

Round Ceiling Diffusers



Adjustable

Horizontal Discharge Pattern

Louvred Face

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- Adjustable
- Horizontal Discharge Pattern
- Louvred Face

Models:

RNR Steel

ARNR Aluminium



The **Advanced Air RNR Series Round Ceiling Diffusers** feature three concentric cones in all sizes to offer a balanced appearance where different sizes are used in the same area. The diffusers deliver the air in a true 360° radial horizontal pattern and produce excellent performance in variable air volume systems.

The **Models RNR** and **ARNR** feature infinite horizontal discharge patterns that allow the diffusers to accommodate different flow rate conditions. Position A (cones down) provides maximum capacity at minimum NC levels while Position B (cones up) provides higher induction and more air movement.

Features:

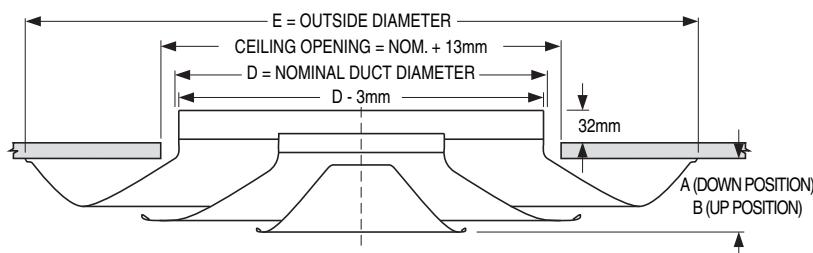
- Engineered 360° air diffusion pattern.
- High neck collars for solid connection.
- All sizes feature three cones for a uniform and balanced appearance.
- A spring clip arrangement permits quick, easy installation and removal of the inner cone assembly.
- Discharge positions are easily site set by sliding the inner cone assembly up or down. The core is securely retained by a spring loaded friction arrangement.
- Designed for both heating and cooling applications.
- Screwdriver adjustment of the optional balancing damper through the cones.

Material:

Corrosion-resistant steel or aluminium.

Finish:

AW Appliance White polyester powder finish RAL 9010 semi-gloss as standard. Other finishes are also available.



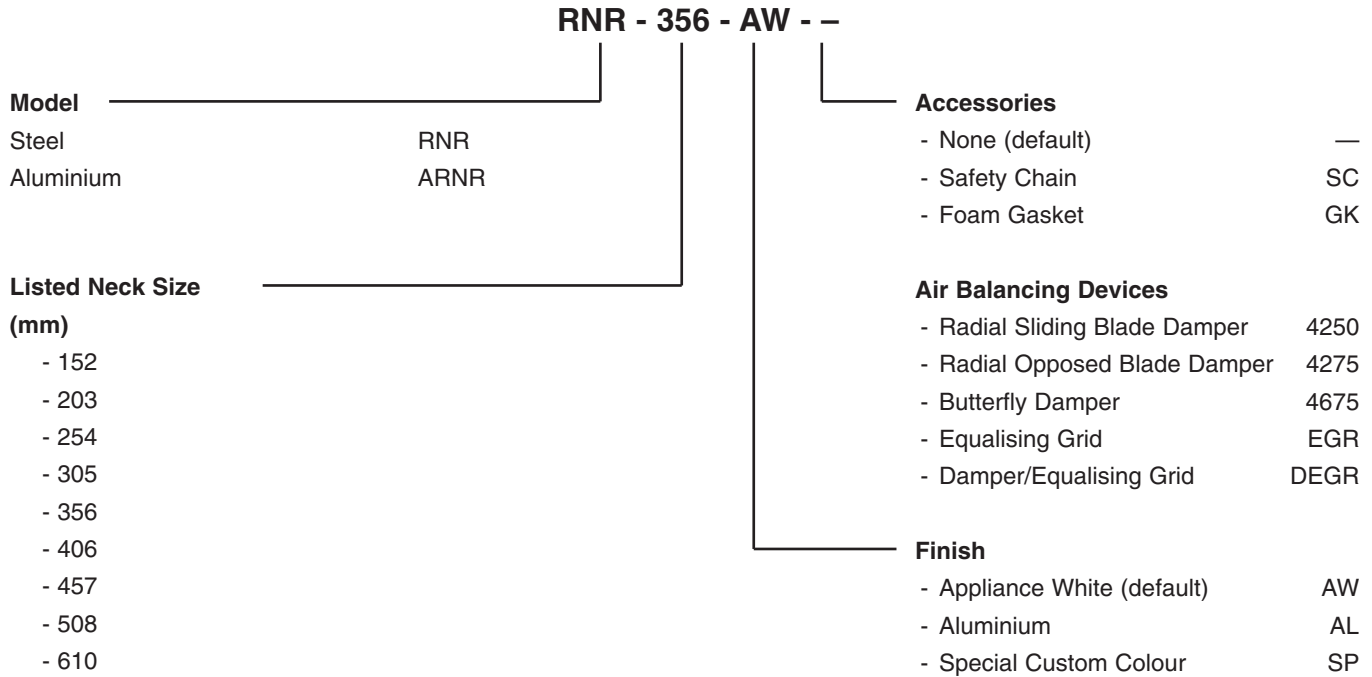
Dimensional Data

Listed Size	Dimensions (mm)		
	A	B	E
152	44	29	295
203	54	38	365
254	73	54	456
305	79	60	549
356	86	67	641
406	102	83	737
457	121	98	851
508	149	124	946
610	197	168	1114

How To Specify or To Order

(Show complete Model Number and Size, unless "Default" is desired)

Round Ceiling Diffusers – Models RNR and ARNR



Note:

1. If more than one accessory is required, list in order.

Suggested Specification:

Supply and install **Advanced Air Model** (select one) **RNR** (steel) or **ARNR** (aluminium) **Round Adjustable Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have three round, spun cones. The inner core assembly shall be removable and slide up or down to attain infinite horizontal discharge pattern adjustment. The diffuser shall have a removable plug, for screwdriver adjustment of the optional damper, without removing the inner core. The finish shall be AW Appliance White polyester powder finish RAL 9010 semi-gloss. (optional finishes are available).

Performance Data

Models RNR and ARNR

Nominal Neck Size	Neck Velocity (m/s)	2	2.5	3	3.5	4	4.5	5	5.5	6	
Ø152mm	Pressure Drop (Pa)	Position A	6	10	14	19	24	31	38	46	55
		Position B	10	15	22	30	39	49	61	74	88
	Flowrate (l/s)	37	46	56	65	74	84	92	102	111	
	Throw (m)	Position A	0.4 0.8	0.6 1.0	0.8 1.0	0.8 1.2	0.8 1.4	1.0 1.6	1.0 1.6	1.2 1.9	1.2 2.1
		Position B	0.6 1.0	0.8 1.2	1.0 1.2	1.0 1.4	1.0 1.6	1.2 1.9	1.2 1.9	1.4 2.1	1.4 2.5
NC Level	Position A	-	-	-	-	24	28	31	34	37	
	Position B	-	-	-	-	30	34	37	40	43	
Ø203mm	Pressure Drop (Pa)	Position A	8	12	17	24	31	39	48	58	70
		Position B	12	19	28	38	50	63	77	94	111
	Flowrate (l/s)	66	83	99	115	132	148	165	181	198	
	Throw (m)	Position A	0.6 1.2	0.8 1.4	1.0 1.6	1.0 1.9	1.2 2.1	1.4 2.3	1.6 2.5	1.9 2.7	1.9 2.9
		Position B	0.8 1.4	1.0 1.6	1.2 1.9	1.2 2.1	1.4 2.5	1.6 2.7	1.9 2.9	2.1 3.1	2.1 3.3
NC Level	Position A	-	-	-	23	27	31	34	37	40	
	Position B	-	-	-	29	33	37	40	43	46	
Ø254mm	Pressure Drop (Pa)	Position A	7	10	15	20	26	33	40	49	58
		Position B	10	16	23	32	41	52	64	78	93
	Flowrate (l/s)	103	129	154	180	206	232	257	283	309	
	Throw (m)	Position A	0.8 1.4	1.0 1.6	1.0 1.9	1.2 2.1	1.4 2.5	1.6 2.7	1.9 2.9	2.1 3.3	2.3 3.5
		Position B	1.0 1.9	1.2 2.1	1.2 2.3	1.4 2.5	1.9 2.9	2.1 3.1	2.3 3.3	2.5 3.7	2.7 3.9
NC Level	Position A	-	-	-	22	26	30	33	36	39	
	Position B	-	-	23	28	32	36	39	42	45	
Ø305mm	Pressure Drop (Pa)	Position A	6	10	14	19	25	32	39	47	56
		Position B	10	16	23	31	40	51	63	76	90
	Flowrate (l/s)	148	185	222	260	296	334	370	408	445	
	Throw (m)	Position A	1.2 1.9	1.2 2.1	1.4 2.3	1.6 2.7	1.6 2.9	2.1 3.3	2.3 3.7	2.5 3.9	2.7 4.3
		Position B	1.2 2.1	1.4 2.5	1.6 2.7	1.9 3.1	2.1 3.5	2.5 3.7	2.7 4.3	2.9 4.5	3.1 4.9
NC Level	Position A	-	-	-	21	25	29	32	35	38	
	Position B	-	-	22	27	31	35	38	41	44	
Ø356mm	Pressure Drop (Pa)	Position A	9	13	19	26	34	43	54	65	77
		Position B	14	22	31	42	55	70	86	104	124
	Flowrate (l/s)	202	252	302	226	403	454	504	555	605	
	Throw (m)	Position A	1.2 2.1	1.4 2.5	1.6 2.9	1.9 3.3	2.1 3.7	2.5 4.1	2.7 4.5	3.1 4.9	3.3 5.3
		Position B	1.4 2.3	1.6 2.9	1.9 3.3	2.1 3.7	2.3 4.1	2.7 4.5	3.1 5.1	3.5 5.6	3.7 6.2
NC Level	Position A	-	-	22	27	31	35	38	41	44	
	Position B	-	22	27	32	36	40	43	46	49	
Ø406mm	Pressure Drop (Pa)	Position A	8	12	18	24	31	40	49	59	71
		Position B	13	20	28	39	50	64	79	95	113
	Flowrate (l/s)	264	329	395	461	527	593	659	725	791	
	Throw (m)	Position A	1.4 2.5	1.6 2.9	1.9 3.3	2.3 3.7	2.5 4.1	2.7 4.5	2.9 4.9	3.3 5.3	3.5 6.4
		Position B	1.4 2.7	1.9 3.3	2.1 3.7	2.5 4.1	2.7 4.5	2.9 4.9	3.1 5.3	3.7 6.0	3.9 6.4
NC Level	Position A	-	-	21	25	29	33	36	39	42	
	Position B	-	19	24	29	33	37	40	43	46	
Ø457mm	Pressure Drop (Pa)	Position A	7	11	16	22	29	36	45	54	64
		Position B	12	18	26	35	46	58	72	87	103
	Flowrate (l/s)	334	417	500	584	667	750	834	917	1001	
	Throw (m)	Position A	1.4 2.7	1.9 3.3	2.3 3.7	2.5 4.1	2.9 4.7	3.1 5.1	3.5 5.6	3.7 6.0	4.1 6.4
		Position B	1.6 3.1	2.1 3.7	2.5 4.1	2.7 4.5	3.1 5.1	3.5 6.0	3.9 6.2	4.1 6.6	4.3 7.0
NC Level	Position A	-	-	19	24	28	32	35	38	41	
	Position B	-	-	22	27	31	35	38	41	44	
Ø508mm	Pressure Drop (Pa)	Position A	7	11	16	22	31	36	44	53	63
		Position B	11	18	25	35	45	57	70	85	101
	Flowrate (l/s)	412	515	618	721	823	926	1030	1133	1235	
	Throw (m)	Position A	1.9 3.1	2.1 3.7	2.5 4.1	2.9 4.7	3.1 5.3	3.5 5.8	3.9 6.2	4.3 6.8	4.7 7.2
		Position B	2.1 3.5	2.3 4.1	2.7 4.5	3.1 5.1	3.3 5.8	3.7 6.2	4.1 6.6	4.5 7.2	5.1 7.8
NC Level	Position A	-	-	20	25	29	33	36	39	42	
	Position B	-	18	23	28	32	36	38	42	45	

Performance Data

Models RNR and ARNR

Nominal Neck Size	Neck Velocity (m/s)	2	2.5	3	3.5	4	4.5	5	5.5	6	
Ø610mm	Pressure Drop (Pa)	Position A	6	10	14	19	25	31	39	47	56
		Position B	10	16	22	30	40	50	62	75	89
	Flowrate (l/s)	593	741	890	1038	1186	1334	1483	1631	1779	
	Throw (m)	Position A	2.1 3.7	2.5 4.1	2.9 4.9	3.3 5.6	3.5 6.0	4.1 6.8	4.5 7.4	5.1 8.0	5.6 8.6
		Position B	2.3 3.9	2.7 4.5	3.3 5.3	3.7 6.0	3.9 6.4	4.5 7.2	4.9 8.0	5.6 8.6	6.2 9.5
	NC Level	Position A	-	-	21	26	30	34	37	40	41
Position B		-	19	24	29	33	37	40	43	46	

NC - Noise Criteria (values) based on 10 dB room absorption, re 10⁻¹² watts.

Performance Notes:

1. Horizontal throws are given at 0.5 and 0.25 m/s terminal velocities under isothermal conditions.
2. Performance data as shown is for ceiling mounted diffusers. For exposed duct mounting, multiply the throw values by 0.70.
3. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.