



AIR CONTROL INDUSTRY

ROUND DIFFUSER, DISC VALVE & JET NOZZLE



QUALITY ASSURANCE

An ISO 9001:2015 certified company
Product tested and approved by ETL testing laboratories USA



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Air Control Round Diffusers are designed to provide supply or return of conditioned air at acceptable sound levels, pressure drops and uniform radial discharge in supply air application. They are suitable for using in rooms with heights up to 4m.

- ▶ Gasket is sealed around the back of the frame to avoid air leakage.
- ▶ Supply diffuser is equipped with a butterfly damper operated through Diffuser face.(stud adjustable)
- ▶ Mounting: Screw type.
- ▶ Removable inner core permit easy installation and access to duct.
- ▶ Finishing: Powder coated to standard RAL codes - 9010 (off white) or 9016 (white), ask for more options.

AVAILABLE MODELS



AC-RRD (standard)
Air Control Round return diffuser.

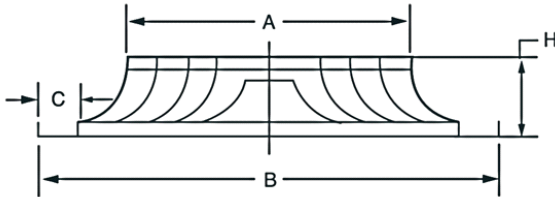


AC-RSD (standard)
Air Control Round supply diffuser.

SELECTION TABLE

Size (mm)	AC-RRD & RSD Ø D (mm)	Air volume (m ³ /h)	Throw max (m)
150	145	135	0.8
200	195	240	1.3
250	245	360	1.5
300	295	500	1.8
350	345	666	2.2
400	395	810	2.4
450	445	1050	2.7

Throw data is based on terminal velocity of 0.76 m/s and 0.25 m/s.



A – Neck Size $\varnothing$ D (mm)

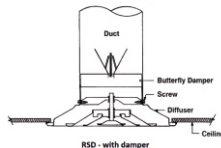
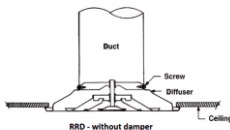
B – Face size $\varnothing$ D (mm)

C – Flange width (mm)

H – Diffuser height (mm)

FIXING DETAILS

- ▶ Install outer cone of the circular diffuser by means of ceiling hangers or with the help of self-tapping screws. Duct joints are then sealed with adhesive tape.
- ▶ Central cone assembly can be detached or attached by rotating anti-clockwise or clockwise direction.
- ▶ Horizontal or vertical discharge pattern could be achieved by rotating the central cone clockwise or anti-clockwise directions.
 - a. Rotate the central cone clockwise until you get required horizontal discharge pattern.
 - b. Rotate anti-clockwise to get required vertical discharge pattern.
- ▶ Butterfly damper is attached to the outer cone collar of the diffuser. (factory assembled for supply diffuser only). Damper adjustable from the face of the diffuser, rotate anti-clockwise and remove the central cone, then with the help of a screw driver damper can be opened or closed.





ENGINEERING & PERFORMANCE DATA

			AIR VOLUME (m³/h)															
Size (MM)	Effective Area(m²)		150	200	300	400	500	600	700	800	900	1000	1400	2000	2500			
150	0.011	Vk (m/s)	3.8	5.2	7.8													
		Pt (pa)	15	24	65													
		Lt (m)	2.2	2.8	4.5													
		NC (db)		28	48													
200	0.02	Vk (m/s)	2.3	2.8	4.5	6	7.4											
		Pt (pa)	5.4	7.9	20	30	60											
		Lt (m)	1.6	2.2	3.4	4.5	4.5											
		NC (db)			27	36	48											
250	0.031	Vk (m/s)			2.8	3.8	4.6	5.5	6.5	7.5								
		Pt (pa)				7.9	16	21	26	41	62							
		Lt (m)				2.7	3.1	4.5	5.4	6.2	4.5							
		NC (db)						30	36	42	48							
300	0.046	Vk (m/s)					2.5	3.1	3.7	4.3	5.0	5.5	6.2					
		Pt (pa)						6.5	9	15	19	22	26	34				
		Lt (m)						2.8	3.6	4.7	5.3	6.0	7.0	6.2				
		NC (db)								25	30	35	38	42				
350	0.055	Vk (m/s)						2.0	2.5	3.0	3.5	4.0	4.5	5.0	7.0			
		Pt (pa)							4.2	6.5	8	13	17	20	22	51		
		Lt (m)							2.6	3.2	3.7	4.7	5.2	6	7	9.8		
		NC (db)										24	27	33	36	47		
400	0.07	Vk (m/s)							2	2.4	2.8	3.3	3.6	4	5.5			
		Pt (pa)								4.2	6.1	7.9	11	14	17	26		
		Lt (m)								2.8	3.4	4.2	4.7	5.2	6	9		
		NC (db)											23	26	30	42		
450	0.089	Vk (m/s)									2.3		2.8	3.1		6		
		Pt (pa)									5.4	2.4	7.9	9	18	30	7.8	
		Lt (m)										3.4	6.1	4.6	5.1	8	10.5	65
		NC (db)												4.2		23	34	46



DISC VALVE (DV)

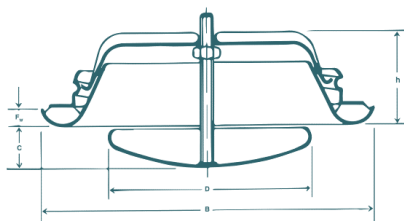
GENERAL DESIGN

- ▶ Circular exhaust air valves.
- ▶ Steel construction.
- ▶ Center core adjustable by screw and nut for air volume control.
- ▶ The outer body is fitted with a foam - rubber gasket to form an airtight seal with the mounting ring.
- ▶ Standard Finish:
White powder coated. Other colours are available upon request.
- ▶ Fixing:
The mounting ring is fitted in the opening of the wall. Twist the valve into the ring to remove it fix it.



Standard sizes and dimensions for model – AC DV (Nominal size N Ø (mm))

Nominal Size N Ø (mm)	Actual Size A Ø (mm)	B Ø (mm)	D Ø (mm)	h Ø (mm)
100	98	137	75	47
150	148	200	120	58
200	198	248	157	75





JET NOZZLE (JN)

GENERAL DESIGN

- Ideal for places such as airports, auditoriums, long entrances and walk ways (Horizontal discharge), gymnasiums and swimming pools etc. (Vertical discharge)
- Air control jet diffusers are designed to handle large quantity of air with long throw.

AVAILABLE MODELS

1. JN/EB (EYE BALL TYPE)

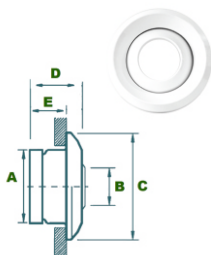
- Made of high quality aluminium.
- Ensures a long throw (25m) at high outlet velocities.
- The direction of the air stream can be easily adjusted by hand with in a range of +30°.
- The aerodynamic design results in a long throw of air even at high outlet velocities and reduced noise levels

MATERIAL

- Aluminium

FINISH

- Standard finish - RAL 9016 (white)



DIMENSIONS FOR MODEL JN-EB

Size (mm)	A	B	C	D	E
200	195	105	265	142	107
250	245	128	314	179	135
315	310	165	390	230	174
350	345	185	433	251	186
400	395	210	495	285	218

**ENGINEERING & PERFORMANCE DATA**

Size (MM)	Effective Area(m ²)	Air Volume (m ³ /h)	Pressure loss (Pa)	Noise (db)	Throw (m)
200	0.009	160	10	30	12.7
		200	21	33	16
		250	54	38	20
		320	82	41	25.7
		400	116	45	32.2
250	0.0145	250	11	29	12.9
		320	22	34	16.9
		400	55	39	25.2
		500	81	42	31.5
		630	116	46	37.5
315	0.023	400	12.8	26	16
		500	21	34	20
		630	46	38	25
		800	68	42	30.2
		1000	94	46	37
400	0.055	630	8	32	17.6
		800	17	36	22.2
		1000	31	39	28.4
		1250	58	43	34
		1600	80	46	40

- ▶ Neck velocity is measured in m/sec.
- ▶ P = Pressure losses across the diffuser in mm of H₂O
- ▶ Throw (meters) is measured for a terminal velocity of 2.5 m/sec and 0.25 m/sec.
- ▶ Noise criteria (NC) is based on a room attenuation of 10dB.



2. JET NOZZLE JN/RT (RING & PANEL TYPE)

- ▶ The turbo nozzle inner concentric rings of jet can be adjusted in ways, Vertical and horizontal.
- ▶ The housing and inner rings are designed for high volume long throw application.
- ▶ Suitable for sidewall and ceiling mountings from one to four diffuser elements per assembly.

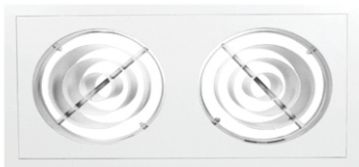


MATERIAL

- ▶ Galvanized Iron / Aluminium

FINISH

- ▶ Standard finish is baked enamel white RAL 9016. For other colour please contact us.



- ▶ The popular turbo nozzle is available in a panel mount design as shown in above figure
- ▶ One, two, three or four jet diffuser elements per panel can be selected.
- ▶ The rings can be controlled in both horizontal and vertical direction through pivot linkage bolt (universal ball joint) mounted in a three-leg bracket connected to the turbo nozzle.