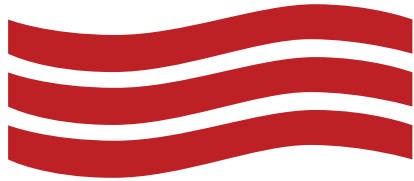


# AIRFOIL



GRILLES  
DUCT  
FITTINGS

*making it happen sooner...*



Quality  
Endorsed  
Company  
ISO 9001



**RADIAL SWIRL DIFFUSER  
CDS-DM500R**



## **RADIAL SWIRL DIFFUSER** **CDS-DM500R**

### **PRODUCT DESCRIPTION AND APPLICATION**

Airfoil's Round Faced Radial Swirl Diffuser (CDS-DM500R), proudly Australian Owned and Designed, has undergone extensive research, development, and thorough testing by Vipac Engineers and Scientists in Melbourne, Australia. The resulting tested intellectual property rights pertaining to Airfoil's CDS-DM500R remain the exclusive property of Airfoil Manufacturing Pty Ltd, making it a premium quality Supply Air Swirl Diffuser and the top choice in the market.

Tested rigorously for Australian conditions, our Round Faced Radial Swirl Diffuser features 22 unique blades pitched at 38°, meticulously designed to generate a consistent and uniform radial airflow pattern throughout the targeted space. This versatile Supply Air Swirl Diffuser is capable of handling lower-to-mid range air quantities for both heating and cooling applications.

Constructed from premium 1mm pressed steel, the CDS-DM500R comes with an optional 355mm or 255mm Supply Air Internal Ring, catering to various supply airflow requirements while maintaining uniformity and consistency in the appearance of the ceiling grid. The overall Face Size of the CDS DM500R is 620mm with a radial neck size of 496.5mm. The Swirl Diffuser comes complete with a Centre Swirl Mounting Screw that connects directly to Airfoil's Supply Air Cushion Box (SW-CB) for easy installation.

This modern and aesthetically pleasing round diffuser can be used in a suspended ceiling application or a plasterboard ceiling in conjunction with Airfoil's Circular Drop In Frame (CDF). The CDF is fitted separately as the accompanying CDS-DM500R Swirl Diffuser simply lays into the frame, making for an easy installation.

The Round Faced Radial Swirl Diffuser CDS-DM500R is available in standard white, but can be powder-coated to any specified colour upon request. Widely applicable across various settings such as airports, hospitals, office spaces, shopping centres, universities, and other commercial buildings, this popular diffuser is ideal for ensuring even distribution of air.

## RADIAL SWIRL DIFFUSER CDS-DM500R

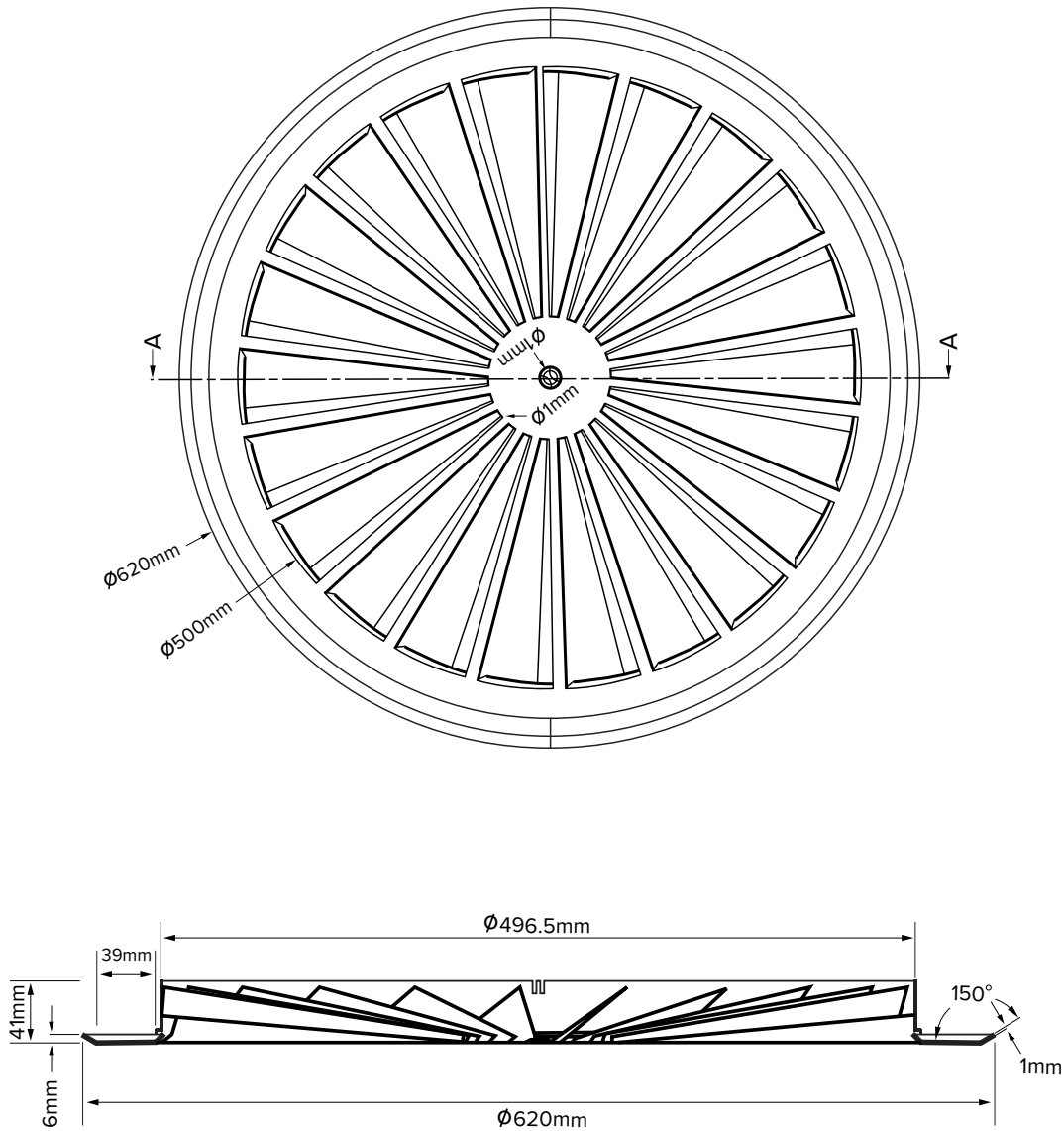
### PRODUCT SPECIFICATIONS AND INFORMATION

- **Product ordering code – CDS-DM500R**
- Australian Owned and Designed
- 22 fixed vanes pitched at 38°
- Supply Air Horizontal Radial Swirl Pattern
- Face size 620mm
- Neck size 496.5mm
- Constructed out of 1mm pressed steel
- Comes with optional 355mm or 255mm internal rings to accommodate all airflow requirements
- Traditionally used in plasterboard or suspended ceilings
- Available in standard white
- In stock
- Special powder-coated colours available on request
- Available with Airfoil's Circular Drop-in Frame (CDF) for easy installation
- Comes complete with a Center Swirl Mounting Screw
- Product suitable for airports, hospitals, office spaces, shopping centres, hotels, colleges, universities and most commercial or industrial buildings
- Available with Airfoil's Swirl Cushion Box to suit Swirl Diffuser (SW-CB)
- Product tested in accordance with Cushion Box (SW-CB) height of 300mm
- **Full product tested information is available upon request. All tested information performed by Airfoil through the laboratories of Vipac Engineers & Scientists**



## RADIAL SWIRL DIFFUSER CDS-DM500R

### CROSS SECTIONAL DIAGRAM



#### DISCLAIMER:

All product designs, data sheets and specifications presented herein are the intellectual property of Airfoil Manufacturing Pty Ltd. These designs and specifications, including but not limited to diagrams, drawings, and performance data, are protected under Australian intellectual property laws. No part of these designs and specifications may be copied, reproduced, distributed, or transmitted in any form or by any means without the prior written permission of Airfoil Manufacturing Pty Ltd. Unauthorised use or reproduction of these materials may result in legal action under Australian copyright and intellectual property laws.

## RADIAL SWIRL DIFFUSER CDS-DM500R

### PERFORMANCE DATA

TEST CONDITIONS				SOUND POWER LEVEL, db re 1E-12 W OCTAVE BAND CENTRE FREQUENCY (Hz)						
Qa (l/s)	Ps (Pa)	Th (m)	NC	125	250	500	1000	2000	4000	8000
165	5	4	17	42.5	37.6	31.4	29.7	25.4	16.4	<13.5
245	9	5	22	45.9	41.9	35.8	33.6	30.6	20.3	<13.5
288	13	6	27	49.9	46.4	40.5	38.4	36	26.5	16.3
351	19	7	32	53.5	50.6	45.8	42.8	39.8	31.8	22.1
432	29	>7	37	58.4	55.8	51.2	47.5	44.9	37.6	28.9

#### LEGEND

Qa - Primary Air Flow Rate (L/s)    Ps - Supply Static Pressure (Pa)    NC - Noise Criterion based upon room absorption of 10db  
 > - Length of throw greater than that able to be measured    Th - Horizontal Throw in metres at terminal velocity of 0.25m/s  
 < - Insufficient margin above background noise to allow accurate determination

Radial Swirl Diffuser CDS-DM500R - Airflow, Pressure and Throw Values						
Qa (l/s)	CDS-DM500R		Grille (with 355 ring)		Grille (with 255mm ring)	
	Ps (Pa)	Th (m)	Ps (Pa)	Th (m)	Ps (Pa)	Th (m)
50	<1	1.5	2	1.6	7	2
75	1	2.0	3	1.9	9	2.7
100	2	2.5	5	2.5	15	3.5
125	2	3.0	7	3.2	24	4.4
150	3	3.5	10	3.8	34	5.5
175	5	4.0	14	4.5	46	>6
200	6	4.5	19	5.2	60	>6
225	7	5.0	24	5.9	77	>6
245	9	5.5	28	>6	92	>6
270	11	6.0	35	>6	112	>6
300	13	>6	43	>6	136	

#### LEGEND

Qa - Primary Air Flow Rate (L/s)  
 Ps - Supply Static Pressure (Pa)  
 < - Insufficient margin above background noise to allow accurate determination  
 > - Length of throw greater than that able to be measured  
 Th - Horizontal Throw in metres at terminal velocity of 0.25m/s  
 H - Tested on ceiling height of 2.7 metres