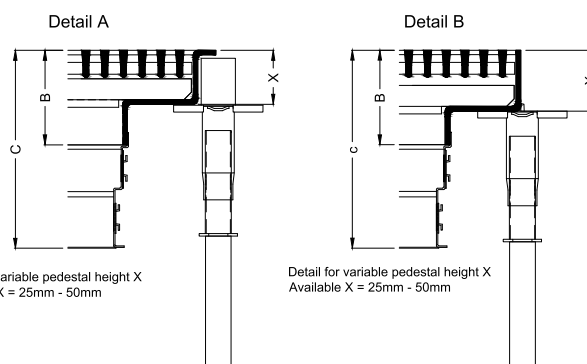
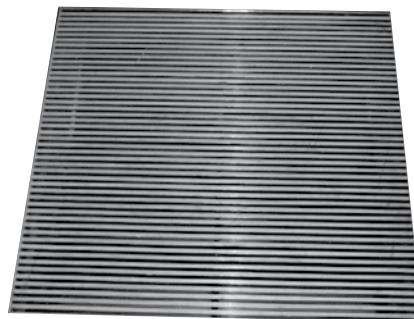
## KEY FEATURES

- Grille face is made from extruded aluminium with steel support frame at the back.
- Designed to suit 600 x 600 mm sq. floor tile.
- Opposed blade damper can be provided at the rear of the steel frame and is adjustable from the grille face.
- Actuator controlled motorised damper can be provided

### STANDARD FINISH

- Grille will be in mill finish
- Steel frame and opposed blade damper (OBD) at the rear will be in painted black to RAL 9005.

### Type 'AFG' Floor Grille



**Table No. 1: “AFG-A” (without OBD).**

Static Press $\Delta P$ (Pa)	Air Flow Rate (l/s)
5	470
7	510
10	595

**Table No. 2: “AFG-AG” (with OBD).**

Static Press $\Delta P$ (Pa)	Air Flow Rate (l/s)
5	250
7	302
10	343

Order Code	
Type	AFG-A / 00 / 0 / F1
Construction	Finish
A	F0
AG	F1
Dirt Trap	
00	Plenum box
SM	o
SO	A

Floor grille with support steel structure	Deburred and natural skimmed face
<b>(Standard supply)</b>	
Floor grille with support steel structure and volume control damper.	Tumble fettled and polished with black stove enamel paint and face skimmed-natural (Standard supply)
Without dirt trap (Standard supply)	
Dirt trap with shut-off damper	Without plenum (Standard supply)
Dirt trap without damper.	Plenum box

# 8.8 TROX DISPLACEMENT DIFFUSERS

## TYPE 'QLV' TYPE 'QLV'

### KEY FEATURES:

- Suitable for commercial and industrial applications
- Manufactured in pre-galvanised sheet steel.
- Available in 90°; 180° or 360° radial air discharge.
- Comes with circular inlet spigot which can be located at the top or bottom of the diffuser.

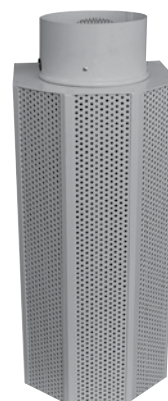
### RECOMMENDATION:

- Temperature differential for supply air should be between -1 and -6 K.

### STANDARD FINISH:

- Powder coating to RAL 9010 in matt white.

### Type 'QLV-360' Displacement Diffuser



**Table 1:** Quick selection guide for 'QLV' Type 90°; 180° and 360° construction variants

Unit Size	Unit Ht. (mm)	QLV-90 @ 0.3 m/s discharge vel.				QLV-180 @ 0.3 m/s discharge vel.				QLV-360 @ 0.3 m/s discharge vel.			
		Air flow (l/s)	ΔP (Pa)	SWL in dB(A)	Throw ≤ 0.25 m/s	Air flow (l/s)	ΔP (Pa)	SWL in dB(A)	Throw ≤ 0.25 m/s	Air flow (l/s)	ΔP (Pa)	SWL in dB(A)	Throw ≤ 0.25 m/s
160	1000	104	46	32	1.3	148	89	42	1.3	192	148	50	1.3
200	1000	126	29	27	1.3	180	55	37	1.3	233	90	44	1.3
250	1000	155	18	21	1.3	218	35	31	1.3	281	55	38	1.3
316	1250	240	16	22	1.4	339	31	31	1.4	433	49	38	1.4
400	1500	360	14	21	1.6	508	26	31	1.6	646	40	37	1.6
500	1500	443	9	15	1.6	627	17	25	1.6	795	26	32	1.6
600	1750	644	7	<15	1.8	913	14	24	1.8	1154	21	21	1.8

NOTE: The selection given above assumes that the volume control damper is fully open.

### Order Code

These codes not required for standard construction

**QLV - 180 - O - M - L** / **250 x 600** / **W0** / **0** / **P1** / **RAL 9016**

Construction 90 }  
180 }  
360 }

Air connection spigot on top O }  
at the bottom U }

Volume flow control damper M

Lip seal L<sup>1)</sup>

160 x 500  
600  
800  
1000

200 x 500  
600  
800  
1000

250 x 500  
600  
800  
1000

315 x 600  
800  
1000  
1250

400 x 800  
1000  
1250  
1500

500 x 1000  
1250  
1500

630 x 1250  
1500  
1750

NW x H (mm)

Not used

State colour

0 Standard finish powder-coated to RAL 9010 (GE 50 %)<sup>2)</sup>

P1 Powder-coated to RAL 9006 (GE 30 %)<sup>2)</sup> other RAL colour (GE 70 %)<sup>2)</sup>

S7 Galvanised variant

0 Without wall mounting kit

W0 With wall mounting kit (supplied loose) (only for QLV-90 and QLV-180)

B0 With floor fixing plate (only for QLV-360)

1) With order – air connection spigot at the bottom (U) – as standard supplied with lip seal

2) GE = gloss level

**Note:** For further details, please refer to TROX KLIMA Asia Pacific catalogue Ref. T 1.3/2/EN/--.

## Type 'QLF' Displacement Diffuser



### KEY FEATURES:

- Suitable for commercial and industrial applications
- Manufactured in pre-galvanised sheet steel.
- Available in one (i.e., face only) or three (i.e., face and sides) directional air discharge.
- Comes with rectangular inlet spigot located at the top or bottom of the diffuser

### RECOMMENDATION:

- Temperature differential for supply air should be between -1 and -6 K.

### STANDARD FINISH:

- Powder coating to RAL 9010 in matt white

**Table1:** Quick Selection for 'QLF-1'

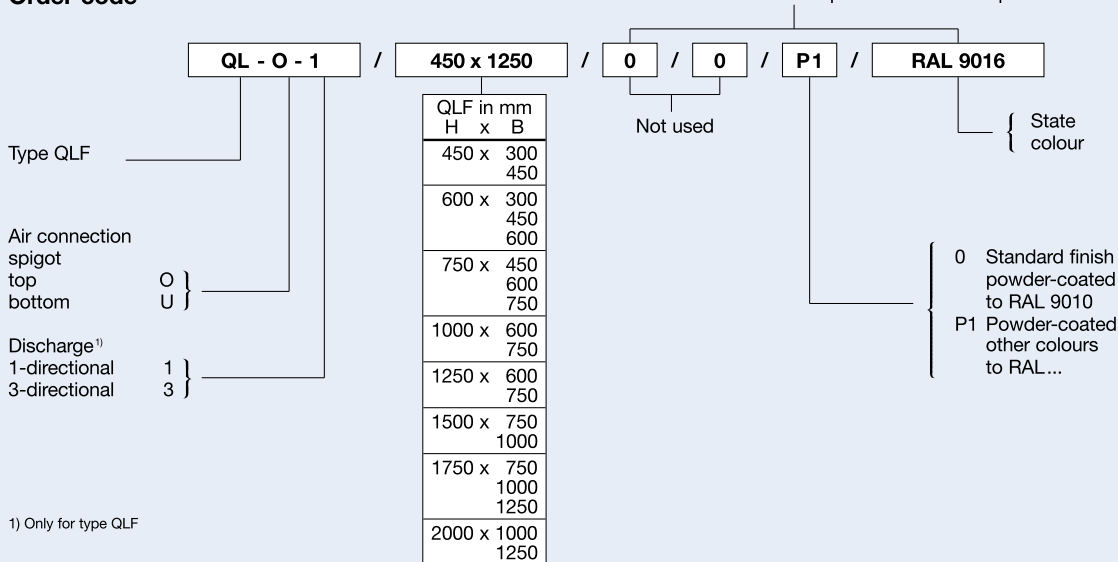
H x B (mm)	Vmin (l/s)	Vmax (l/s)	LWA min in dB(A)	LWA max in dB(A)
450 x 300	13	40	< 15	26
450 x 450	20	60	< 15	27
600 x 300	18	54	< 15	27
600 x 450	27	81	< 15	29
600 x 600	36	108	< 15	28
750 x 450	34	101	< 15	30
750 x 600	45	135	< 15	27
750 x 750	56	168	< 15	24
1000 x 600	60	180	< 15	28
1000 x 750	75	224	< 15	25
1250 x 600	75	224	< 15	28
1250 x 750	94	281	< 15	26
1500 x 750	112	337	< 15	26
1500 x 1000	150	449	< 15	29
1750 x 750	131	303	< 15	26
1750 x 1000	175	524	< 15	30
1750 x 1250	218	655	< 15	32
2000 x 1000	200	599	< 15	30
2000 x 1250	250	749	< 15	33

**Table2:** Quick Selection for 'QLF-3'

H x B (mm)	Vmin (l/s)	Vmax (l/s)	LWA min in dB(A)	LWA max in dB(A)
450 x 300	25	75	< 15	45
450 x 450	32	95	< 15	42
600 x 300	33	99	< 15	47
600 x 450	42	126	< 15	45
600 x 600	55	164	< 15	40
750 x 450	52	157	< 15	45
750 x 600	68	204	< 15	42
750 x 750	79	238	< 15	36
1000 x 600	92	276	< 15	43
1000 x 750	107	321	< 15	37
1250 x 600	115	344	< 15	46
1250 x 750	133	400	< 15	38
1500 x 750	160	480	< 15	39
1500 x 1000	216	649	< 15	42
1750 x 750	186	559	< 15	39
1750 x 1000	252	757	< 15	42
1750 x 1250	296	888	< 15	43
2000 x 1000	290	869	< 15	43
2000 x 1250	340	1019	< 15	43

### Order code

These codes do not need to be completed for standard products



**Note:** For further details, please refer to TROX KLIMA Asia Pacific catalogue Ref. T1.3/1/EN/--.



# 8.8 TROX DISPLACEMENT DIFFUSERS

## TYPE 'QSH & ISH'

This Type 'QSH' and 'ISH' displacement diffusers are designed to be used in industrial areas with floor to ceiling heights of 3.5m to 10 m. These types of diffuser can be installed as free suspended units or to columns and walls as shown below.

They are suitable for either heating or cooling application since the supply air can be directed to discharge horizontally or vertically.

In a highly polluting process environment, it is recommended to use Type 'QSH' diffuser for such application.

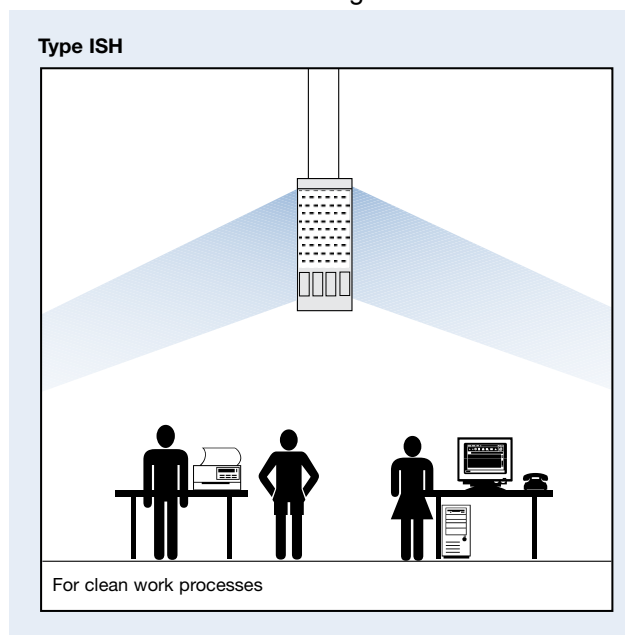
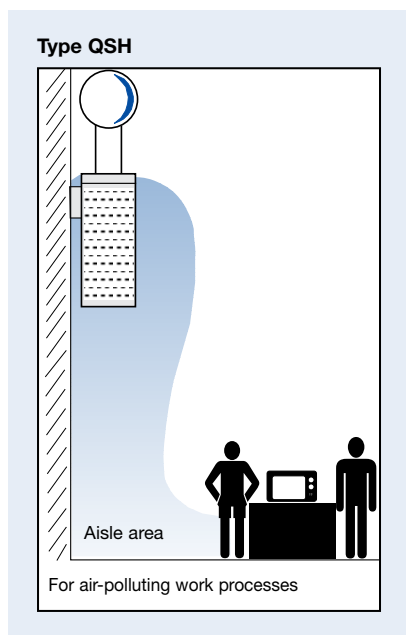
The Type 'ISH' diffuser is better suited for clean process environment.

Both types come in four different sizes with a fixed height of 825 mm. Refer to the table below for more information.

**Table 1:** Quick selection for 'QSH' and 'ISH' diffusers.

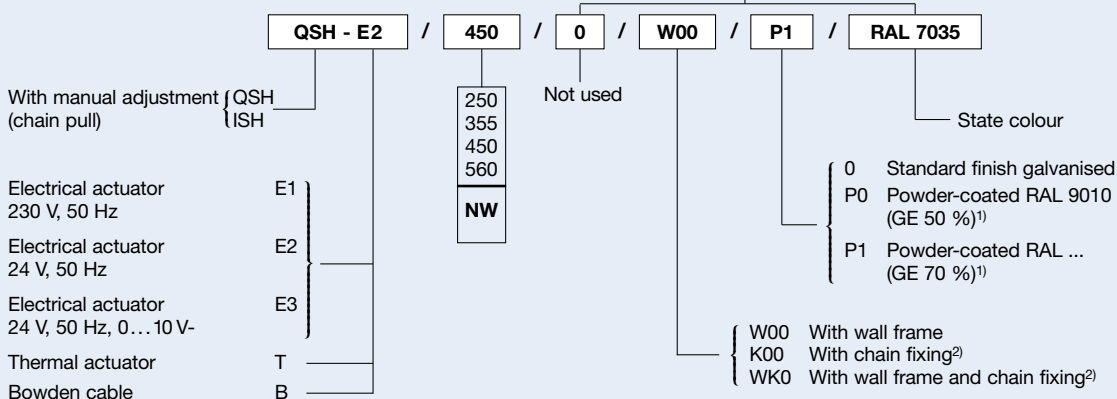
Unit size	Spigot conn. (mm)	Product Type	Air flow (l/s)	ΔP (Pa)	Throw (m) @ ΔT = -5K
250	248	QSH	230	17	2.0
		ISH	210	15	
355	353	QSH	410	16	2.2
		ISH	375	14	
450	448	QSH	635	16	2.6
		ISH	550	13	
560	558	QSH	940	17	3.0
		ISH	830	14	

NOTE: Anticipated sound power level is 40 dB(A) or NC 35 assuming 8 dB room attenuation.



### Order Code QSH · ISH

These codes do not need to be completed for standard products



¹) GE = Gloss level!

²) for manual adjustment only

**Note:** For further details, please refer to TROX KLIMA Asia Pacific catalogue Ref. T 1.3/5/EN/---.

## Type 'AJA' Jet Nozzles



Alternatively, as optional extra, each jet nozzle can be fitted with a circular mounting flange that will enable the nozzles to be manually rotated through 360°, giving it the ability to direct air in a 60° conical fashion. This is Type 'AJA-2'.

Each nozzle is held in the set position by friction-held fixings. The quick selection given in Table 1 is based on NC 35 with 8 dB room attenuation.

### REAR ASSEMBLY:

The jet nozzle can be supplied with either;

- Plenum box only.
- Plenum box with opposed blade balancing damper.

### STANDARD FINISH:

Powder coated to RAL 9010 matt white.

This jet nozzle is designed to deliver large volume of supply air to a large enclosed space that requires long throw, for example assembly halls, auditoriums and convention halls. They can be installed either to the side walls or mounted directly onto supply air ductwork.

The discharge nozzle can be tilted vertically and set at any angle between 30° up or down in the vertical plane (i.e., with up to 60° adjustment). This is Type 'AJA-1'.

**Table 1:** Quick Selection table for AJA Jet Nozzles

Size	No. of elements	Flow (l/s)	ΔP (Pa)	Throw (m)	Drop (m)
200	1	190	60	12	7.0
	2	320	43	12	7.0
	3	455	39	13	7.0
	4	570	35	15	5.5
250	1	300	60	16	10.0
	2	550	48	16	10.0
	3	850	45	17	10.0
	4	1040	40	17	9.0
300	1	390	50	17	15.0
	2	740	40	18	15.0
	3	1040	35	18	14.0
	4	1320	30	18	13.0
350	1	470	30	17	17.0
	2	880	29	18	17.0
	3	1290	28	18	17.0
	4	1600	24	18	17.0

NOTE: Anticipated noise level is NC 35 with 8 dB room attenuation.

### Order Code

AJA -2-PG / 250 / 2 / 0 / 0 / RAL 9002

#### Type

AJA-1 with vertical angle adjustment only  
AJA-2 with 60° conical angle adjustment.

#### Rear assemblies

0 – Without plenum  
PG – With plenum and volume control damper.  
PO – With plenum only.

#### Nozzle size

200; 250; 300 or 350.

#### Number of nozzles / unit

From 1 to 4 (max.) for AJA-2 only.

#### RAL Colour Code

To state colour code if it is any other colour other than RAL 9010.

#### Powder coating

0 – Matt white (RAL 9010) as **standard supply**.  
1 – For any other RAL colour.

#### Fixing requirement

0 – Border with counter punched holes (**Standard supply**)  
1 – Border without counter punched holes.

**Note:** For further details, please refer to TROX KLIMA Asia Pacific catalogue Ref. M 1.2/5.1/EN/--.

# 8.9 TROX JET NOZZLES TYPE 'TJN'

The new TJN jet nozzle offers improved acoustic properties and is also more energy efficient.

- Up to 6 dB less noise than with DUK jet nozzles due to optimised nozzle contours
- Discharge angle indication, limiting and setting ( $\pm 30^\circ$ ) using a concealed scale
- Visible parts made of high-grade polymer in RAL white aluminium or pure white
- Easy to remove face cover ring with bayonet fixing
- 5 nominal sizes, each with a circular spigot or, as an option, with a connection piece for circular or rectangular ducts

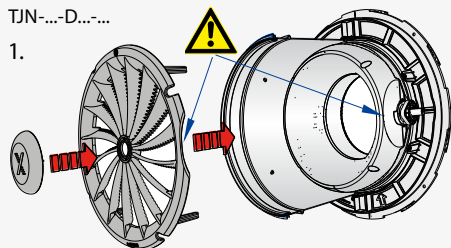


## Optional equipment and accessories

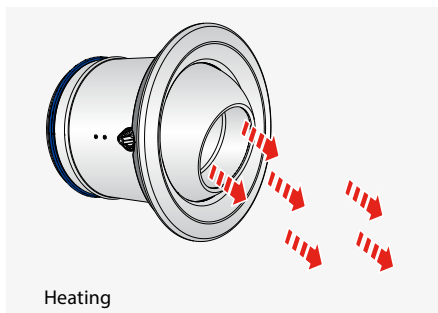
- Swirl unit for two-step reduction of the throw distance due to air control blades with unique saw tooth edges
- Compact height actuator that requires little additional space; mounted externally hence not affecting the differential pressure
- Actuator allows for integration into the central BMS
- All variants also with outer casing

TJN-...-D...-...

1.



Swirl unit for discharge range reduction

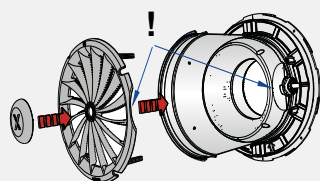


Heating

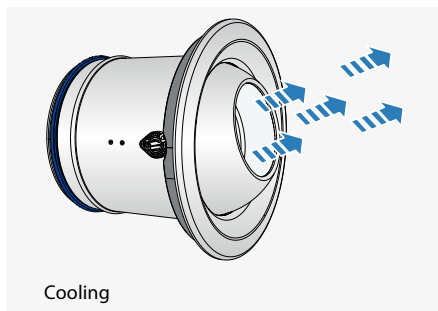


Scale for discharge

TJN-...-D...-...



Reducing the throw distance at a later stage is not possible for TJN with thermal actuator (T1).

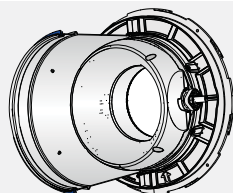


Cooling



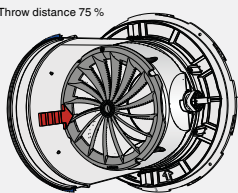
Throw distance 60% with swirl unit & cap

Throw distance 100 %

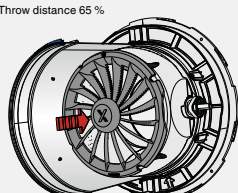


Throw distance 80% with swirl unit

Throw distance 75 %



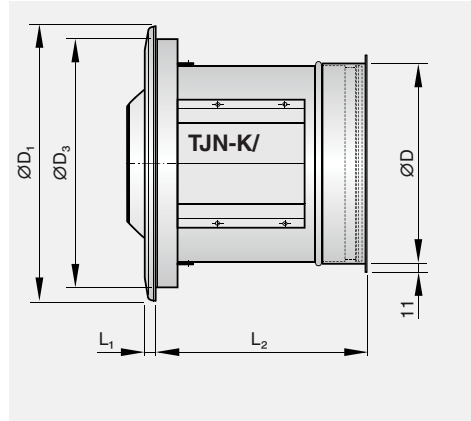
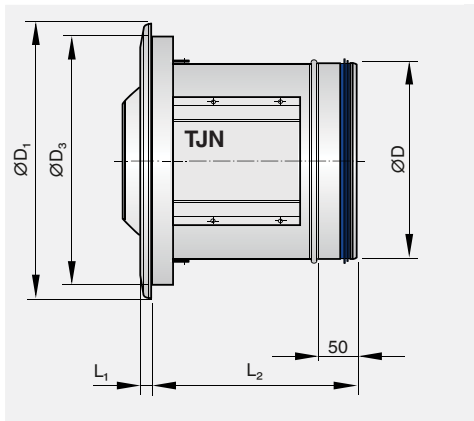
Throw distance 65 %



Throw distance 100%



## Dimensions



Dimensions [mm]												
NG	ØD	ØD <sub>1</sub>	ØD <sub>3</sub>	L <sub>1</sub>	L <sub>2</sub>							
					TJN TJN/.../C	TJN-K TJN-R	TJN-K /.../C	TJN-R /.../C	TJN-T1	TJN-R-T1 TJN-K-T1	TJN-K- T1/.../C	TJN-R- T1/.../C
160	158	258	227	15	242	248	258	261	302	308	318	321
200	198	298	263	14	250	257	267	270	310	317	327	330
250	248	348	315	14	260	265	276	279	320	325	336	339
315	313	413	379	15	275	281	291	294	335	341	351	354
400	398	501	468	16	285	292	302	305	345	352	362	365

ØD4: Diameter of the circular duct, according to order details

## Order code

## TJN

**TJN - R - E7 / 160 - 315 / C / D / S1**

1 2 3 4 5 6 7 8

### 1 Type

**TJN** Adjustable jet nozzle

### 2 Connection piece

No entry: none  
**K** For rectangular ducts  
**R** For circular ducts (saddle connector), specify duct diameter under 5

### 3 Actuator

No entry: manual adjustment  
**E7** Min/max or 3-point, 230 V AC  
**E8** Min/max or 3-point, 24 V AC  
**E9** Modulating 2 – 10 V DC, 24 V AC

### 4 Nominal size [mm]

160  
200  
250  
315  
400

### 5 Circular duct diameter [mm]

Specify only for variant -R  
**315** Specify only for nominal size 160  
**500** Only up to nominal size 315  
**630**  
**800**

### 6 Attachments

No entry: none  
**C** Outer casing

### 7 Accessories

No entry: none  
**D** Swirl unit for throw distance reduction

### 8 Exposed surface

No entry: similar to RAL 9010, pure white  
**S1** Similar to RAL 9006, white aluminium

# 8.10 TROX DRUM LOUVRES

## TYPE 'AIL'

This Drum Louvre is designed to deliver large volume of supply air into a space that requires long throw such as assembly halls, auditoriums and convention halls. The Drum Louvre can be installed onto the side walls or, mounted directly to metal ducting.

It can be manually adjusted in the vertical plain to direct the supply air at any angle between 30° up or down in the vertical plane. Once the louvre position is set, that position is held by means of friction-held fixings. It is also fitted with manually adjustable guide vanes within the drum louvre to enable the supply airstream to be directed on either side if required.

The drum louver can also be supplied with opposed blade volume control damper fitted to the rear and, is easily adjustable from the face of the drum louvre.

### STANDARD FINISH:

Powder coated to RAL 9010 matt white.

### Type 'AIL-A' Drum Louvre



Size	Flow (l/s)	Throw (m)		Drop (m) @ 0.5 m/s	ΔP (Pa)
		0.50 m/s	0.25 m/s		
1	214	8.0	19	0.50	110
2	311	10.0	24	0.80	120
3	403	11.5	27	1.00	125
4	583	13.5	31	2.00	135
5	639	10.0	24	0.85	110
6	792	12.0	27	1.35	120
7	1014	13.5	31	1.60	125
8	1222	15.0	35	2.40	135

#### Note:

The selection above is based on NC 35 or 40 dB(A) with a room attenuation of 8 dB.

### Order Code

AIL - A / 3 / 0 / S1 / RAL 9016

#### Type

##### AIL - A

Louvre face only  
(Standard supply).

##### AIL - AG

Louvre with volume control damper.

#### Unit Size

Sizes ranging from 1 to 8.

#### Powder Coating Colour

0 – RAL 9010 in Matt white  
(Standard supply).

S1 – Non-standard RAL colour as per customer's requirement.  
**Note:** RAL Colour code should be stated as shown above.

#### Flange options

0 – 50 mm wide flange  
(Standard supply)  
1 – 50 mm wide flange with counter punched holes.

**Note:** For further details, please refer to TROX KLIMA Asia Pacific catalogue Ref. M 1.2/5.2/EN/--.

This is a mechanical self-balancing damper that does not require an actuator and controller to regulate the air flow in the duct. It saves valuable time on air flow balancing and measurement on site. As shown on the right, it is easy to set to the required air flow on site. Once it is done, the device can be inserted into the duct to operate as a self-balancing damper. It is that simple!

### Key features:

- Easy to set the flow rate and install.
- Air flow accuracy of  $\pm 10\%$ .
- Damper blade and housing are made from fire retardant plastic (UL 94 V1).
- Recommended operating temperature range is between 0 and 50°C.
- Recommended storage temperature range is between -20 and 60°C.



**Table 1:** Quick Selection for 'VFL' units

Duct / Unit Size (mm)	Length, L (mm)	Flow range (l/s)		SPL in dB(A) at	
		V min	V max	$\Delta p_g$ 50 Pa	$\Delta p_g$ 100 Pa
80	86	4	25	28	35
100	100	4	33	32	38
125	118	11	57	36	42
160	148	14	97	35	42
200	175	17	158	31	37
250	220	35	250	31	39



### Order code

Type	VFL	/	100			
				Nominal size	Reference flow rate $\dot{V}^{1)}$	
					m³/h	l/s
				80	35	10
				100	70	19
				125	100	28
				160	150	42
				200	290	81
				250	450	125

1) Factory setting of different flow rate setpoint values can be offered at extra costs, only for quantity as of 50 per each size and flow rate.  
See table on page 4 for range of values available as a function of size.

**Note:** For further details, please refer to TROX KLIMA Asia Pacific catalogue Ref. 5/ 9.2/ EN/--.

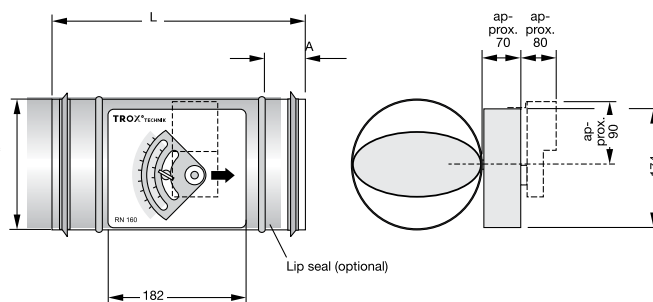


# 8.11 TROX DAMPERS

## CONSTANT VOLUME DAMPER TYPE 'RN'

209

This is a mechanical self-balancing constant flow regulator suitable for circular ductwork. It does NOT require an actuator or electronic controller to operate. It saves cost and time!



Dimensions (mm)		
D	ØDa	L
80	79	310
100	99	310
125	124	310
160	159	310
200	199	310
250	249	400
315	314	400
400	399	400

RN

Sound pressure level (dB[A])											
Size	ØDa (mm)	Air Flow range (l/s)	V̇ vel= 5m/s (l/s)	Δp <sub>g</sub> = 100 Pa				Δp <sub>g</sub> = 200 Pa			
				Air-regenerated noise		Case-radiated noise		Air-regenerated noise		Case-radiated noise	
				without silencer	with silencer Type CS (L = 1000 mm)	without acoustic cladding	with acoustic cladding	without silencer	with silencer Type CS (L = 1000 mm)	without acoustic cladding	with acoustic cladding
				L <sub>pA</sub>	L <sub>pA1</sub>	L <sub>pA2</sub>	L <sub>pA3</sub>	L <sub>pA</sub>	L <sub>pA1</sub>	L <sub>pA2</sub>	L <sub>pA3</sub>
80	79	11 - 45	26	39	16	22	<	43	20	26	<
100	99	22 - 90	39	39	19	19	<	43	23	23	<
125	124	35 - 140	61	41	25	17	<	45	29	21	<
160	159	60 - 240	100	44	30	31	<	48	34	35	<
200	199	90 - 360	156	42	26	30	<	46	30	34	<
250	249	145 - 580	244	41	27	31	<	45	31	35	<
315	314	230 - 920	389	40	27	32	<	44	31	36	15
400	399	350 - 1400	628	46	34	46	16	50	38	50	20

< stands for values <15

### Nomenclature

Δp<sub>g</sub> in Pa = Total pressure differential

v in m/s = Upstream velocity

L<sub>pA</sub> in dB(A) = A-weighted sound pressure level of air-regenerated noise, system attenuation taken into account

L<sub>pA1</sub> in dB(A) = A-weighted sound pressure level of air-regenerated noise with CS silencer, system attenuation taken into account

L<sub>pA2</sub> in dB(A) = A-weighted sound pressure level of case-radiated noise, system attenuation taken into account

L<sub>pA3</sub> in dB(A) = A-weighted sound pressure level of case-radiated noise with additional acoustic cladding, system attenuation taken into account

All sound pressure levels are based on 20 μPa.

System attenuation: See leaflet 5/9/EN/...

### Order Code RN

**Type**  
Volume flow controller  
with acoustic cladding

**Material**  
Basic construction, steel, galv. 00  
Surface powder-coated P1  
Colour RAL 7001

RN - 00 - 00 / 125 / B50

Size

**Actuators**  
See leaflet

### Order Code RNS

**Type**  
Volume flow controller

**Material**  
Basic construction, steel, galv. 00  
Surface powder-coated P1  
Colour RAL 7001

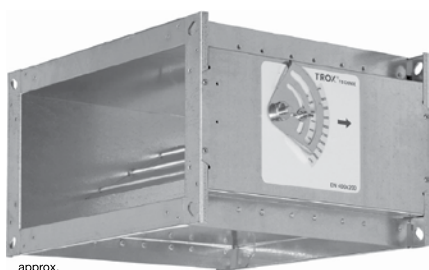
RNS - 00 / 125 / 00

Size

**Accessories**  
00 without  
D2 lip seal on both ends<sup>1)</sup>

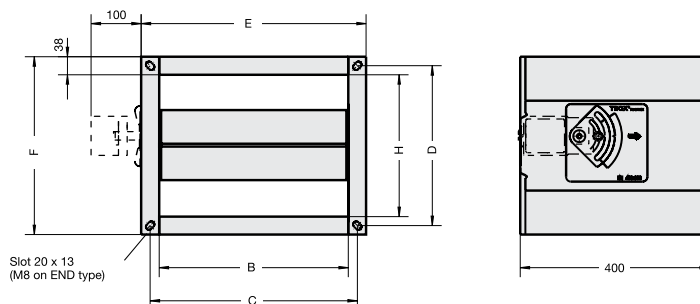
<sup>1)</sup> Nominal size 80 on RNS and RN-P1 with adapter

This is a mechanical self-balancing constant flow regulator suitable for rectangular ductwork. It does NOT require an actuator or electronic controller to operate. It saves cost and time!



approx.

EN



### Sound pressure level (dB[A])

Size mm		Air Flow range	V vel= 5m/s	$\Delta p_g = 100 \text{ Pa}$				$\Delta p_g = 200 \text{ Pa}$			
				Air-regenerated noise		Case-radiated noise		Air-regenerated noise		Case-radiated noise	
				without silencer	with silencer	without acoustic cladding	with acoustic cladding	without silencer	with silencer	without acoustic cladding	with acoustic cladding
				Type TX				Type TX			
B	H	(l/s)	(l/s)	$L_{pA}$	$L_{pA1}$	$L_{pA2}$	$L_{pA3}$	$L_{pA}$	$L_{pA1}$	$L_{pA2}$	$L_{pA3}$
200	100	40 - 160	100	40	30	32	27	48	35	38	32
300	100	65 - 260	150	42	31	34	29	49	36	41	34
300	150	105 - 420	225	42	29	34	27	49	35	40	32
300	200	128 - 520	300	43	27	34	25	52	35	42	33
400	200	210 - 840	400	40	24	33	25	49	33	41	32
500	200	230 - 920	500	38	23	31	23	47	31	39	31
600	200	255 - 1020	600	36	23	31	24	44	31	39	32
400	250	220 - 880	500	41	26	34	25	51	34	42	33
500	250	300 - 1200	625	39	23	32	23	48	32	40	31
600	250	320 - 1280	750	38	24	32	24	47	32	40	33
400	300	315 - 1260	600	44	27	37	27	52	35	44	35
500	300	375 - 1500	750	41	25	35	26	49	33	42	33
600	300	420 - 1680	900	39	24	32	24	47	31	40	31
400	400	420 - 1680	800	46	29	39	30	54	37	47	37
500	400	460 - 1840	1000	43	26	37	27	52	34	45	35
600	400	510 - 2040	1200	41	26	36	27	49	34	44	34
500	500	600 - 2400	1250	46	28	40	30	54	36	48	38
600	500	565 - 2560	1500	43	28	39	29	51	36	47	37
600	600	840 - 3360	1800	45	28	41	31	53	36	48	38

### Nomenclature

$\Delta p_g$  in Pa = Total pressure differential

v in m/s = Upstream velocity

$L_{pA}$  in dB(A) = A-weighted sound pressure level of air-regenerated noise, system attenuation taken into account

$L_{pA1}$  in dB(A) = A-weighted sound pressure level of air-regenerated noise with TX silencer, system attenuation taken into account

$L_{pA2}$  in dB(A) = A-weighted sound pressure level of case-radiated noise, system attenuation taken into account

$L_{pA3}$  in dB(A) = A-weighted sound pressure level of case-radiated noise with additional acoustic cladding, system attenuation taken into account

All sound pressure levels are based on 20  $\mu$ Pa.

System attenuation: See leaflet 5/9.1/EN/...

### Order Code

Type  
Volume flow controller  
with acoustic cladding

EN  
END

EN / 400 x 200 / B50  
B x H

Setpoint re-adjustment option

Actuators  
See leaflet

# 8.11 TROX DAMPERS

## CONSTANT VOLUME DAMPER TYPE 'SLC'

The 'SLC' Type damper is a multi-leaf volume control with aerofoil blades with an opposed blade arrangement. It is designed for air flow regulation and control. If low closed blade leakage performance is required, it is advisable to consider using C2 seal variant, which includes tip and side seals. It can be operated manually with a hand locking quadrant or with the aid of electric or pneumatic actuator(s) if required.

### KEY FEATURES

- Ideal for air flow balancing or regulation.
- Low pressure drop (e.g.,  $\Delta P$  of 10 Pa at 10 m/s in fully open position when the damper is connected to ductwork at both ends).
- Low damper leakage rate with C2 seal variant (i.e., about 25 l/s/ m sq. at 1000 Pa).
- 30 mm wide flange (Standard supply).

### MATERIAL

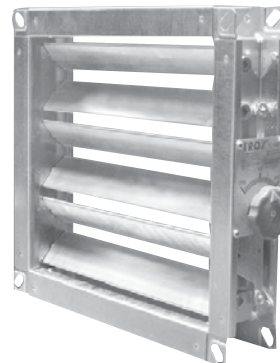
Casing – Galvanised steel

Blades – Extruded aluminium

Minimum module size: 100 mm x 100 mm

Maximum module size: 1000 mm x 1000 mm

### Type 'SLC' Damper



**Table1:** Quick selection table for 'SLC' damper

Damper Size (mm)		Recommended Max. Air Flow (m³/s)	$\Delta P$ (Pa)
B	H		
200	200	0.32	10
250	250	0.50	10
300	300	0.72	10
400	400	1.28	10
500	500	2.00	10
600	600	2.88	10
700	700	3.92	10
800	800	5.12	10
900	900	6.48	10
1000	1000	8.00	10

**Note:** Recommended air flow is based on duct velocity of 8 m/s.

### Order Code

SLC – A – C1 – D1 – R / 800 x 500 / Z00

#### Type

SLC

#### Case options

A – Flanged casing with 30 mm wide flange (**Standard supply**)

A2 – With rectangular spigot  
A3 – With circular spigot

#### Seal options

C1 – With side seals only (**Standard supply**)

C2 – With side and tip seals

#### Accessories

#### Duct Size

In mm to suit connecting duct.

#### External control location choices

R – Right hand side (**Standard supply**)  
L – Left hand side

#### Bearing options

D – Sintered bronze

D1 – Plastic (**Standard supply**)

**Note:** For further details, please refer to TROX KLIMA Asia Pacific catalogue Ref. M 3.1/3/EN/--.



### Type 'UL-1' Pressure Relief Damper



**Table 1:** Quick selection for Type 'UL/AUL/KUL' damper

Damper Size (mm)		Recommended Max. Air Flow (m³/s)
B	H	
297	215	0.28
397	215	0.38
397	315	0.56
497	215	0.48
497	315	0.70
497	415	0.92
597	215	0.57
597	315	0.84
597	415	1.11
597	515	1.38

This is a pressure relief damper suitable for air intake or exhaust application. Three different construction variants are available to suit different installation.

### KEY FEATURES

#### Type 'AL'

- Suitable to be mounted on a wall mounting with 45 mm wide border.
- Border is in galvanised steel.
- Blades are in aluminium sheet.

#### Type 'AUL'

- Suitable to be mounted on a wall with 28 mm wide border.
- Both border and blades are in aluminium.

#### Type 'KUL'

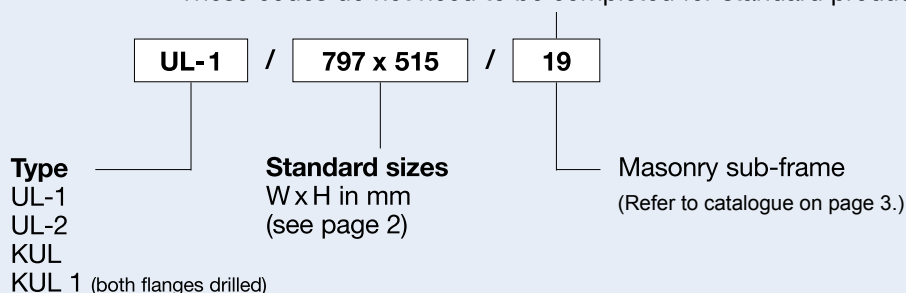
- Suitable to be mounted in a duct with 38 mm wide flanges on both sides of the casing.
- Damper casing is in galvanised steel.
- Blades are in aluminium sheet.

### RECOMMENDATION

Air velocity through the damper should be limited at 5 m/s. Based on this, the anticipated maximum pressure drop is 45 Pa.

### Order Code

These codes do not need to be completed for standard products



**Note:** For further details, please refer to TROX KLIMA Asia Pacific catalogue Ref. M 3.1/4/EN/--.

## 8.11 TROX DAMPERS

### BACK DRAFT DAMPER TYPE 'BDD'

The 'BDD' damper is a non-return damper intended to be used in mechanical ventilation systems to prevent back flow. It is designed to allow air to flow in only one direction. It will close automatically when the supply fan upstream of the damper is switched off.

It can also serve as an adjustable pressure relief damper by manually adjusting the weight or the position of weights on each counter weight arm.

#### KEY FEATURES

- Maximum operating temperature is 80 °C.
- Comes with 40 mm wide flanges at both ends of the damper casing as standard supply.

#### RECOMMENDATION

Air velocity through the damper should be limited to 10 m/s.

#### MATERIAL

Galvanised Sheet (Standard supply)  
Stainless steel construction is available if requested.

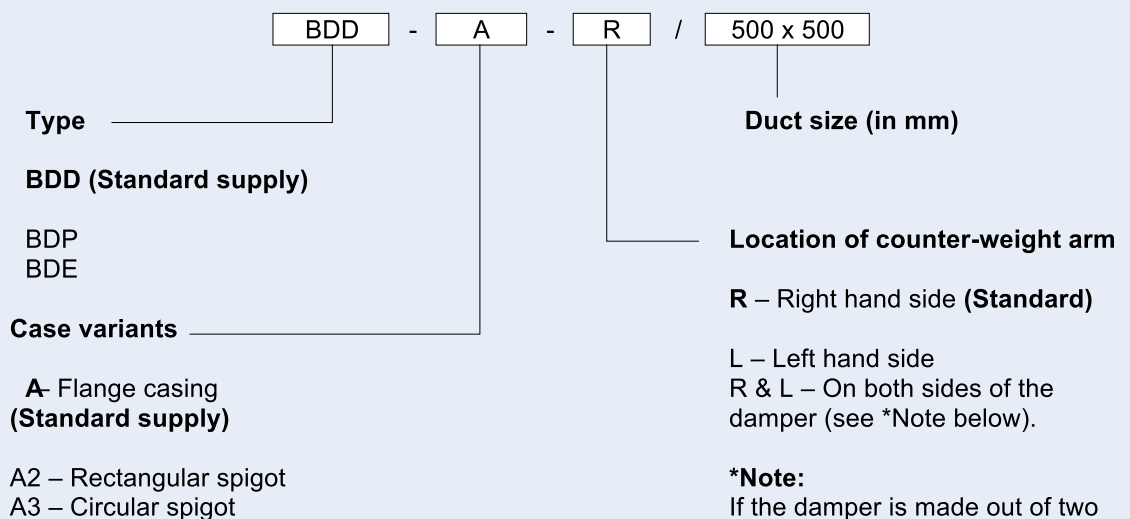
**Minimum module size:** 150 mm x 210 mm

**Maximum module size:** 1200 mm x 1860 mm

#### Type 'BDD' Damper



#### Order Code



#### \*Note:

If the damper is made out of two modules and, arranged side by side, then counter-weight arms will be located on both sides of the damper casing.

**Note:** For further details, please refer to TROX KLIMA Asia Pacific catalogue Ref. M 3.1/5/EN/--.

### Type 'NAK'



This is a gas tight shut-off damper designed for extreme safety requirements to the KTA 3601 Guidelines for Nuclear Plant. Under this guideline, the **maximum permissible closed blade leakage rate is 0.0027 l/s /m<sup>2</sup> at 2000 Pa**. It is a very robust and compact damper capable of operating at pressures up to **5000 Pa** when it is fully closed.

This damper has a mechanism to keep the damper blades shut tightly even if there is a power cut to the actuator.

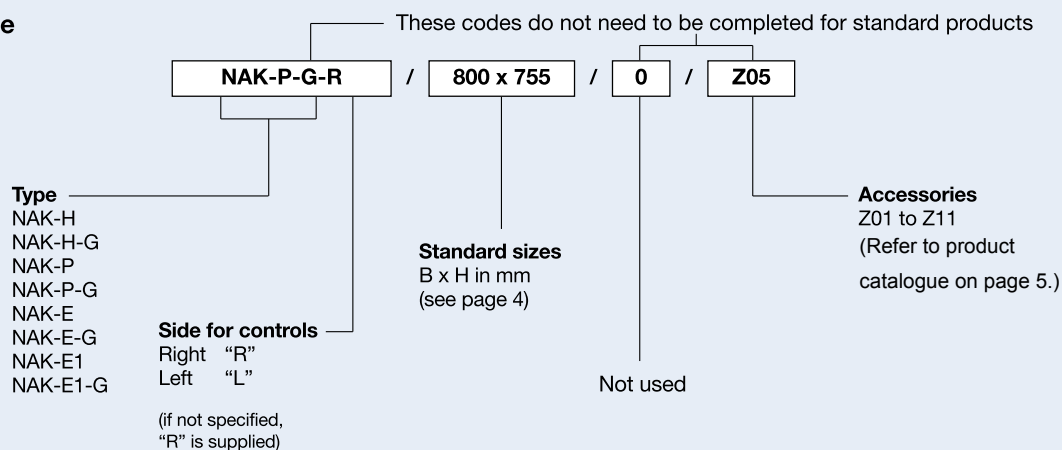
Anticipated maximum pressure drop across the damper at 8 m/s is 60 Pa.

Please note that only standard damper sizes are available and it can be any combination of B and H as given in the Table 1.

**Table 1:** Standard damper sizes

Damper Size (mm)	
B	H
400	270
600	510
800	755
1000	1000

### Order code



**Note:** For further details, please refer to TROX KLIMA Asia Pacific catalogue Ref. 3/6/EN/--.



## 8.11 TROX DAMPERS

### MARINE FIRE AND GAS DAMPERS TYPE 'JFD'

TROX Type 'JFD' Damper is classified as an '**A-60**' **Marine Multi-leaf Fire and Gas Damper**, designed for marine and offshore applications. This damper is certified by Lloyd's Register and ABS for the 'compliance with the essential Fire protection requirements of Marine Equipment Directive (MED) 96/98/EC' in accordance with IMO Fire Test Procedures Code, Annex 1; Part 3.

The damper is designed for **horizontal or vertical mounting**, suitable to be used in 'A-0' divisions, and 'A-15', 'A-30' and 'A-60' divisions with 900 mm length of insulated duct including the damper.

It complies with Directive 94/9/EG (ATEX 95), Appendix 1 and is classified under equipment group II, category 2G. According to Directive 99/92/EC (ATEX 137), this damper can be used in Zone 1 and 2, and Group IIA, IIB and IIC, which is for potentially explosive environment with the presence of flammable materials at temperature classes T1 to T6.

In addition, under Directive 94/9/EC (ATEX 95), Appendix 1, this damper is classified under equipment group II, category 2D. In accordance with Directive 99/92/EC (ATEX 137), this damper can be used in Zone 21 or 22 subject to combustible dusts.

The maximum recommended operating pressure for this damper is 3000 Pa.

#### Type 'JFD' Marine Fire Damper



#### MATERIAL

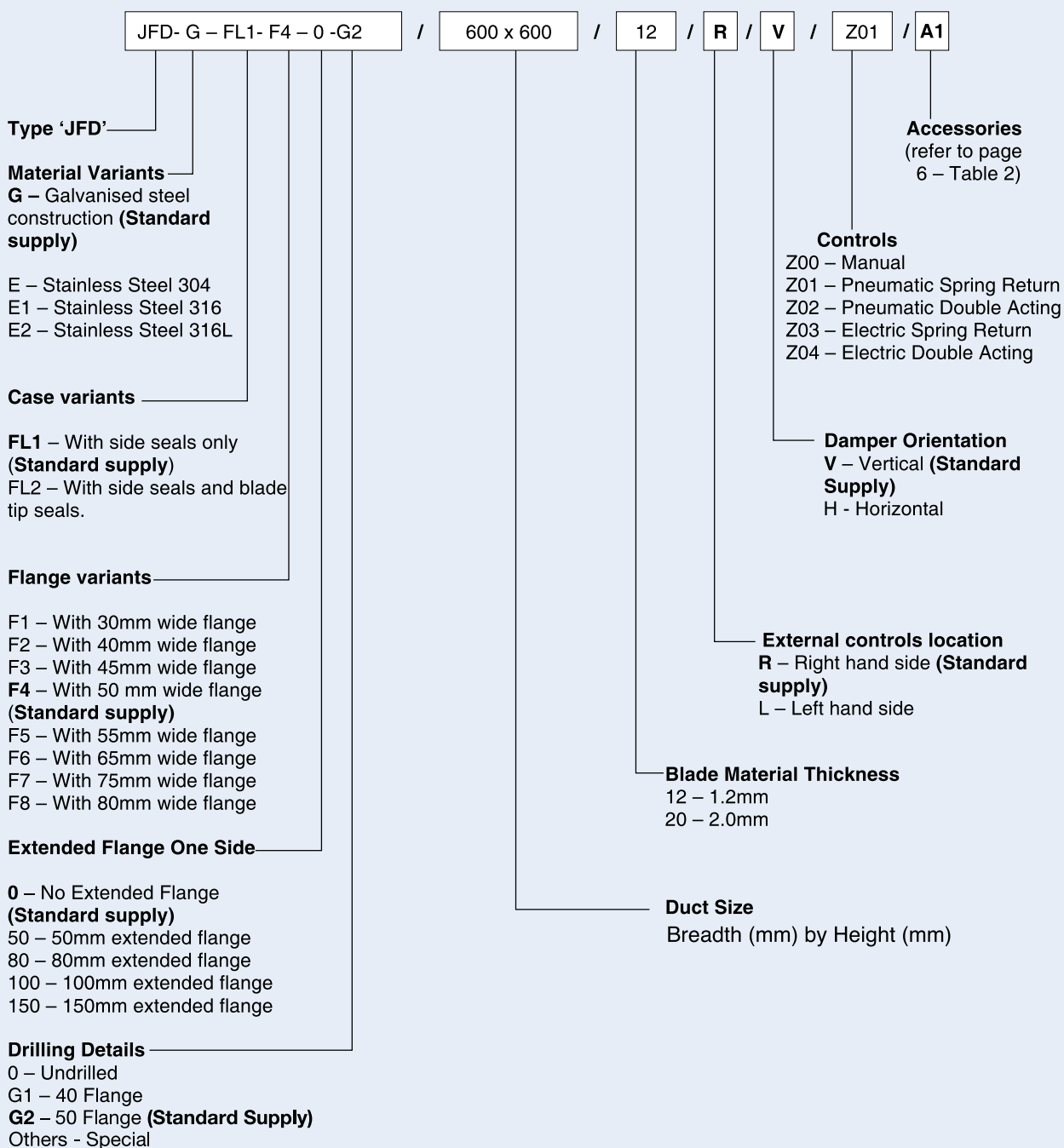
Galvanised Sheet (Standard supply)  
Stainless steel construction is available if requested.

**Minimum module size:** 200 mm x 200 mm

**Maximum module size:** 1050 mm x 1250 mm

### Order Code

Note: If the order codes below are incomplete, then it is assumed that standard damper construction is required.



**Note:** For further details, please refer to TROX KLIMA Asia Pacific catalogue Ref. M 3.2/2/EN/--.

## 8.12 TROX VAV BOXES

### SINGLE DUCT THERMINAL UNIT TYPE 'TVR/TVRD'

#### KEY FEATURES:

- Pressure independent control.
- Plastic components are fire retardant to UL 94.
- Comes with damper tip seal.
- With semi rigid and fire retardant fibre glass insulation.
- Fibre glass insulation is covered with a protective lining to prevent fibre erosion. This was successfully tested against fibre erosion for up to 30 m/s. This is only applicable for double skin construction, Type 'TVRD'.
- Fitted with multi-point sensor grid for better air flow measurement accuracy
- Terminal units that are supplied with actuators and controllers will be fully factory calibrated and tested for air flow accuracy within a tolerance of  $\pm 3\%$ .
- This is available in single skin construction, Type 'TVRD' or double skin construction, Type 'TVRD'

#### Type 'TVRD'



**Table1:** Quick selection for TVR/TVRD

Unit size	Flow range (l/s) up to NC 40			
	100 Pa		200 Pa	
	Vmin	Vmax	Vmin	Vmax
4	20	60	20	42
5	35	95	35	60
6	45	137	45	71
7	60	173	60	101
8	80	241	80	132
10	130	358	130	205
12	200	542	200	321
14	300	642	300	449
16	380	760	380	583

#### Order code

##### Type:

TVR – VAV terminal unit  
TVRD – VAV unit with acoustic cladding.

##### Sizes available:

4, 5, 6, 7, 8, 10, 12, 14 and 16.

##### Control manufacturer

Refer to page 8 on 'Accessories' for more information.

##### Volume flow rates:

##### Temperature sensor:

0 – Sensor not included  
1 – Wall mounted temperature sensor with setpoint adjustment.

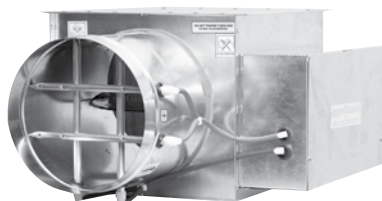
##### Controller Type:

10 – Compact standalone controller.  
2X – LONMark compliant controller.  
3X – BACNet compliant controller.

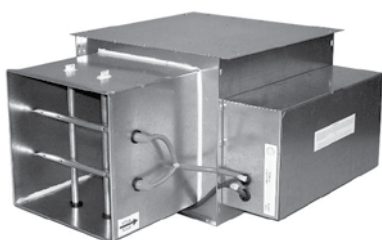
**Note:** For further details, please refer to TROX KLIMA Asia Pacific catalogue Ref. M5/1.3/EN/--.



## Type 'TVB-A'



## Type 'TVB-A-SSP'



### KEY FEATURES:

- Pressure independent control.
- Plastic components are fire retardant to UL 94.
- Comes with damper tip seal.
- With semi rigid and fire retardant fibre glass insulation.
- Fibre glass insulation is covered with a protective lining to prevent fibre erosion. This was successfully tested against fibre erosion for up to 30 m/s.
- Fitted with multi-point sensor grid for better air flow measurement accuracy.
- Terminal units that are supplied with actuators and controllers will be fully factory calibrated and tested for air flow accuracy within a tolerance of  $\pm 3\%$ .

This terminal unit is available in five different variants;

1. TVB-A; With short rectangular casing and round inlet spigot.
2. TVB-B; With long rectangular casing for better acoustic performance.
3. TVB-C; With long rectangular casing and multiple outlet spigots.
4. TVB-E; With long casing and electric air heater complete manual reset thermal cut-out switch.
5. TVB-A-SSP; With Short rectangular casing and square inlet spigot.

Note: Hot water heater coil can be provided with TVB-A or TVB-B Type unit if required.

**Table No.1:** Quick Selection for Type 'TVB-A'; 'TVB-B'; 'TVB-C' and 'TVB-S Units

Unit size	Recommended Air Flow Range (l/s) at NC 40											
	TVB-A				TVB-B				TVB-C			
	100 Pa		200 Pa		100 Pa		200 Pa		100 Pa		200 Pa	
	Vmin	Vmax	Vmin	Vmax	Vmin	Vmax	Vmin	Vmax	Vmin	Vmax	Vmin	Vmax
4	20	100	20	86	20	100	20	100	20	100	20	100
5	35	130	35	117	35	165	35	165	35	165	35	165
6	45	215	45	155	45	215	45	215	45	215	45	215
7	60	270	60	192	60	300	60	300	60	277	60	250
8	80	315	80	175	80	380	80	380	80	297	80	222
10	128	470	128	220	128	640	128	608	128	389	128	300
12	200	770	200	510	200	928	200	863	200	555	200	411
14	300	1030	300	568	300	1310	300	1163	300	953	300	602
16	380	1380	380	583	380	1783	380	1476	380	998	380	768

## 8.12 TROX VAV BOXES TYPE 'TVB/TVB-A-SSP'

Unit Size	Flow range (l/s) up to NC 40				Min V htg (l/s)	Heater Output (W min)	Heater Output (W max)	No of stages	Min. ΔT (°C) @ V htg
	100 Pa		200 Pa						
	Vmin	Vmax	Vmin	Vmax					
4	20	100	20	100	39	500	2500	1	7.7
5	35	165	35	165	39	500	2500	1	7.7
6	45	215	45	215	45	500	3000	1	7.7
7	60	300	60	300	60	500	4500	1	7.7
8	80	365	80	341	80	500	5000	1	7.7
10	128	608	128	550	128	500	5000	1	7.7
12	200	781	200	657	200	500	5000	1	7.7
14	300	992	300	911	300	500	6000	2	7.7
16	380	1380	380	1380	567	500	10500	3	7.7

**Note:** The heater selected will cover at least 75% of the width for the discharge outlet.

**Order Code**

TVB - A - 2 / 8 / 0 / 00 / 0 / 40 – 380 l/s

**Type**  
TVB

**Construction variants**  
**A – Short casing (Standard supply)**  
 B – Long casing  
 C – Long casing with multi-outlet spigots  
 E – Long casing with electric heater

**Hot Water Coil options;**  
 2 – With two rows  
 4 – With four rows

Refer to tables 4 and 5 on page 4 for details.

**Design flow range**  
 $\dot{V}_{min}$  and  $\dot{V}_{max}$  (in l/s)

**Temperature sensor**  
 Refer to price list

**Controls options**  
 Refer to page 20 on Accessories.

**Controls Manufacturer**  
 0 – None  
 Refer to price list for detail.

**Unit size**  
 Available from sizes 4 to 8; 10; 12; 14 & 16.

**Note:** For further details, please refer to TROX KLIMA Asia Pacific catalogue Ref. M 5/1.2/EN/--.

This is series fan terminal unit with 5 different sizes.

### KEY FEATURES

- Pressure independent control
- Plastic components are fire retardant to UL 94.
- Comes with damper tip seal.
- With semi rigid and fire retardant fibre glass insulation.
- Fibre glass insulation is covered with a protective lining to prevent fibre erosion. This was successfully tested against fibre erosion for up to 30 m/s.
- Fitted with multi-point sensor grid for better air flow measurement accuracy.

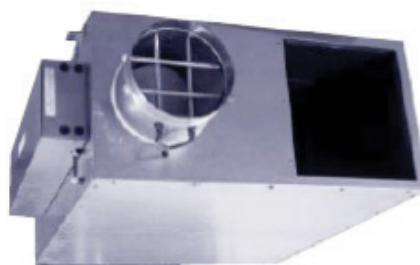
Terminal units that are supplied with actuators and controllers will be fully factory calibrated and tested for air flow accuracy within a tolerance of  $\pm 3\%$ .

Constant air flow at the fan discharge outlet.

As optional extras, the unit can be supplied with;

- Disposable filter panel at air induction port.
- Electric air heater(s).

### Type 'TFP' Series Fan Terminal Unit.



### Air Flow Range for 'TFP' Series Fan Terminal Units

TFP Unit Size	Secondary & Primary Air Flow	Air Flow Rate (l/s)		
		Fan Speed		
		Low	Med	High
2	Sec. Flow Vmin	150	200	250
	Sec. Flow Vmax	230	310	400
2-05	Pri. Flow Vmin - Vmax	15 - 170		
2-06	Pri. Flow Vmin - Vmax	25 - 240		
2-08	Pri. Flow Vmin - Vmax	40 - 400		
4	Sec. Flow Vmin	300	400	500
	Sec. Flow Vmax	480	650	700
4-08	Pri. Flow Vmin - Vmax	40 - 435		
4-10	Pri. Flow Vmin - Vmax	60 - 690		
4-12	Pri. Flow Vmin - Vmax	90 - 1000		
5	Sec. Flow Vmin	450	550	650
	Sec. Flow Vmax	680	850	1050
5-10	Pri. Flow Vmin - Vmax	60 - 690		
5-12	Pri. Flow Vmin - Vmax	90 - 1000		
5-14	Pri. Flow Vmin - Vmax	130 - 1375		
6	Sec. Flow Vmin	600	800	1000
	Sec. Flow Vmax	920	1280	1400
6-12	Pri. Flow Vmin - Vmax	90 - 1000		
6-14	Pri. Flow Vmin - Vmax	130 - 1375		
6-16	Pri. Flow Vmin - Vmax	170 - 1800		
7	Sec. Flow Vmin	900	1100	1300
	Sec. Flow Vmax	1300	1750	2100
7-12	Pri. Flow Vmin - Vmax	90 - 1000		
7-14	Pri. Flow Vmin - Vmax	130 - 1375		
7-16	Pri. Flow Vmin - Vmax	170 - 1800		

### Estimated NC Level within the Occupied Space

TFP Unit Size	Sec. Air Flow, Vmax (l/s)	External Static Pressure at 100 Pa at Vmax					
		Discharge Noise			Radiated Noise		
		Inlet static pressure (Pa)					
		100	200	500	100	200	500
2-05	200	< 15	< 15	< 15	< 15	< 15	< 15
2-06	400	18	19	19	24	25	26
2-08	400	19	19	20	22	22	24
4-08	500	< 15	< 15	< 15	17	17	19
4-10	650	< 15	15	16	20	21	23
4-12	650	15	16	18	21	23	25
5-10	750	21	21	22	26	27	29
5-12	1050	25	25	26	30	32	33
5-14	1000	28	28	29	33	34	36
6-12	1000	< 15	< 15	16	24	25	28
6-14	1300	16	17	19	27	28	32
6-16	1300	16	16	19	26	27	31
7-12	1300	19	21	22	30	31	33
7-14	1700	24	25	27	35	37	39
7-16	2000	26	27	29	39	39	41

### Order Code

TFP - E - C / 2 - 10 / BC0 / 400-300-105

Product Type

### Reheat

Electric reheat coil E  
Hot water reheat coil H

### Filter

Throwaway C  
or nor entry

Size	Spigot
2	05 06 08
4	08 10 12
5	10 12 14
6	12 14 16
7	12 14 16

Controller

Minimum primary air volume l/s

Maximum primary air volume l/s

Fan volume l/s

**Note:** For further details, please refer to TROX KLIMA Asia Pacific catalogue Ref. 5/2.2/M/--.



## 8.12 TROX VAV BOXES

### PARALLEL FAN ASSISTED VAV BOX TYPE 'TCP'

#### KEY FEATURES

##### Casing

- Circular primary air spigot suitable for ducts to DIN 24 145 or DIN 24 146; rectangular secondary and supply air outlets connection
- Mounting brackets for unit support
- Bottom access panel for fan maintenance
- Leakage flow rate to Class II, VDI 3803 or DIN 24 194, Part 2

##### Volume Control

- DDC
- Primary volume flow range 100% to 10%
- Averaging differential pressure grid with multi-point sensor for accurate measurement
- Working pressure range 20 to 1500 Pa
- Blade airtight seal to DIN EN 1751, class 4
- Factory volume setting and aerodynamic testing of each unit

##### Fan and Motor

- centrifugal fan with direct drive motor
- alternatively available with AC motor to achieve 3-step regulation for motor speed depending on actual temperature difference signal

##### Reheat coil

- for reheat of supply air
- galvanized sheet steel casing, with flanges at both ends
- copper tubes and aluminum fins; one or two row
- factory fitted
- maximum operating pressure 20 bar

##### Materials

- galvanized sheet steel casing
- casing lined with attenuating glass wool (thickness of 25mm), conforming to Class "O" fire rating
- galvanized sheet steel damper blade with EPDM seal
- aluminium alloy sensor tubes
- polyurethane bearings



**Table No.1:** Quick Selection for Type TCP

TCP		Fanmotor tap			Fan Power	max. electrical power input (A)	Power Supply
Unit Size		Low (l/s)	Med. (l/s)	High (l/s)	(W)		V/ph/Hz
1	$\dot{V}_{fan}$	55~103	83~130	97~144	60	0.7	220/1/50
1-05	$\dot{V}_{pri}$	15~170					
1-06		25~240					
1-08		40~435					
2	$\dot{V}_{fan}$	150~230	200~310	250~400	147	1.9	
2-06	$\dot{V}_{pri}$	25~240					
2-08		40~435					
2-10		60~690					
3	$\dot{V}_{fan}$	300~480	400~650	500~750	245	2.5	
3-08	$\dot{V}_{pri}$	40~435					
3-10		60~690					
3-12		90~1000					
4	$\dot{V}_{fan}$	450~680	500~850	650~1027	550	5.2	
4-10	$\dot{V}_{pri}$	60~690					
4-12		90~1000					
4-14		130~1375					
5	$\dot{V}_{fan}$	681~806	722~911	778~1250	500	6.8	
5-12	$\dot{V}_{pri}$	90~1000					
5-14		130~1375					
5-16		170~1800					

Note:  $\dot{V}_{fan}$ : fan flow rate;  $\dot{V}_{pri}$ : primary air flow rate

**Order details**

Product type: TCP

Rows or levels of reheat: 2

Reheat: H (Hot water reheat coil), E (Electric heater)

Filter: C (Throwaway), R (Metal mesh)

Unit Size: 1, 2, 3, 4, 5

Primary air damper Size: 05, 06, 08, 10, 12, 14, 16

Controller code: HM0

Air volume unit: 220-370-100 l/s

min. primary air volume

max. primary air volume

max. fan volume

Order example:  
Make: TROX  
Type: TCP-H-R/2-10/HM0/200-370-100 l/s

**Note:** For further details, please refer to TROX China Catalogue Ref. 5/2.4/EN/1

## 8.12 TROX VAV BOXES

### TYPE 'TVL' VARYCONTROL VAV

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•

#### Equipment features and characteristics

- TROX Vary Control VAV type 'TVL' volume flow control unit is suitable for variable or constant air volume control
- Multiple aerofoil blade
- Suitable for small or large supply or extract air volumes
- Electronic volume flow control
- Differential pressure range 20 Pa to 1000 Pa
- Electric or hot water coil heating facilities are available
- TVL units can be operated with any DDC, electronic or pneumatic VAV controller
- TVL units are suitable for an airflow ranging from 45 l/s to 10,100 l/s  
A typical airflow accuracy of  $\pm 5\%$  depending on the airflow rate and Type of controller used
- The unit is tested to:
  - ISO 5220 for "Aerodynamic testing and rating of constant and variable dual or single units"
  - ISO 3741 for "Determination of sound levels of noise sources – Precision methods for broad-band sources in reverberation rooms"
  - The insulation material is tested to BS 470:Part 6 and 7 and is classified as Class 'O' under the British Building Regulations



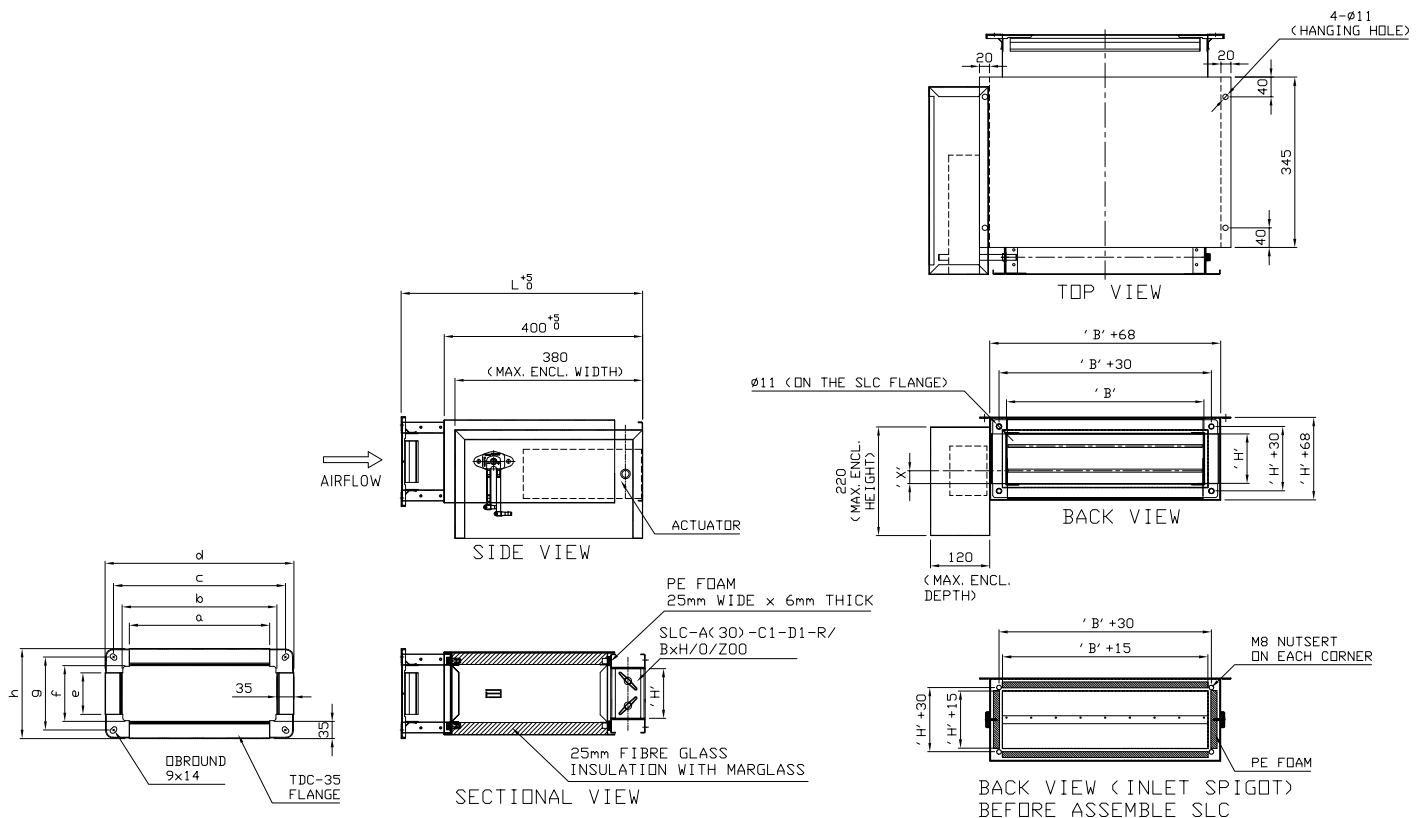
#### Casing Construction

- The casing is made from 1mm thick galvanised sheet steel with an acoustic rectangular inlet spigot fitted with a complete aluminium multipoint airflow measuring grid. The TVL VAV unit is fitted with an aerofoil shaped blade.



(Height 100mm)

Damper Width B	Damper Height H	Shaft Height X	a	b	c	d	e	f	g	h	L
200	100	25	184	213	248	283	84	113	148	183	488
300	100	25	284	313	348	383	84	113	148	183	488
400	100	25	384	413	448	483	84	113	148	183	488
500	100	25	484	513	548	583	84	113	148	183	488
600	100	25	584	613	648	683	84	113	148	183	488



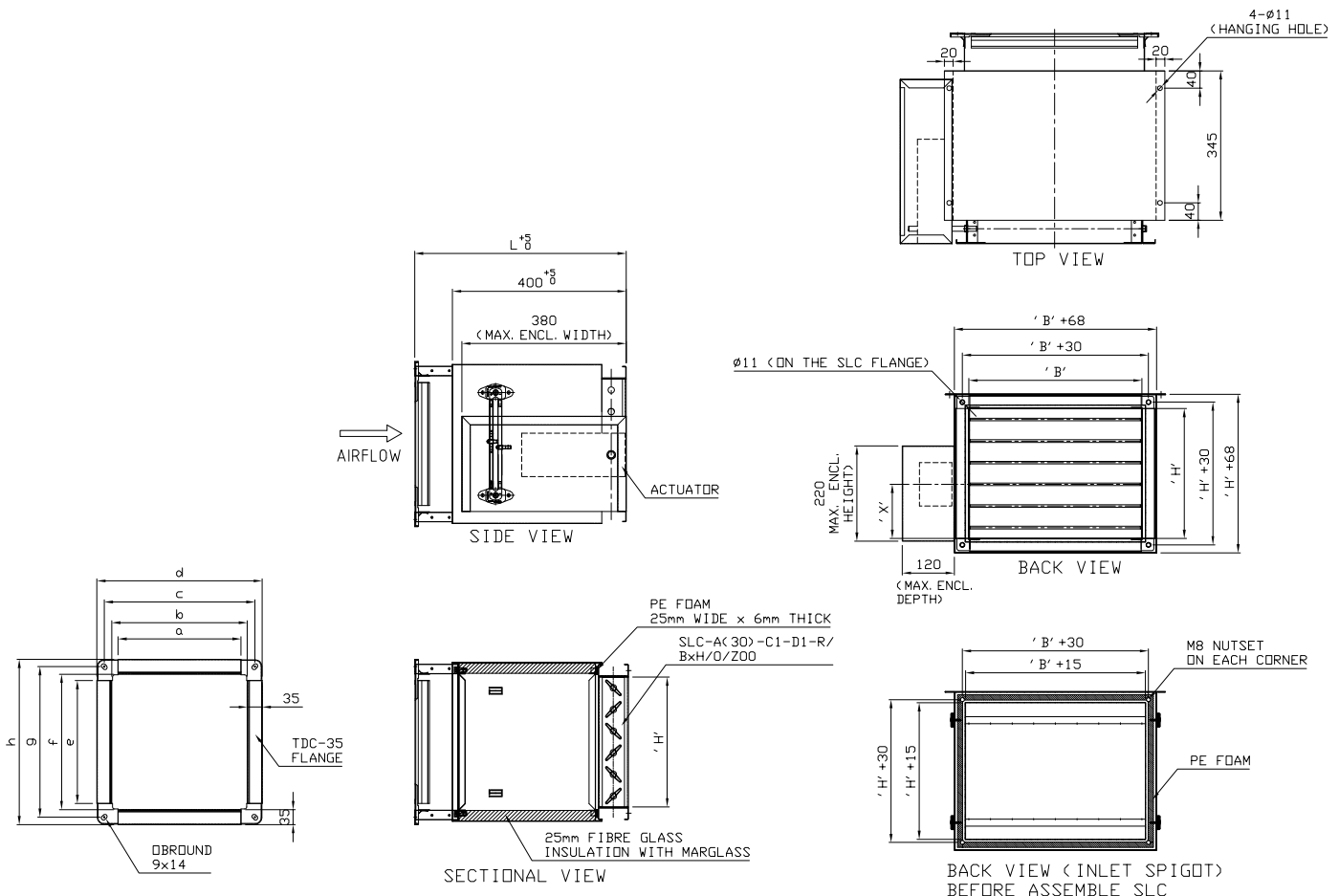
# 8.12 TROX VAV BOXES

## TYPE 'TVL' VAV BOX ONLY

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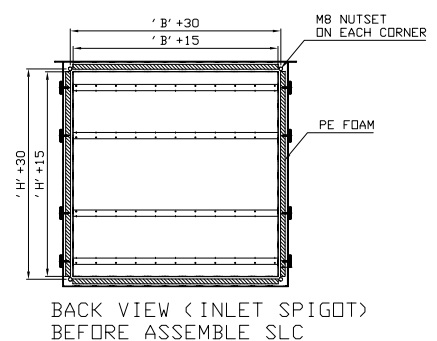
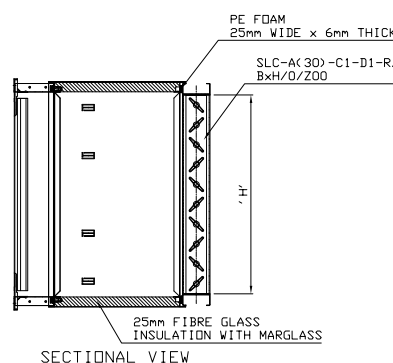
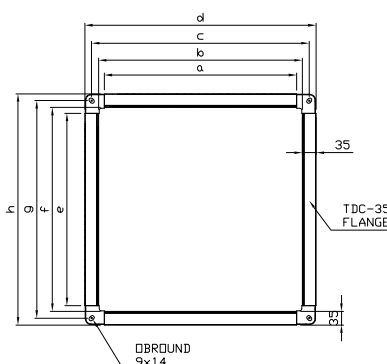
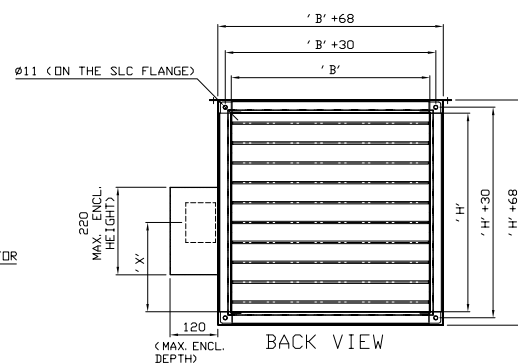
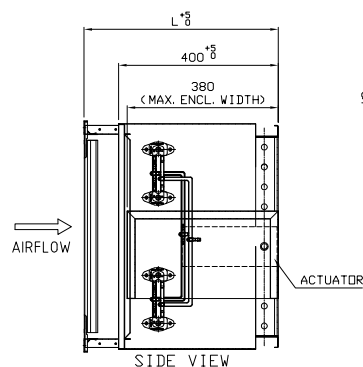
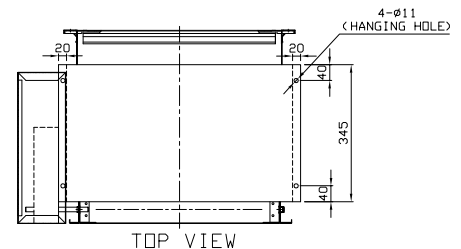
(Height 200mm to 400mm)

Damper Width B	Damper Height H	Shaft Height X	a	b	c	d	e	f	g	h	L
200	200	125	184	213	248	283	184	213	248	283	488
300	200	125	284	313	348	383	184	213	248	283	488
400	200	125	384	413	448	483	184	213	248	283	488
500	200	125	484	513	548	583	184	213	248	283	488
600	200	125	584	613	648	683	184	213	248	283	488
700	200	125	684	713	748	783	184	213	248	283	488
800	200	125	784	813	848	883	184	213	248	283	488
300	300	125	284	313	348	383	284	313	348	383	488
400	300	125	384	413	448	483	284	313	348	383	488
500	300	125	484	513	548	583	284	313	348	383	488
600	300	125	584	613	648	683	284	313	348	383	488
700	300	125	684	713	748	783	284	313	348	383	488
800	300	125	784	813	848	883	284	313	348	383	488
900	300	125	884	913	949	983	284	313	348	383	488
1000	300	125	984	1013	1048	1083	284	313	348	383	488
400	400	225	384	413	448	483	384	413	448	483	488
500	400	225	484	513	548	583	384	413	448	483	488
600	400	225	584	613	648	683	384	413	448	483	488
700	400	225	684	713	748	783	384	413	448	483	488
800	400	225	784	813	848	883	384	413	448	483	488
900	400	225	884	913	948	983	384	413	448	483	488
1000	400	225	984	1013	1048	1083	384	413	448	483	488



(Height 500mm to 1000mm)

Damper Width B	Damper Height H	Shaft Height X	a	b	c	d	e	f	g	h	L
500	500	225	484	513	548	583	484	513	548	583	488
600	500	225	584	613	648	683	584	513	548	583	488
700	500	225	684	713	748	783	684	513	548	583	488
800	500	225	784	813	848	883	784	513	548	583	488
900	500	225	884	913	948	983	884	513	548	583	488
1000	500	225	984	1013	1048	1083	984	513	548	583	488
600	600	325	584	613	648	683	584	613	648	683	488
700	600	325	684	713	748	783	684	613	648	683	488
800	600	325	784	813	848	883	784	613	648	683	488
900	600	325	884	913	948	983	884	613	648	683	488
1000	600	325	984	1013	1048	1083	984	613	648	683	488
700	700	325	684	713	748	783	684	713	748	783	488
800	700	325	784	813	848	883	784	713	748	783	488
900	700	325	884	913	948	983	884	713	748	783	488
1000	700	325	984	1013	1048	1083	984	713	748	783	488
800	800	325	784	813	848	883	784	813	848	883	488
900	800	325	884	913	948	943	884	813	848	883	488
1000	800	325	984	1013	1048	1043	984	813	848	883	488
900	900	425	884	913	948	983	884	913	948	983	488
1000	900	425	984	1013	1048	1083	094	913	948	983	488
1000	1000	425	984	1013	1048	1083	984	1013	1048	1083	488





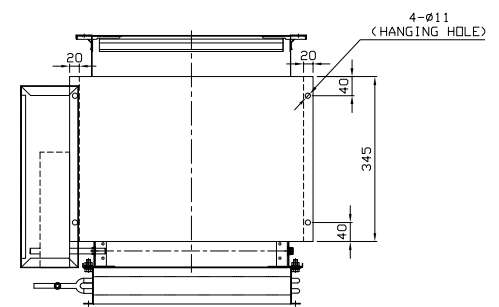
# 8.12 TROX VAV BOXES

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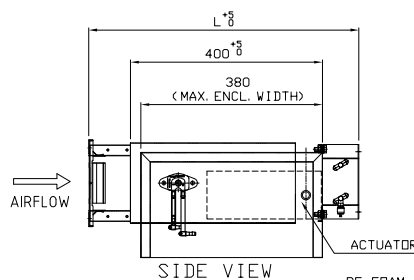
227

(Height 100mm)

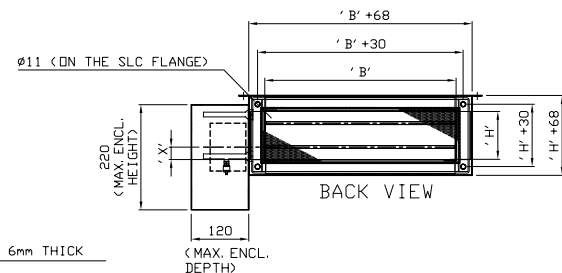
Damper Width B	Damper Height H	Shaft Height X	a	b	c	d	e	f	g	h	L
200	100	25	184	213	248	283	84	113	148	183	565
300	100	25	284	313	348	383	84	113	148	183	565
400	100	25	384	413	448	483	84	113	148	183	565
500	100	25	484	513	548	583	84	113	148	183	565
600	100	25	584	613	648	683	84	113	148	183	565



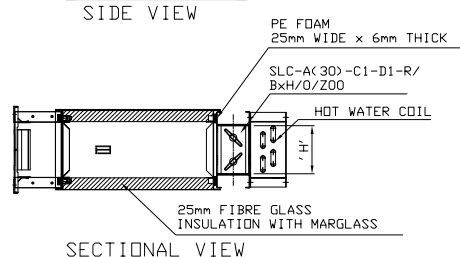
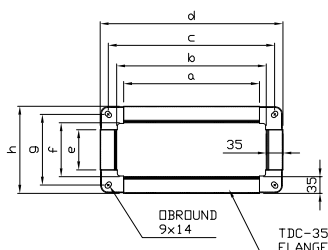
TOP VIEW



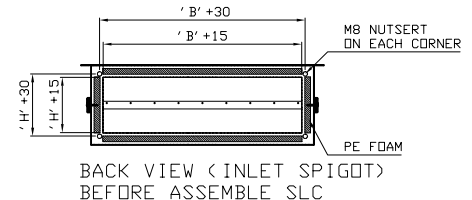
SIDE VIEW



BACK VIEW

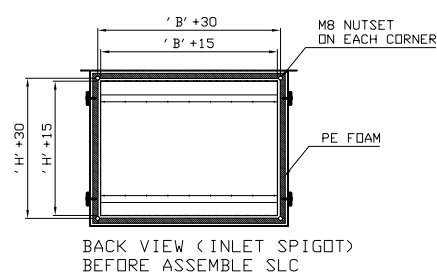


SECTIONAL VIEW



BACK VIEW (INLET SPIGOT) BEFORE ASSEMBLY SLC

Damper Width B	Damper Height H	Shaft Height X	a	b	c	d	e	f	g	h	L
200	200	125	184	213	248	283	184	213	248	283	565
300	200	125	284	313	348	383	184	213	248	283	565
400	200	125	384	413	448	483	184	213	248	283	565
500	200	125	484	513	548	583	184	213	248	283	565
600	200	125	584	613	648	683	184	213	248	283	565
700	200	125	684	713	748	783	184	213	248	283	565
800	200	125	784	813	848	883	184	213	248	283	565
300	300	125	284	313	348	383	284	313	348	383	565
400	300	125	384	413	448	483	284	313	348	383	565
500	300	125	484	513	548	583	284	313	348	383	565
600	300	125	584	613	648	683	284	313	348	383	565
700	300	125	684	713	748	783	284	313	348	383	565
800	300	125	784	813	848	883	284	313	348	383	565
900	300	125	884	913	949	983	284	313	348	383	565
1000	300	125	984	1013	1048	1083	284	313	348	383	565
400	400	225	384	413	448	483	384	413	448	483	565
500	400	225	484	513	548	583	384	413	448	483	565
600	400	225	584	613	648	683	384	413	448	483	565
700	400	225	684	713	748	783	384	413	448	483	565
800	400	225	784	813	848	883	384	413	448	483	565
900	400	225	884	913	948	983	384	413	448	483	565
1000	400	225	984	1013	1048	1083	384	413	448	483	565

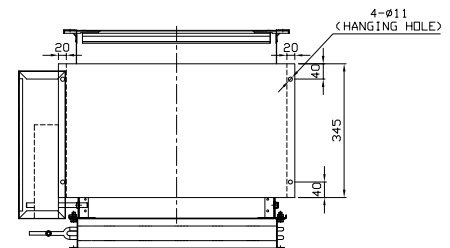


# 8.12 TROX VAV BOXES

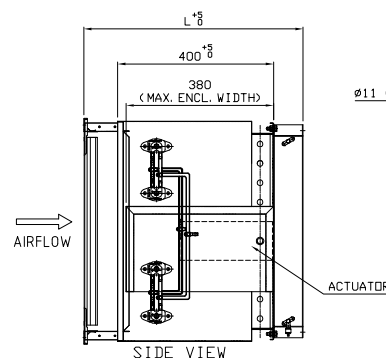
## TYPE 'TVL' VAV BOX WITH HOT WATER COIL

(Height 500mm to 1000mm)

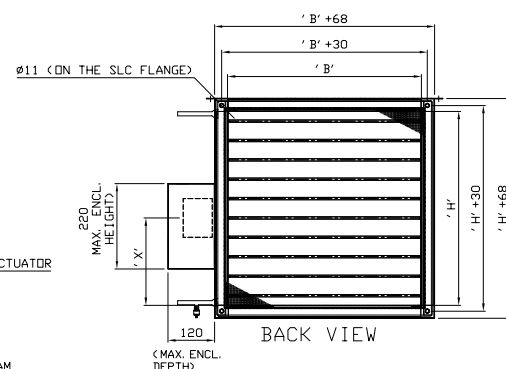
Damper Width B	Damper Height H	Shaft Height X	a	b	c	d	e	f	g	h	L
500	500	225	484	513	548	583	484	513	548	583	565
600	500	225	584	613	648	683	584	513	548	583	565
700	500	225	684	713	748	783	684	513	548	583	565
800	500	225	784	813	848	883	784	513	548	583	565
900	500	225	884	913	948	983	884	513	548	583	565
1000	500	225	984	1013	1048	1083	984	513	548	583	565
600	600	325	584	613	648	683	584	613	648	683	565
700	600	325	684	713	748	783	684	613	648	683	565
800	600	325	784	813	848	883	784	613	648	683	565
900	600	325	884	913	948	983	884	613	648	683	565
1000	600	325	984	1013	1048	1083	984	613	648	683	565
700	700	325	684	713	748	783	684	713	748	783	565
800	700	325	784	813	848	883	784	713	748	783	565
900	700	325	884	913	948	983	884	713	748	783	565
1000	700	325	984	1013	1048	1083	984	713	748	783	565
800	800	325	784	813	848	883	784	813	848	883	565
900	800	325	884	913	948	943	884	813	848	883	565
1000	800	325	984	1013	1048	1043	984	813	848	883	565
900	900	425	884	913	948	983	884	913	948	983	565
1000	900	425	984	1013	1048	1083	094	913	948	983	565
1000	1000	425	984	1013	1048	1083	984	1013	1048	1083	565



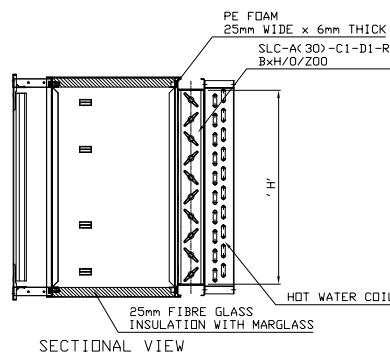
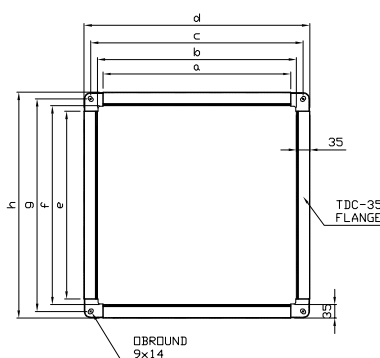
TOP VIEW



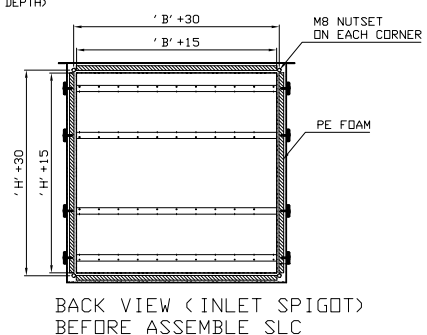
SIDE VIEW



BACK VIEW



SECTIONAL VIEW



BACK VIEW (INLET SPIGOT) BEFORE ASSEMBLY SLC

Leakage flow and sound power level, TVL in shut – off position						
Dimensions B x H (mm) mm	$\Delta P_g = 100 \text{ Pa}$		$\Delta P_g = 200 \text{ Pa}$		$\Delta P_g = 500 \text{ Pa}$	
	$V_L$ In l/s	$L_{WAL}$ in dBA	$V_L$ In l/s	$L_{WAL}$ in dBA	$V_L$ In l/s	$L_{WAL}$ in dBA
200 x 100	9	39	13	47	20	57
300	9	41	13	49	21	59
400	10	42	14	50	22	60
500	11	43	16	51	25	61
600	13	44	18	52	28	62
200 x 200	10	42	14	50	22	60
300	11	44	16	52	25	62
400	13	45	18	53	28	63
500	14	45	20	53	32	63
600	16	46	22	54	35	64
700	17	47	25	55	39	65
800	19	48	27	56	42	66
300 x 300	15	45	21	53	33	63
400	17	46	24	54	38	64
500	20	47	28	55	44	65
600	22	48	31	56	49	66
700	24	49	34	57	53	67
800	25	50	35	58	56	68
900	26	49	37	57	59	67
1000	27	50	39	58	61	68
400 x 400	22	48	32	56	50	66
500	25	49	35	57	56	67
600	27	50	39	58	61	68
700	30	49	43	57	68	67
800	34	50	47	58	75	68
900	35	51	50	59	79	69
1000	37	51	52	59	83	69
500 x 500	29	50	41	58	65	68
600	32	50	46	58	72	68
700	35	50	49	58	78	68
800	38	51	53	59	84	69
900	40	51	57	59	90	69
1000	43	52	61	60	96	70
600 x 600	36	51	51	59	80	69
800	44	52	62	60	98	70
1000	51	53	73	61	115	71
800 x 800	54	53	76	61	120	71
1000	65	54	92	62	145	72
1000 x 1000	76	55	108	63	170	73



# 8.12 TROX VAV BOXES

## TYPE 'TVL' AERODYNAMIC DATA — H = 100 TO 300

231

Volume flow ranges and minimum pressure differentials				
B x H mm	l/s	m/s	$\Delta V$ ± %	$\Delta P_g$ min in Pa
200 x 100	45	2	14	20
	85	4	8	20
	150	7	5	30
	215	10	5	40
300 x 100	65	2	14	20
	120	4	8	20
	210	7	5	30
	320	10	5	40
400 x 100	85	2	14	20
	170	4	8	20
	300	7	5	30
	425	10	5	40
500 x 100	105	2	14	20
	200	4	8	20
	350	7	5	30
	535	10	5	40
600 x 100	130	2	14	20
	260	4	8	20
	450	7	5	30
	650	10	5	40
200 x 200	85	2	14	20
	160	4	8	20
	280	7	5	30
	415	10	5	40
300 x 200	125	2	14	20
	240	4	8	20
	420	7	5	30
	620	10	5	40
400 x 200	165	2	14	20
	330	4	8	20
	580	7	5	30
	825	10	5	40
500 x 200	205	2	14	20
	400	4	8	20
	700	7	5	30
	1035	10	5	40
600 x 200	250	2	14	20
	500	4	8	20
	870	7	5	30
	1250	10	5	40
700 x 200	290	2	14	20
	560	4	8	20
	980	7	5	30
	1450	10	5	40
800 x 200	330	2	14	20
	660	4	8	20
	1160	7	5	30
	1650	10	5	40

Volume flow ranges and minimum pressure differentials				
B x H mm	l/s	m/s	$\Delta V$ ± %	$\Delta P_g$ min in Pa
300 x 300	185	2	14	20
	360	4	8	20
	630	7	5	25
	920	10	5	35
400 x 300	245	2	14	20
	480	4	8	20
	840	7	5	25
	1230	10	5	35
500 x 300	305	2	14	20
	600	4	8	20
	1050	7	5	25
	1535	10	5	35
600 x 300	370	2	14	20
	740	4	8	20
	1290	7	5	25
	1850	10	5	35
700 x 300	430	2	14	20
	840	4	8	20
	1470	7	5	25
	2150	10	5	35
800 x 300	490	2	14	20
	980	4	8	20
	1720	7	5	25
	2450	10	5	35
900 x 300	555	2	14	20
	1080	4	8	20
	1890	7	5	25
	2770	10	5	35
1000 x 300	620	2	14	20
	1240	4	8	20
	2150	7	5	25
	3100	10	5	35

# 8.12 TROX VAV BOXES

## TYPE 'TVL' AERODYNAMIC DATA — H = 400 TO 1000

232

Volume flow ranges and minimum pressure differentials				
B x H mm	l/s	m/s	$\Delta V$ ± %	$\Delta P_{g \text{ min}}$ in Pa TVL
400 x 400	325	2	14	20
	640	4	8	20
	1120	7	5	25
	1630	10	5	35
500 x 400	410	2	14	20
	800	4	8	20
	1400	7	5	25
	2040	10	5	35
600 x 400	490	2	14	20
	980	4	8	20
	1720	7	5	25
	2450	10	5	35
700 x 400	570	2	14	20
	1120	4	8	20
	1960	7	5	25
	2850	10	5	35
800 x 400	650	2	14	20
	1300	4	8	20
	2280	7	5	25
	3250	10	5	35
900 x 400	735	2	14	20
	1440	4	8	20
	2520	7	5	25
	3670	10	5	35
1000 x 400	820	2	14	20
	1640	4	8	20
	2850	7	5	25
	4100	10	5	35
500 x 500	510	2	14	20
	1000	4	8	20
	1750	7	5	30
	2540	10	5	40
600 x 500	610	2	14	20
	1200	4	8	20
	2100	7	5	30
	3050	10	5	40
700 x 500	710	2	14	20
	1400	4	8	20
	2450	7	5	30
	3550	10	5	40
800 x 500	810	2	14	20
	1600	4	8	20
	2800	7	5	30
	4050	10	5	40
900 x 500	915	2	14	20
	1800	4	8	20
	3150	7	5	30
	4570	10	5	40
1000 x 500	1020	2	14	20
	2000	4	8	20
	3500	7	5	30
	5100	10	5	40

Volume flow ranges and minimum pressure differentials				
B x H mm	l/s	m/s	$\Delta V$ ± %	$\Delta P_{g \text{ min}}$ in Pa TVL
600 x 600	730	2	14	20
	1440	4	8	20
	2520	7	5	30
	3650	10	5	40
800 x 600	970	2	14	20
	1920	4	8	20
	3360	7	5	30
	4850	10	5	40
1000 x 600	1220	2	14	20
	2400	4	8	20
	4200	7	5	30
	6100	10	5	40
800 x 800	1300	2	14	20
	2560	4	8	20
	4480	7	5	30
	6500	10	5	40
1000 x 800	1620	2	14	20
	3200	4	8	20
	5600	7	5	30
	8100	10	5	40
1000 x 1000	2020	2	14	20
	4000	4	8	20
	7000	7	5	30
	10100	10	5	40

## 8.12 TROX VAV BOXES

### TYPE 'TVL' QUICK SELECTION DATA

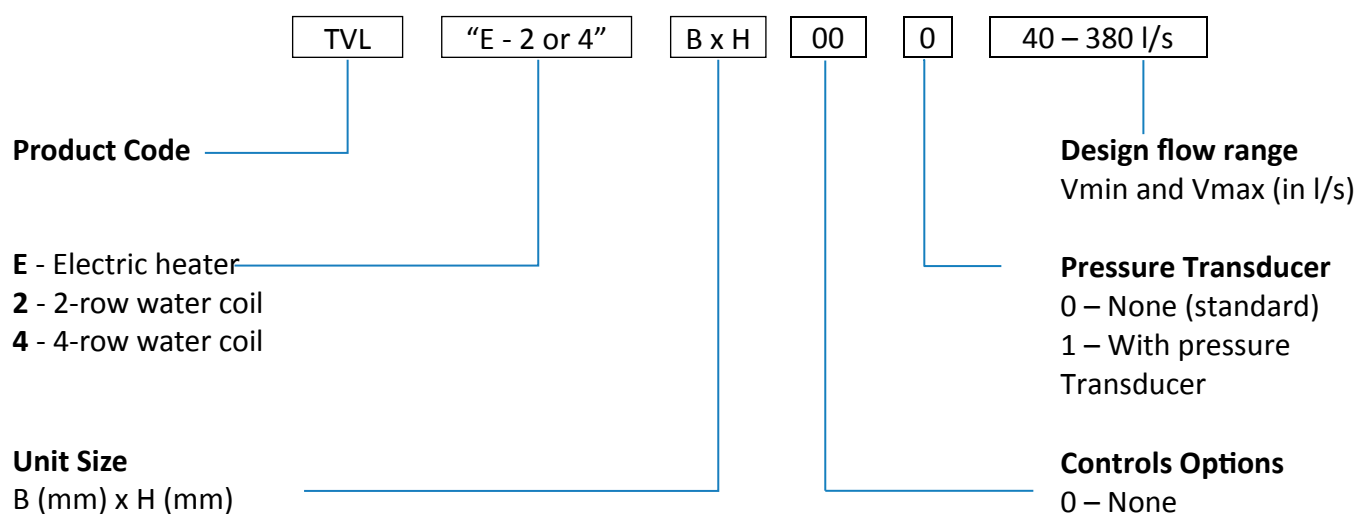
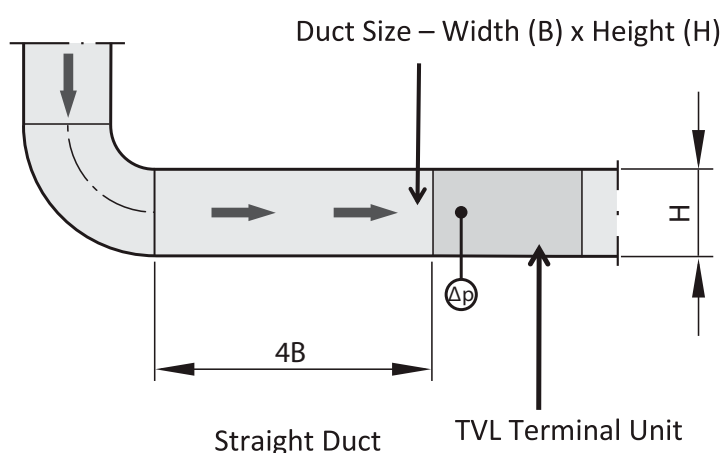
Quick selection table – sound pressure level in dB (A)							
B x H mm	V m/s	$\Delta P_g = 100 \text{ Pa}$		$\Delta P_g = 200 \text{ Pa}$		$\Delta P_g = 500 \text{ Pa}$	
		Air Generated Noise LpA	Case Radiated Noise LpA <sub>1</sub>	Air Generated Noise LpA	Case Radiated Noise LpA <sub>1</sub>	Air Generated Noise LpA	Case Radiated Noise LpA <sub>1</sub>
600 x 100	2	43	30	49	35	60	46
	4	44	34	50	39	60	48
	7	44	39	51	43	59	51
	10	45	43	51	46	59	54
600 x 200	2	43	32	49	38	60	48
	4	43	37	50	42	59	50
	7	44	42	50	46	58	54
	10	44	45	50	49	58	57
600 x 300	2	42	33	49	39	60	49
	4	43	38	49	44	59	52
	7	43	43	50	48	58	56
	10	44	47	50	51	58	60
600 x 400	2	42	34	49	40	60	50
	4	43	39	49	45	58	53
	7	43	45	49	49	58	58
	10	44	49	48	50	59	62
600 x 500	2	42	35	48	41	59	51
	4	42	40	49	46	58	55
	7	43	46	49	50	58	59
	10	44	50	48	51	59	63
600 x 600	2	42	36	48	42	59	52
	4	42	41	49	46	58	55
	7	43	46	49	51	58	60
	10	44	50	48	52	59	64
1000 x 800	2	41	39	48	45	59	55
	4	42	45	48	50	58	60
	7	43	50	49	55	59	66
	10	44	54	47	55	61	70
1000x 1000	2	41	40	47	46	58	56
	4	42	46	48	51	58	62
	7	43	51	48	56	59	68
	10	44	56	47	56	61	72

### Installation Guide

There should be at least 4B length (i.e., 4 times the duct width) of straight duct before the TVL terminal unit. Refer to Figure No.1.

Duct connections on the inlet and out of the TVL unit should be provided with 30mm TDC flanges.

Figure No.1: Installation requirement





## 8.13 TROX

### PRODUCT SECTION CHECK LIST

#### 1. Ventilation Grilles & Jet Nozzles

Item	Description	Unit	Data Input			
1	Design Air Flow Rate					
2	Connecting Duct /Opening Size		Width		Height	
3	Grille mounting height					
4	Throw required					
5	Height between ceiling and grille					
6	Max. permissible press. drop					
7	Room design NC level					
8	Material required					
9	Fixing method required (Tick appropriate box)	Option A	Screw fixing on the face			
		Option B	Concealed fixing			
10	Is opposed blade damper required? State 'Yes/No'.					

#### 2. Ceiling Diffusers

Item	Description	Unit	Data Input			
1	Design Air Flow Rate					
2	Diffuser Face Size		Width		Height	
3	Diffuser mounting height					
4	Throw required					
5	Max. permissible press. drop					
6	Room design NC level					
7	Type of diffuser preferred (Tick appropriate box)	a	4-Way throw diffuser			
		b	Slot diffuser			
		c	Swirl diffuser			
		d	Others (Please specify)			
8	System application. State 'VAV/CAV'.					
9	Material required					
10	Accessories required (Tick appropriate box)	a	None required - Face only			
		b1	Plenum box with top inlet spigot			
		b2	Plenum box with side inlet spigot			
		c	Volume control damper			
		d	With internal rubber lining			

### 3. Volume Control Dampers

Item	Description	Unit	Data Input
1	Design Air Flow Rate		
2	Damper Size		Width <input type="text"/> Height <input type="text"/> Diameter <input type="text"/>
3	Max. permissible press. drop		
4	Specified closed blade leakage		Max leakage rate <input type="text"/> Pressure <input type="text"/>
5	Application (Tick appropriate box)		For 'on/off' application <input type="checkbox"/> For air flow regulation <input type="checkbox"/>
6	Accessories required	a.	Hand locking quadrant <input type="checkbox"/>
		b.	Limit switch for 'open' position <input type="checkbox"/>
		c.	Limit switch for 'closed' position <input type="checkbox"/>
		d.	Mode of operation <input type="checkbox"/>
			Electric actuator <input type="checkbox"/>
		Volts	If electric, state the power supply available. <input type="text"/>
			Pneumatic actuator <input type="checkbox"/>

### 4. Fire and Smoke Dampers

Item	Description	Unit	Data Input
1	Design Air Flow Rate		
2	Damper Size		Width <input type="text"/> Height <input type="text"/> Diameter <input type="text"/>
3	Max. permissible press. drop		
4	Fire integrity required	Hours	
5	Standard of compliance		
6	Damper mounting arrangement		Vertical / Horizontal <i>(Delete if not applicable)</i> <input type="checkbox"/>
7	Specified closed blade leakage		Max leakage rate <input type="text"/> Pressure <input type="text"/>
8	Application (Tick appropriate box)		Fire control application only <input type="checkbox"/> Smoke control application only <input type="checkbox"/> Both fire and smoke control <input type="checkbox"/>
9	Accessories required	a.	Hand locking quadrant <input type="checkbox"/>
		b.	Limit switch for 'open' position <input type="checkbox"/>
		c.	Limit switch for 'closed' position <input type="checkbox"/>
		d.	Mode of operation <input type="checkbox"/>
			Electric actuator <input type="checkbox"/>
		Volts	If electric, state the power supply available. <input type="text"/>
			Pneumatic actuator <input type="checkbox"/>

## 5. Air Flow Control Terminal unit

item	Description	Unit	Data Input			
1	Design Air Flow Rate		Min. Flow		Max. Flow	
2	Application (Tick appropriate box)		VAV		CAV	
3	Design Inlet Static Pressure					
4	Specified NC level		Regenerated noise			
			Case Radiated noise			
5	Type of VAV controller required (Tick appropriate box)		Stand alone controller			
			LonMark compliant controller			
			BACNet compliant controller			

## 6. Inlet Duct Attenuator

item	Description	Unit	Data Input							
1	Design air flow rate									
2	Connecting duct size		Width			Height		Diameter		
3	- Upstream									
	- Downstream									
4	Octave band frequency	Hz	63	125	250	500	1k	2k	4k	8k
5	Design insert loss	dB								
6	Max. permissible press. drop	Pa								
7	Max. permissible unit length									

# 9.0 RECENT PROJECTS



## 9.1 RECENT PROJECTS

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**PROJECT: DHA LINFIELD, SYDNEY**



**PROJECT: HORNSBY RSL, SYDNEY**



**PROJECT: SHERATON, SYDNEY**



**PROJECT: WOLLONGONG COURTHOUSE**

Novartis Head Office Macquarie Park, NSW  
North Shore Private Hospital, Sydney  
Level 5 Extension Macquarie University, NSW  
Building E7A Northside Wentworthville, NSW  
Sydney Cricket Ground Redevelopment, Sydney  
Auburn Marketplace, Sydney  
Macquarie Shopping Centre Extension, NSW  
Wollongong Courthouse, NSW  
Hakea Aged Care, Meadowbank, Sydney  
The Garland Apartments Gold Coast, QLD  
The Mater Hospital, Sydney  
Charles Sturt University Port Macquarie, NSW  
Sydney International Airport T1 Mega B  
St George Bank Head Office Kogarah, NSW  
St George Private Hospital, NSW  
Wet n Wild Eastern Creek, Sydney  
Belmont Police Station and Courthouse, NSW  
Lakeside Apartments, Sydney  
Belle Apartments, Sydney  
Woolworths Crows Nest, Sydney  
Woolworths Canterbury, Sydney  
Woolworths Hornsby, Sydney  
Woolworths Mascot, Sydney  
Woolworths Crossroads, Sydney  
Woolworths Gungahlin, Sydney  
Woolworths Gladstone, Sydney  
Woolworths Canelands, Sydney  
Woolworths Lisarow, Sydney  
Woolworths Mt Hutton, Sydney  
Woolworths Warriewood  
Coles Lisarow, NSW  
Coles Amaroo, NSW  
Coles Narellan Town Centre, NSW  
Coles Kincumber, NSW  
Coles Hornsby, Sydney  
Coles North Sydney  
Coles Wetherill Park, Sydney

Narellan Town Centre Extension, NSW  
David Jones Macarthur Square, NSW  
Merrylands Shopping Centre, NSW  
Stocklands Wetherill Park, NSW  
Westfield Hurstville refurbishment, Sydney  
177 Pacific Highway North Sydney  
333 George St Sydney  
The Greenland Hotel, Sydney  
Prince of Wales Hospital, Sydney  
Aqua Apartments Bondi, Sydney  
DHA Lindfield, Sydney  
Capitol Apartments Bondi, Sydney  
The Moreton Apartments Bondi, Sydney  
Barangaroo Residential R8&R9, Sydney  
AstraZeneca Head Office, Sydney  
East Village Retail, Sydney  
Charlestown Square extension, NSW  
Toronto Aged Care, NSW  
Harbour St Apartments Wollongong, NSW  
Westport Bowling Club, NSW  
Port City Bowling Club, NSW  
1 Parramatta Square, Sydney  
Four Points Sussex St, Sydney  
Southbank Building C, Sydney  
Town Hall House, Sydney  
Tamworth Hospital, NSW  
Tamworth Hospital Bruderlin Building, NSW  
Port Macquarie Base Hospital, NSW  
Kempsey Base Hospital, NSW  
Baptistcare Kellyville, Sydney  
Panthers Rugby League Academy, Sydney  
Gregory Hills Homemaker Centre, NSW  
Shark Park Residential Development, Sydney  
Bondi Pacific Apartments, Sydney  
University of New England Building C1, Sydney  
AE Building Dutton Lane Cabramatta, Sydney  
Arena Apartments Redevelopment Newcastle, NSW  
Coffs Harbour Justice Precinct, NSW





## 9.1 RECENT PROJECTS

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**PROJECT: LIFESTYLE MANOR, SYDNEY**



**PROJECT: GLENROSE VILLAGE, NSW**



**PROJECT: NORWEST HOSPITAL, NSW**



**PROJECT: LISMORE HOSPITAL, NSW**

Sydney Opera House, Sydney  
Royal Prince Alfred Hospital, Sydney  
Lismore Hospital, NSW  
Byron Bay Hospital, NSW  
Parks Hospital, Mount Lawley, WA  
Hornsby Hospital, Sydney  
Blacktown Hospital, Sydney  
Sutherland Hospital, NSW  
Griffith Hospital, NSW  
Wagga Wagga Hospital, NSW  
Campbelltown Hospital, NSW  
Canberra Hospital, NSW  
Dubbo Hospital, NSW  
Norwest Private Hospital, Bella Vista, NSW  
Gosford Hospital, NSW  
Woolworths Spring Farm, NSW  
Glenrose Shopping Village, NSW  
OPAL Aged Care, Ashfield, Sydney  
Children's Cancer Institute, Sydney  
200 George St, Sydney  
Lifestyle Manor Anglesea Bondi, Sydney  
Toowoomba Grand Central, QLD  
Rack Unit Data Centre, Smeaton Grange, NSW  
Rack Unit Data Centre Eastern Creek, NSW  
Bowral Public School, NSW  
MacDonald's Broadway Shopping Centre, Sydney  
Prestons Aged Care, NSW  
Kmart, Top Ryde Centre, Sydney  
Newington College, Stanmore, Sydney  
Tyremax, Ashfield, Sydney  
Meriton Apartments Lane Cove, Sydney  
Metro Apartments Chatswood, Sydney  
Holsworthy Amy Barracks, Sydney  
Westfield's Miranda, Sydney  
Central Park Block 4S, Sydney  
Oran Park Town Centre, NSW  
Green Square Town Centre, Block 15A-15B, Sydney

Equinix SY4 Alexandria, Sydney  
Moran Aged Care Vacluse, NSW  
Putney Hill Ryde, Sydney  
Garden Island Bld 89/90, Sydney  
The Star, Sokyo Room, Sydney  
Sydney Airport Bussing Lounge  
Nelson Bay Woolworths, Sydney  
Flinders Village, Castle Hill, NSW  
ARV Woodberry, Winston Hills, NSW  
Warringah Mall, Brookvale, NSW  
Sky By Crown North Sydney  
V by Crown Parramatta, Sydney  
Lucent Apartments North Sydney  
Quay Apartments Haymarket, Sydney  
Union Apartments Rozelle, Sydney  
Macquarie Park Village, Sydney  
Clemton Park Village Campsie, Sydney  
Sundale A1 Apartments Southport, QLD  
Eve Apartments Erskineville, Sydney  
Retail Ready Meats Erskine Park, NSW  
Toll Orica Banksmeadow, Sydney  
CBC Bearings Chullora, NSW  
Kew Apartments Roseville, Sydney  
Watermark Apartments Baulkham Hills, Sydney  
Bunnings Kingsgrove, Sydney  
Boston Consulting Group, Sydney  
North Steyne Manly, Sydney  
Aura Construction Marrickville, Sydney  
Narellan Hotel, NSW  
Marist Brothers College Kogarah, NSW  
Chifley Tower, Sydney  
Parkroyal Hotel, Parramatta, Sydney  
Telstra, Sydney  
Randwick Barracks, Sydney  
BUPA Willoughby, Sydney  
Cairnsfoot Special School Brighton Le Sands, Sydney  
Huntingdon Gardens Bexley, Sydney  
Cranebrook Aged Care, North Sydney  
UNSW Randwick, Sydney





## 9.1 RECENT PROJECTS

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**PROJECT: NIER SHORTLAND**



**PROJECT: THE PONDS ARV**



**PROJECT: CATHOLIC CLUB**



**PROJECT: PARLIAMENT HOUSE**

Hand Clinic Sydney  
Pennant Hills Day Surgery, Sydney  
UNSW Kensington, Sydney  
Chatswood Private Hospital, Sydney  
Tamworth Hospital, NSW  
Suncorp Penrith, Sydney  
Zara Brisbane, QLD  
Lot 9 Hill Rd Wentworth Pt, Sydney  
33 Alfred St, Sydney  
200 Crown St Wollongong  
OLMC Parramatta, Sydney  
Horton House Gordon, Sydney  
Kings School, Parramatta, Sydney  
Nagle College, Blacktown, Sydney  
The Ponds ARV Stanhope Gardens, NSW  
Hornsby RSL, Sydney  
Lithgow Workers Club, NSW  
Bankstown Sports Club, Sydney  
ARB Moorebank, Sydney  
St Benedict's College Oran Park, NSW  
Governor Phillip Nursing Home Penrith, Sydney  
ARV Castle Hill, Sydney  
UTS Ultimo, Sydney  
Hammond Care Miranda, Sydney  
NIER Shortland, NSW  
Muswellbrook Tafe, NSW  
Campbell's Corner Muswellbrook, NSW  
Mariners Tuggerah, NSW  
Mariners Medical Centre Tuggerah, NSW  
Discovery Point Wolli Creek, NSW  
Fairways Bowral, NSW  
Campbelltown Catholic Club, Sydney  
Southern Cross Village, Plumpton, NSW  
Knox Grammar School, Wahroonga, Sydney  
Wetherill Park Tafe, Sydney  
NSW Parliament House, Sydney  
Wilson Parking, Sydney



RMS Parramatta, Sydney  
Central Station, Sydney  
End Of Trip. 345 George St, Sydney  
Roche North Ryde, Sydney  
McDonald's West Gosford, NSW  
McDonald's Guildford, VIC  
McDonald's Hoxton Park, VIC  
McDonald's Hurlstone Park, Sydney  
Harbord Diggers Club, Sydney  
Ingham North Ryde, Sydney  
100 William East Sydney  
Dee Why RSL, Sydney  
St Patrick's College Strathfield, Sydney  
River Vista Apartments Parramatta, Sydney  
Breakfast Point 7D3, NSW  
Breakfast Point 7D2, NSW  
Bridge Plaza, Lithgow, NSW  
Wynyard Station, Sydney



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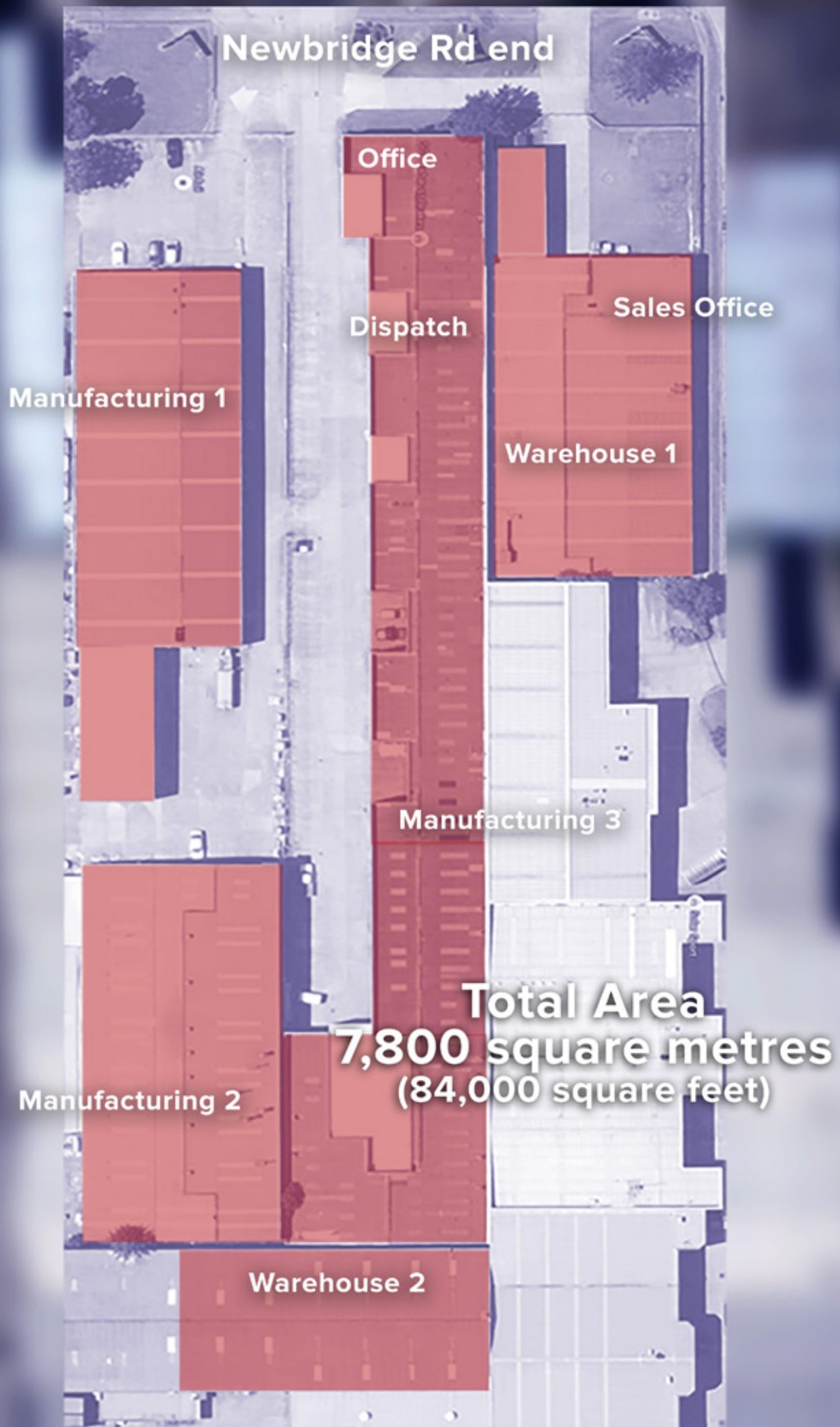
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Airfoil Manufacturing Pty Ltd  
133 Newbridge Road  
Moorebank NSW 2170  
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Printed in Australia

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