



**Cooltech Industries**  
Pty Ltd

## Double Deflection Grille (2DR)



### **Variants:**

- Fixed Core
- Removable Core
- 20 or 25mm blade spacing

**Cooltech Industries Pty Ltd** | [www.cooltechindustries.com.au](http://www.cooltechindustries.com.au)

PO Box 501, Brighton le Sands, NSW, 2261 | Unit 1/11 Devon Rd, Ingleburn, NSW, 2565

Ph: 1300 COOLTECH | Email: [sales@cooltechindustries.com.au](mailto:sales@cooltechindustries.com.au)



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Pty Ltd

## Double Deflection Grille (2DR)

Cooltech Industries Double Deflection Grille (2DR) is a highly adaptable and functional air distribution device. It boasts a distinctive design featuring two sets of adjustable deflection blades, making it an exceptional choice for a wide range of applications.

This grille's unique design incorporates horizontal front blades and rear vertical blades, allowing for precise control over the direction of airflow. The horizontal blades enable the adjustment of air distribution throws either upwards or downwards, while the rear vertical blades permit distribution throws from side to side. This dual adjustability makes the 2DR Double Deflection diffuser ideal for achieving specific airflow patterns in various spaces.

Traditionally, this type of diffuser finds its place in sidewall applications, where it excels at delivering controlled airflow along walls. It particularly shines in environments such as carparks and shopping centres, where achieving long horizontal throws of air is essential for efficient ventilation and climate control.

The 2DR Double Deflection diffuser offers both fixed and removable core options, providing flexibility in installation and maintenance. Additionally, it can be supplied with varying face flanges upon request, enabling customization to meet the specific requirements of different projects.

While the standard finish for this grille is white powder coat, it can be tailored to match the aesthetics of the space by choosing from a range of powder coat colours or opting for a natural anodised finish, making it a versatile choice for HVAC systems in commercial

### Product Highlights:

- Fixed or Removable Core
- Attractive Appearance
- Adjustable Front & Rear Blades
- Precise Directional Control
- Alternate Flange Sizes
- Long Throw Capabilities

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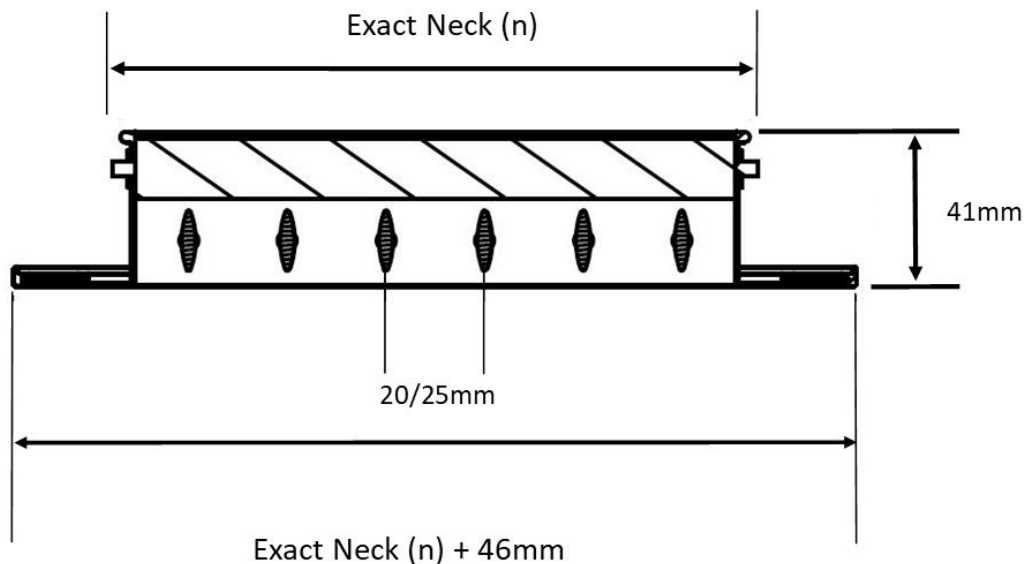
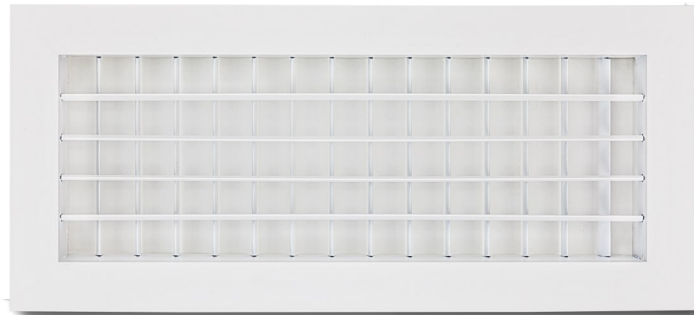
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# Double Deflection Grille (2DR)

## Double Deflection Fixed Core (2DR)



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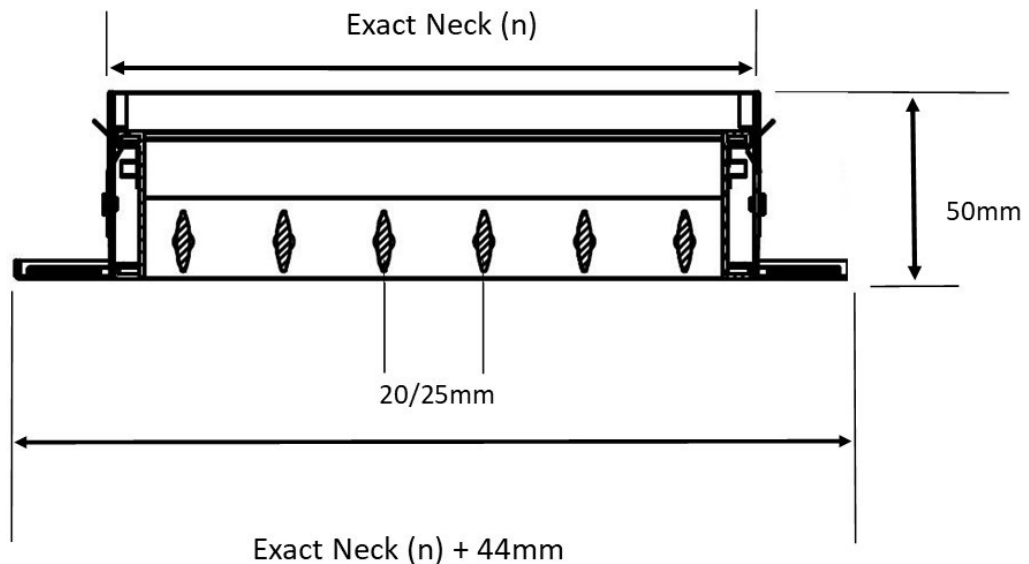
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# Double Deflection Grille (2DR)

## Double Deflection Removable Core (RC2DR)





# Double Deflection Grille (2DR)

## Double Deflection Performance Data for Various Sizes

Typical Sizes	200 x 100 400 x 50	200 x 150 250 x 125 300 x 100	250 x 150 300 x 125 400 x 100	300 x 150 350 x 125 450 x 100	350 x 150 250 x 200 450 x 125	400 x 150 300 x 200 600 x 100	500 x 150 300 x 250 600 x 125	600 x 150 700 x 125 900 x 100	500 x 200 400 x 250 1000 x 100	750 x 150 450 x 250 1050 x 100	600 x 200 500 x 250 400 x 300	900 x 150 450 x 300 600 x 225	
Neck Area m <sup>2</sup>	0.020	0.030	0.038	0.045	0.053	0.068	0.075	0.090	0.100	0.113	0.120	0.135	
L/S	Deflection	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	
50	Throw Min - m Throw - Max m Stat. Press. Pa	3.4 2.4 2.3 4.5 3.6 2.6 3 5 7	2.7 2.0 1.9 4.2 3.2 2.3 - 3 5	2.5 1.9 1.7 3.8 2.8 2.2 - - 3	2.3 1.9 1.6 3.6 2.6 2.1 - - -								
100	Throw Min - m Throw - Max m Stat. Press. Pa	6.4 4.9 3.9 9.5 7.3 5.5 12 24 36	5.9 4.5 3.5 8.8 6.9 4.9 7 12 24	5.3 4.0 3.1 8.2 6.2 4.3 - 7 12	4.5 3.4 2.6 7.1 5.1 3.9 3 5 7	4.0 3.1 2.2 6.5 4.6 3.4 - 3 5	3.8 2.7 2.1 5.5 4.2 3.2 - - 3	3.6 2.6 1.9 5.3 4.0 3.1 - - 3	3.5 2.5 1.7 5.1 3.8 3.0 - - -	3.1 2.3 1.4 4.7 3.5 2.8 - - -			
150	Throw Min - m Throw - Max m Stat. Press. Pa	11.8 8.4 6.2 17.8 13.4 10.1 28 42 55	9.2 6.4 4.8 13.4 9.8 8.2 18 30 42	7.3 5.1 4.2 11.9 8.5 6.8 12 24 36	6.6 4.7 3.9 10.5 7.6 5.9 8 14 22	6.1 4.3 3.4 9.4 6.8 5.2 5 8 14	5.6 3.9 2.9 8.3 6.1 4.7 3 5 7	5.3 3.8 2.7 7.9 5.7 4.5 - 3 5	4.9 3.7 2.5 7.6 5.4 4.3 - 3 5	4.7 3.5 2.4 6.9 5.2 4.1 - - 3	4.5 3.2 2.3 6.6 4.9 3.8 - - 5	4.4 2.9 2.2 6.2 4.7 3.6 - - -	4.2 2.7 2.1 5.9 4.5 3.3 - - -
200	Throw Min - m Throw - Max m Stat. Press. Pa		12.1 8.7 6.5 18.1 13.6 10.4 30 45 60	9.5 7.1 6.0 15.2 11.1 8.8 18 30 42	8.7 6.5 5.4 13.9 10.1 7.6 12 24 30	7.9 5.7 4.4 11.8 8.4 6.4 8 14 22	7.0 5.3 3.9 10.4 8.0 5.8 5 8 12	6.8 5.2 3.8 10.2 7.9 5.6 4 6 10	6.5 5.1 3.7 10.1 7.9 5.4 3 7 12	6.3 4.7 3.6 9.6 7.4 5.1 3 8 10	6.0 4.4 3.4 9.1 6.9 4.9 3 5 8	5.7 4.1 3.1 8.5 6.6 4.6 - 3 5	5.3 3.9 2.7 7.9 6.0 4.3 - - 3
250	Throw Min - m Throw - Max m Stat. Press. Pa			12.4 8.9 6.8 18.7 13.9 10.5 30 45 60	11.7 8.3 6.3 17.5 13.1 9.7 18 30 44	9.6 7.0 5.9 15.8 12.0 8.8 12 24 36	8.8 6.4 5.3 13.7 10.0 7.5 8 14 22	8.4 6.2 5.0 13.2 9.7 7.1 6 12 18	8.0 6.0 4.7 12.8 9.4 6.8 3 6 9	8.0 5.6 4.4 12.4 8.8 6.4 3 6 9	7.5 5.2 4.1 11.8 8.2 6.0 3 5 7	7.0 5.0 3.9 11.0 7.8 5.8 - 3 5	6.5 4.8 3.7 9.9 7.4 5.6 - 3 5
300	Throw Min - m Throw - Max m Stat. Press. Pa				12.0 9.2 7.0 21.5 16.0 13.4 30 45 60	11.1 8.8 6.7 19.0 14.7 11.8 16 27 38	10.7 7.8 5.9 16.8 12.3 9.0 12 18 27	10.1 7.4 5.5 15.9 1.1 8.6 10 16 24	9.6 7.1 5.1 15.2 10.4 8.3 8 14 22	9.3 6.6 5.8 14.3 9.9 8.1 7 12 18	8.9 6.2 5.3 13.3 9.4 7.5 8 10 16	8.4 6.0 4.9 12.5 8.8 7.0 5 8 12	7.9 5.7 4.3 11.8 8.3 6.4 3 6 9
350	Throw Min - m Throw - Max m Stat. Press. Pa					13.8 9.2 7.1 20.7 15.6 10.8 30 45 60	12.1 8.5 6.7 19.1 14.6 10.2 18 30 44	11.9 8.3 6.4 18.0 13.7 9.8 14 22 34	11.6 8.2 6.2 17.4 13.0 9.6 12 18 28	11.1 7.7 8.9 16.7 12.1 9.2 10 15 22	10.4 7.2 5.4 15.8 11.3 8.7 8 13 18	9.2 6.8 5.0 14.7 10.4 8.1 7 11 15	8.3 6.1 4.7 13.9 9.6 7.0 8 9 12
400	Throw Min - m Throw - Max m Stat. Press. Pa						15.0 11.1 8.4 23.9 16.8 12.4 30 45 60	13.3 9.9 7.2 21.0 15.0 11.1 18 30 44	12.2 9.1 6.6 19.3 13.7 10.0 10 20 30	11.8 8.8 6.4 18.8 13.4 9.8 9 18 26	11.3 8.3 6.3 18.0 13.0 9.6 8 16 22	10.7 7.9 9.2 17.3 12.5 9.3 7 14 20	10.2 7.4 6.1 16.7 12.1 9.0 7 12 18
450	Throw Min - m Throw - Max m Stat. Press. Pa								14.4 10.4 8.0 23.0 15.9 12.4 18 30 44	13.9 9.9 7.6 21.9 14.9 11.9 15 26 34	13.4 9.6 7.2 20.4 14.5 11.5 12 20 30	12.8 9.3 6.8 19.5 14.1 10.9 10 18 28	12.0 8.5 6.3 18.3 13.9 10.2 8 14 22
500	Throw Min - m Throw - Max m Stat. Press. Pa										18.8 12.1 9.0 26.6 18.4 12.3 15 25 35	17.1 11.0 8.1 23.8 16.4 11.1 12 22 28	15.4 9.9 7.5 21.1 15.4 11.7 9 18 24
600	Throw Min - m Throw - Max m Stat. Press. Pa											18.4 12.3 9.3 27.9 19.7 14.8 15 25 35	16.4 11.9 8.9 25.8 18.0 13.3 12 22 32
700	Throw Min - m Throw - Max m Stat. Press. Pa												17.4 12.6 9.6 28.6 22.1 14.7 14 28 42



# Double Deflection Grille (2DR)

## Double Deflection Performance Data for Various Sizes

	Typical Sizes	750 x 200	600 x 300	750 x 300	900 x 300	1200 x 300	675 x 600	1000 x 450	900 x 600	900 x 750	900 x 900	1000 x 1000	1050 x 1050
		600 x 250 500 x 300	500 x 350 750 x 250	600 x 375 500 x 450	750 x 360 600 x 450	800 x 450 600 x 600	900 x 450	900 x 500 750 x 600	1200 x 450 1800 x 300	1500 x 450	1350 x 600 1800 x 450	1650 x 600 2000 x 500	
	Neck Area m <sup>2</sup>	0.150	0.180	0.225	0.270	0.360	0.405	0.450	0.540	0.675	0.810	1.00	1.10
L/S	Deflection	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°	0° 22½° 45°
360	Throw Min - m	8.0 6.1 4.2	7.1 5.4 3.9	6.2 4.6 3.5	5.9 4.1 4.8	5.7 3.8 3.0	5.4 3.6 3.0	5.2 3.3 2.8					
	Throw - Max m	12.7 9.2 6.8	11.4 8.5 5.8	9.6 7.4 5.1	9.1 6.7 4.8	8.5 6.0 4.6	8.2 5.7 4.3	7.9 5.4 4.1					
	Stat. Press. Pa	3 6 10	3 5 9	- 3 6	- - 3	- - -	- - -	- - -					
400	Throw Min - m	9.5 7.0 5.0	8.6 6.2 4.5	7.1 5.1 4.0	6.8 4.8 3.6	6.3 4.2 3.1	6.1 4.1 3.0	5.9 3.9 2.9					
	Throw - Max m	14.4 10.4 7.9	12.4 8.5 6.9	10.7 6.9 6.0	10.4 6.8 5.5	10.1 6.7 5.1	9.7 6.4 4.9	9.4 6.2 4.7					
	Stat. Press. Pa	4 7 12	3 7 11	3 5 9	- 3 5	- - 3	- - 3	- - -					
450	Throw Min - m	10.4 7.6 5.9	9.1 6.8 4.9	7.9 6.0 4.3	7.5 5.6 3.9	7.2 4.8 3.5	7.0 4.6 3.3	6.8 4.4 3.1	6.4 4.0 2.8				
	Throw - Max m	16.0 11.5 8.9	14.0 10.2 7.1	12.2 9.0 6.8	12.0 8.5 6.4	11.7 8.0 6.2	11.5 7.8 6.1	11.3 7.6 5.9	10.9 7.2 5.5				
	Stat. Press. Pa	6 9 14	5 8 12	3 5 9	- 3 5	- - 3	- - 3	- - -	- - -				
500	Throw Min - m	11.6 8.6 6.5	10.1 7.4 5.6	8.8 6.5 4.8	8.3 5.8 4.2	7.9 5.3 3.9	7.7 5.1 3.7	7.5 5.0 3.6	6.8 4.6 3.2				
	Throw - Max m	18.0 13.1 10.0	16.0 11.7 8.9	13.9 10.0 7.4	12.9 9.4 7.0	12.2 8.5 6.7	12.0 8.3 6.5	11.8 8.1 6.3	10.6 7.6 5.8				
	Stat. Press. Pa	7 10 16	6 9 14	4 7 12	- 3 5	- - 5	- - 3	- - 3	- - -				
600	Throw Min - m	14.0 9.3 7.9	11.9 8.5 6.8	10.5 8.0 6.0	10.3 7.6 5.7	10.0 7.2 5.4	9.8 7.1 5.2	9.6 6.9 5.0	7.2 5.2 4.2	6.6 4.8 3.7			
	Throw - Max m	21.8 16.2 12.1	18.4 14.1 11.2	16.2 11.7 8.7	15.0 10.9 8.5	14.4 10.4 8.1	14.1 10.1 7.8	13.8 9.8 7.6	10.8 8.0 6.1	10.2 7.4 5.5			
	Stat. Press. Pa	9 14 22	7 12 18	5 9 12	3 5 9	- 3 5	- 3 5	- - 3	- - -	- - -			
700	Throw Min - m	17.2 12.2 9.3	15.5 11.0 8.4	13.9 10.0 7.3	12.1 9.1 6.9	10.9 8.2 6.5	10.6 7.9 6.3	10.4 7.7 6.1	8.1 6.2 4.7	7.6 5.7 4.3			
	Throw - Max m	24.9 18.6 13.9	22.0 16.8 12.8	20.6 15.2 11.7	19.4 13.9 10.4	17.4 12.5 9.6	17.1 12.2 9.4	16.8 12.0 9.2	12.9 9.2 6.9	12.1 8.6 6.3			
	Stat. Press. Pa	12 18 26	9 15 20	7 12 18	5 9 12	3 7 9	- 5 8	- 3 7	- - 3	- - -			
800	Throw Min - m	18.5 13.8 10.3	15.1 11.8 8.5	13.9 10.0 7.7	13.3 9.8 7.4	12.8 9.5 7.1	12.5 9.3 6.9	12.2 9.1 6.6	9.2 6.9 5.2	8.1 5.9 4.4	7.4 5.3 3.9		
	Throw - Max m	30.1 20.9 16.2	25.2 17.8 14.0	21.6 15.6 11.7	21.0 15.1 10.9	20.7 14.6 10.4	20.2 14.2 10.0	19.8 13.9 9.7	14.7 10.3 8.1	12.8 9.2 7.4	12.3 8.8 7.0		
	Stat. Press. Pa	14 24 35	12 20 26	8 16 20	6 10 14	3 7 9	3 6 8	3 5 7	- 3 5	- - 3	- - -		
900	Throw Min - m	20.8 15.5 10.9	17.4 13.6 9.5	15.7 11.5 8.6	15.0 11.0 8.2	14.6 10.5 7.8	14.3 10.3 7.5	14.1 10.1 7.3	10.7 7.8 6.1	9.2 6.9 4.7	8.7 6.5 4.3	8.1 6.0 3.9	
	Throw - Max m	32.3 24.0 17.8	28.4 20.1 15.4	25.1 18.1 13.8	24.4 17.3 12.9	23.9 16.8 12.1	23.5 16.5 11.9	21.0 16.2 11.5	15.9 11.9 8.9	14.3 10.5 8.3	13.8 10.1 7.9	13.0 9.5 7.3	
	Stat. Press. Pa	16 26 38	12 20 22	10 15 18	8 12 15	7 9 12	6 8 12	5 7 10	3 5 7	- 3 5	- - 3	- - -	
1000	Throw Min - m		18.9 13.5 10.6	17.8 12.6 9.9	16.9 12.2 9.4	16.1 11.8 9.1	15.7 11.6 8.9	15.3 11.2 8.7	12.6 8.4 6.4	10.9 8.2 6.2	10.2 7.5 5.8	9.7 7.0 5.3	9.2 6.4 4.8
	Throw - Max m		29.1 20.9 16.8	27.7 19.8 15.0	26.7 18.9 14.6	26.1 18.3 14.1	24.8 17.7 13.7	22.8 15.1 13.2	17.8 12.9 9.8	16.7 12.0 9.4	15.6 11.3 8.8	14.8 10.7 8.3	14.0 10.0 7.7
	Stat. Press. Pa		15 20 28	12 16 20	9 12 16	7 9 12	6 8 12	5 7 10	3 5 7	- 3 5	- - 3	- - 3	- - -
1250	Throw Min - m			21.9 16.2 12.8	20.4 15.7 12.2	19.8 15.0 11.7	19.5 14.7 11.4	17.3 14.2 11.0	14.9 12.6 9.8	13.6 10.1 7.8	12.8 9.6 7.5	11.6 8.4 6.6	10.7 7.6 5.8
	Throw - Max m			33.6 25.7 19.5	32.1 24.8 18.7	31.8 24.2 17.9	30.6 23.9 17.4	26.9 23.4 16.9	23.5 18.6 14.4	21.5 14.9 11.5	18.8 13.8 10.8	16.9 12.4 9.6	15.6 11.6 8.5
	Stat. Press. Pa			18 22 30	14 18 22	9 14 18	8 14 16	7 12 15	5 7 10	3 5 7	- 3 5	- - 3	- - 3
1500	Throw Min - m			26.5 19.8 13.9	25.1 18.4 13.6	24.0 16.9 13.0	23.4 16.3 12.9	22.8 15.3 12.6	18.7 13.1 11.1	16.7 11.9 9.0	15.2 11.1 8.6	13.7 9.9 7.6	12.3 8.8 6.9
	Throw - Max m			40.0 29.7 21.6	37.5 28.8 20.3	35.1 27.9 19.9	34.6 26.9 18.4	31.7 25.4 17.5	27.4 22.1 15.8	24.5 18.6 14.1	23.1 17.4 13.5	21.5 15.8 12.0	19.0 14.0 10.3
	Stat. Press. Pa			22 36 48	18 30 38	14 24 30	12 20 26	10 18 24	7 12 15	5 7 10	3 5 7	- 3 5	- - 3
1750	Throw Min - m					28.1 17.4 13.4	27.6 17.0 13.0	26.8 16.7 12.7	23.2 15.5 11.4	19.4 14.0 10.0	17.8 13.2 9.9	16.6 12.1 8.9	15.3 10.9 7.9
	Throw - Max m					38.3 28.4 21.2	37.5 28.0 20.7	36.7 27.6 20.4	32.1 24.6 18.1	29.3 21.7 16.5	28.4 20.4 16.3	25.7 19.4 15.0	23.7 17.3 13.9
	Stat. Press. Pa					18 30 44	14 26 40	12 24 36	10 18 24	7 12 15	5 7 10	3 5 7	- 3 5