



**WB Air**

**air distribution products**

**form function reliability**



## Round Ceiling Diffusers

**Model : WB-RDC**



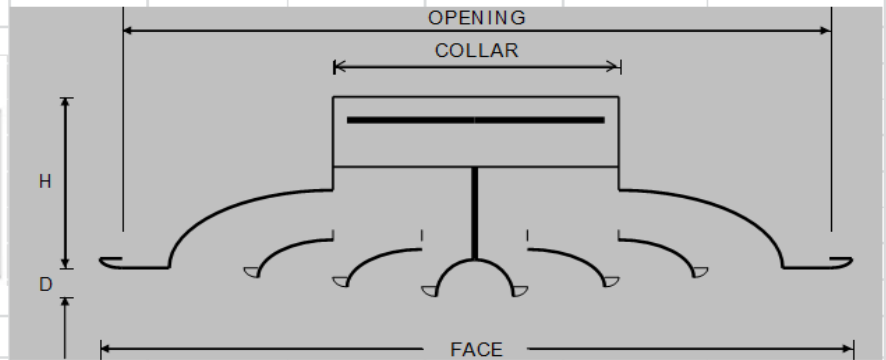
# ROUND DIFFUSERS

Model : WB - RDC



## INTRODUCTION

Model **WB-RDC** is used for the supply and exhaust of cooled and heated air in facilities such as offices, malls, open spaces and schools with ceiling to floor height between 2.4m to 12m . The diffuser can be installed in both ceiling or exposed duct installations. Diffuser is constructed of aluminum in standard white epoxy powder coating while collar and slide damper is matt black steel.



## DIMENSIONAL DETAILS

## QUICK SELECTION CHART

Collar Dia	Face Dia	Opening dia	Height	D	CMH Range	NC
150	340	315	125	6	195-390	< 36
200	440	415	135	8	350-700	< 36
250	520	495	145	12	550-1095	< 36
300	610	585	155	14	790-1580	< 36
350	710	685	165	16	800-1800	< 36
403	914	813	253	117	951-2378	< 36
454	1028	915	269	127	1200-3000	< 36
504	1143	1016	285	137	1486-3347	< 36
606	1143	1016	285	137	2140-4808	< 36

Sizes 150-350 are cone adjustable to 2 levels, cone in for full vertical and cone out for full horizontal.  
 Sizes 403-606 are cone screw fully adjustable, cone in for full vertical and cone out for full horizontal.  
 Sizes from 406 onwards are non stock items & may take about 6-8 weeks.  
 Height includes damper of 100mm standard, other heights are available.  
 D = cone drop in down position for full horizontal pattern.

## PERFORMANCE DATA

Velocity m/s		2.00	2.50	3.00	3.50	4.00	4.50	5.00	6.00
Face Dia 340	Q (cmh)	135.92	169.90	203.88	237.86	271.84	305.82	339.80	399.27
	SP(pa)	4.50	7.00	10.00	13.50	17.50	22.00	27.50	40.00
Neck Dia 150	NC (dBA)			15.00	20.00	24.00	27.00	31.00	36.00
	Radius of diffusion @0.25m/s	0.81	1.22	1.42	1.63	1.83	2.03	2.24	2.44
	Radius of diffusion @0.5m/s	0.61	0.91	1.07	1.22	1.37	1.52	1.68	1.83
	Drop @ 0.17m/s	1.50	2.10	2.55	3.30	3.75	4.35	4.80	5.40
Face Dia 440	Q (cmh)	237.86	297.33	356.79	416.26	475.72	535.19	594.65	713.58
	SP(pa)	4.50	7.00	10.00	13.50	17.50	22.00	27.50	40.00
Neck Dia 200	NC (dBA)			16.00	21.00	26.00	29.00	32.00	38.00
	Radius of diffusion @0.25m/s	1.22	1.38	1.54	2.03	2.24	2.44	2.84	3.66
	Radius of diffusion @0.5m/s	0.91	1.04	1.16	1.52	1.68	1.83	2.13	2.74
	Drop @ 0.17m/s	1.55	2.12	2.63	3.40	3.87	4.74	5.19	5.98
Face Dia 520	Q (cmh)	373.78	458.73	560.67	645.62	739.07	832.51	925.96	1112.85
	SP(pa)	4.50	7.00	10.00	13.50	17.50	22.00	27.50	40.00
Neck Dia 250	NC (dBA)			17.00	22.00	27.00	30.00	33.00	39.00
	Radius of diffusion @0.25m/s	1.22	1.63	2.03	2.44	2.84	3.25	3.58	4.06
	Radius of diffusion @0.5m/s	0.91	1.22	1.52	1.83	2.13	2.44	2.68	3.05
	Drop @ 0.17m/s	1.56	2.15	2.71	3.51	4.37	5.17	5.42	6.74

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## PERFORMANCE DATA

Velocity m/s		2.00	2.50	3.00	3.50	4.00	4.50	5.00	6.00
<b>Face Dia 610</b>	Q (cmh)	535.19	662.61	798.53	934.45	1070.37	1197.80	1333.72	1597.06
<b>Neck Dia 300</b>	SP(pa)	4.50	7.00	10.00	13.50	17.50	22.00	27.50	40.00
	NC (dBA)			18.00	23.00	27.00	31.00	34.00	40.00
Radius of diffusion @0.25m/s		1.63	2.03	2.44	2.84	3.25	3.66	4.06	4.88
Radius of diffusion @0.5m/s		1.22	1.52	1.83	2.13	2.44	2.74	3.05	3.66
Drop @ 0.17m/s		1.58	2.18	3.00	3.90	5.10	5.85	6.60	7.80

<b>Face Dia 710</b>	Q (cmh)	722.08	900.47	1078.87	1265.76	1444.15	1622.55	1800.94	2157.73
<b>Neck Dia 350</b>	SP(pa)	4.50	7.00	10.00	13.50	17.50	22.00	27.50	40.00
	NC (dBA)		13.00	19.00	24.00	28.00	32.00	35.00	41.00
Radius of diffusion @0.25m/s		2.03	2.44	2.84	3.25	3.66	4.47	4.88	5.69
Radius of diffusion @0.5m/s		1.52	1.83	2.13	2.44	2.74	3.35	3.66	4.27
Drop @ 0.17m/s		1.55	2.19	3.10	4.00	5.45	6.15	7.00	8.40

<b>Face Dia 914</b>	Q (cmh)	951.44	1189.30	1427.16	1665.02	1902.88	2140.74	2378.60	2854.32
<b>Neck Dia 403</b>	SP(pa)	4.50	7.00	10.00	13.50	17.50	22.00	27.50	40.00
	NC (dBA)		14.00	19.00	25.00	29.00	32.00	36.00	41.00
Radius of diffusion @0.25m/s		2.03	2.84	3.25	3.66	4.47	4.88	5.69	6.50
Radius of diffusion @0.5m/s		1.52	2.13	2.44	2.74	3.35	3.66	4.27	4.88
Drop @ 0.17m/s		1.55	2.19	3.15	4.05	5.60	6.45	7.40	9.00

<b>Face Dia 1028</b>	Q (cmh)	1206.29	1503.62	1800.94	2106.76	2412.58	2701.41	3007.23	3601.88
<b>Neck Dia 454</b>	SP(pa)	4.50	7.00	10.00	13.50	17.50	22.00	27.50	40.00
	NC (dBA)		15.00	20.00	25.00	30.00	33.00	36.00	42.00
Radius of diffusion @0.25m/s		2.44	3.25	3.66	4.47	4.88	5.69	6.10	7.32
Radius of diffusion @0.5m/s		1.83	2.44	2.74	3.35	3.66	4.27	4.57	5.49
Drop @ 0.17m/s		1.60	2.20	3.20	4.10	5.72	6.75	7.80	9.60

<b>Face Dia 1143</b>	Q (cmh)	1486.63	1868.90	2225.69	2599.47	2973.25	3347.03	3720.81	4434.39
<b>Neck Dia 504</b>	SP(pa)	4.50	7.00	10.00	13.50	17.50	22.00	27.50	40.00
	NC (dBA)		15.00	21.00	26.00	30.00	34.00	37.00	43.00
Radius of diffusion @0.25m/s		2.84	3.66	4.06	4.88	5.69	6.10	6.91	7.72
Radius of diffusion @0.5m/s		2.13	2.74	3.05	3.66	4.27	4.57	5.18	5.79
Drop @ 0.17m/s		1.70	2.22	3.25	4.15	5.85	7.05	8.20	10.20

<b>Face Dia 1143</b>	Q (cmh)	2140.74	2667.43	3194.12	3737.80	4264.49	4808.17	5334.86	6405.23
<b>Neck Dia 606</b>	SP(pa)	4.50	7.00	10.00	13.50	17.50	22.00	27.50	40.00
	NC (dBA)		16.00	22.00	27.00	31.00	35.00	38.00	44.00
Radius of diffusion @0.25m/s		3.25	4.06	4.88	5.69	6.50	7.32	8.13	9.75
Radius of diffusion @0.5m/s		2.44	3.05	3.66	4.27	4.88	5.49	6.10	7.32
Drop @ 0.17m/s		1.80	2.25	3.30	4.20	6.00	7.20	8.70	10.80

### Notes

Units are tested in accordance to Air Diffusion Council ADC Code 1062: GRD-84 and ASHRAE 70-72 .

Throw in meters with cone in down position for full horizontal distribution; cooling temperature differential of 20 deg F and at a terminal velocity of 0.5m/s & 0.25m/s for spread and 0.17m/s for vertical drop .

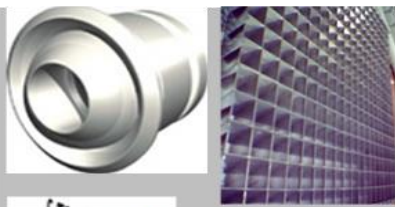
For full vertical down projection values with cones in up position, take radial value multiply 0.8. Simultaneously, radial values shall be reduced by a factor of 0.733

Throw correction factor for exposed duct installation is X 0.766 .

NC values based on room absorption of 10dB re10 to power 12 watts as per ISO 3741 comparison method.

For return applications, add 4 to NC and multiply 0.8 for neg static pressure.

Damper throttling NC correction factors ; at 80% add 4dB, at 68% add 8dB, at 50% add 16dB



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