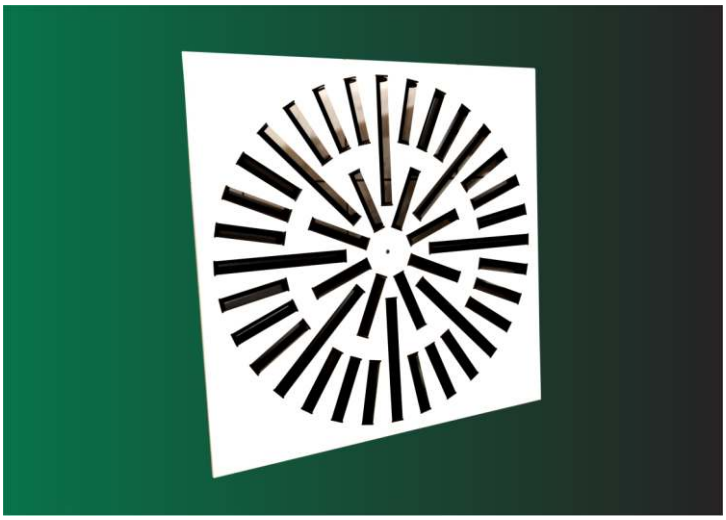
SFC

Industrial diffuser

Application:

- Swirl diffusers are used as supply or exhaust air diffusers in HVAC systems.
- Swirl diffusers have adjustable blades.
- You can install all types of ceiling system.



Type:

- **RBN** - square front face with adjustable blades
- **RBN-F** - square front face with fix blades for exhaust

Fixing:

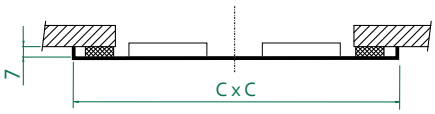
- Fixed by central srew with plastic cap

Material:

- Front plate is made of steel powder coated RAL 9010 or other RAL colors upon request
- The baffles are made of plastic in black colour
- Plenum box is made of galvanised steel

Option:

- The baffles are made of plastic in white colour



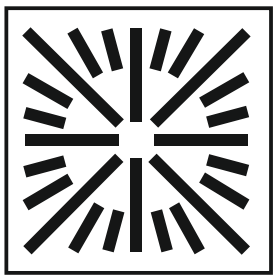
Type	C x C [mm]	RBN-P1	RBN-P2	RBN-R1	RBN-R2	RBN-RK
		slot surface [m²]				
200	300	0,012	-	0,013	-	0,013
250	350	0,018	-	0,027	0,030	0,027
300	400	0,024	0,029	0,035	0,036	0,035
400	500	0,040	0,053	0,058	0,058	0,058
500	595	0,062	0,077	0,105	0,085	0,105

*uppon request other front plate is possible

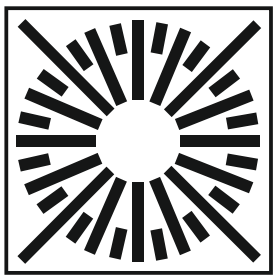
RBN-P1

RBN-P2

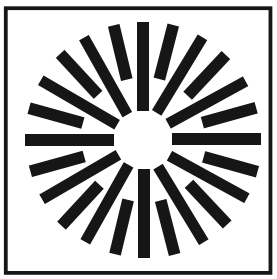
RBN-R1



RBN-R2

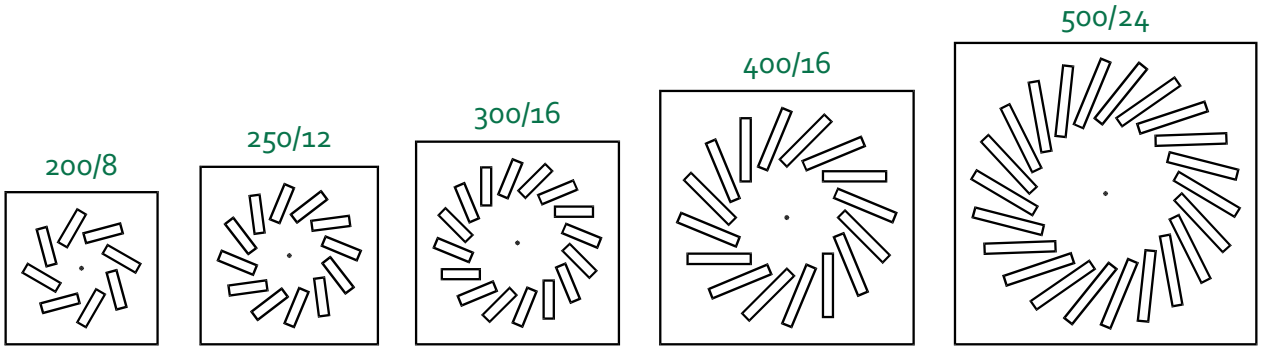


RBN-RK



Dimensions of square front face type RBN

QUICK SELECTION



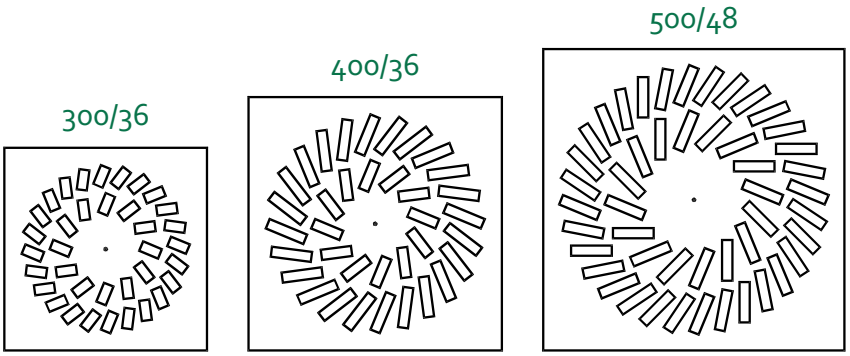
Variations of swirl diffuser type RBN-P1

	Type		200	250	300	400	500
v_a = 1 [m/sec]	Q	[m³/h]	225	324	441	729	1089
	Δp	[Pa]	18	17	17	17	14
	L_{WA}	[dBA]	40,5	39,9	40,4	40,5	38,5
	$L_{0,3}$	[m]	1,1	1,9	2,0	2,2	23
v_a = 1,5 [m/sec]	Q	[m³/h]	338	486	662	1094	1634
	Δp	[Pa]	38	35	37	36	29
	L_{WA}	[dBA]	48,4	47,8	48,3	48,4	46,4
	$L_{0,3}$	[m]	1,3	2,5	2,7	3,3	3,8
v_a = 2 [m/sec]	Q	[m³/h]	450	648	882	1458	2179
	Δp	[Pa]	66	61	63	62	50
	L_{WA}	[dBA]	54,0	53,4	53,9	54,0	52,0
	$L_{0,3}$	[m]	1,5	3,1	3,6	4,8	6,2
v_a = 2,5 [m/sec]	Q	[m³/h]	563	810	1103	1823	2723
	Δp	[Pa]	100	92	96	94	76
	L_{WA}	[dBA]	58,4	57,8	58,3	58,4	56,3
	$L_{0,3}$	[m]	1,7	3,9	4,6	6,9	10,2
v_a = 3 [m/sec]	Q	[m³/h]	675	972	1323	2187	3267
	Δp	[Pa]	140	130	135	133	107
	L_{WA}	[dBA]	61,9	61,3	61,8	61,9	59,9
	$L_{0,3}$	[m]	1,9	2,0	2,3	3,1	4,1

In the tables, data is calculated according to grilles frame size average speed between v_a=1 and v_a=3 (m/sec).
The data is ρ=1,2 (kg/m³) density and paralel (open) lamellas as well as in the case of isothermal blowing valid assumption.
The ventilation calculation is possible according to the above table. The intermediate values are estimated by interpolation.

Selection of swirl diffuser type RBN-P1

QUICK SELECTION



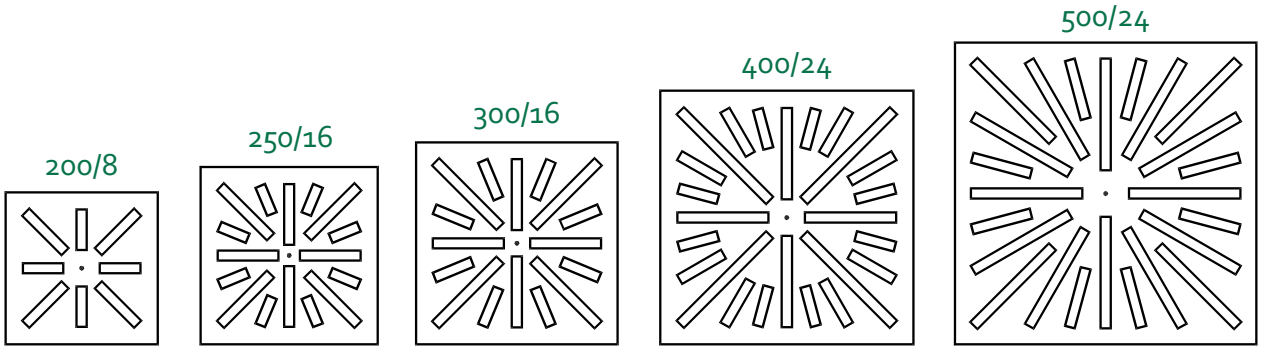
Variations of swirl diffuser type RBN-P2

	Type		300	400	500
v_a = 1 [m/sec]	Q	[m³/h]	441	729	1089
	Δp	[Pa]	12	10	11
	L_{WA}	[dBA]	36,9	35,2	35,9
	$L_{0,3}$	[m]	1,8	1,9	2,1
v_a = 1,5 [m/sec]	Q	[m³/h]	662	1094	1634
	Δp	[Pa]	26	22	23
	L_{WA}	[dBA]	44,8	43,1	43,8
	$L_{0,3}$	[m]	2,4	2,7	3,4
v_a = 2 [m/sec]	Q	[m³/h]	882	1458	2179
	Δp	[Pa]	45	37	39
	L_{WA}	[dBA]	50,5	48,7	49,4
	$L_{0,3}$	[m]	3,2	3,9	5,5
v_a = 2,5 [m/sec]	Q	[m³/h]	1103	1823	2723
	Δp	[Pa]	68	56	59
	L_{WA}	[dBA]	54,8	53,1	53,7
	$L_{0,3}$	[m]	4,1	5,5	8,9
v_a = 3 [m/sec]	Q	[m³/h]	1323	2187	3267
	Δp	[Pa]	96	79	83
	L_{WA}	[dBA]	58,4	56,6	57,3
	$L_{0,3}$	[m]	2,1	2,6	3,7

In the tables, data is calculated according to grilles frame size average speed between v_a=1 and v_a=3 (m/sec).
The data is ρ=1,2 (kg/m³) density and paralel (open) lamellas as well as in the case of isothermal blowing valid assumption.
The ventilation calculation is possible according to the above table. The intermediate values are estimated by interpolation.

Selection of swirl diffuser type RBN-P2

QUICK SELECTION



Variations of swirl diffuser type RBN-R1

	Type		200	250	300	400	500
v_a = 1 [m/sec]	Q	[m³/h]	225	324	441	729	1089
	Δp	[Pa]	31	17	19	19	21
	L_{WA}	[dBA]	44,7	37,6	39,4	39,7	41,0
	$L_{0,3}$	[m]	2,5	2,2	2,3	2,5	2,7
v_a = 1,5 [m/sec]	Q	[m³/h]	338	486	662	1094	1634
	Δp	[Pa]	67	36	42	42	46
	L_{WA}	[dBA]	53,8	46,7	48,5	48,8	50,2
	$L_{0,3}$	[m]	3,2	1,9	2,1	2,4	3,0
v_a = 2 [m/sec]	Q	[m³/h]	450	648	882	1458	2179
	Δp	[Pa]	115	62	71	72	80
	L_{WA}	[dBA]	60,3	53,2	55,0	55,3	56,6
	$L_{0,3}$	[m]	3,8	2,3	2,7	3,4	4,8
v_a = 2,5 [m/sec]	Q	[m³/h]	563	810	1103	1823	2723
	Δp	[Pa]	176	95	109	110	121
	L_{WA}	[dBA]	65,3	58,2	60,0	60,3	61,7
	$L_{0,3}$	[m]	4,5	2,8	3,4	4,7	7,6
v_a = 3 [m/sec]	Q	[m³/h]	675	972	1323	2187	3267
	Δp	[Pa]	248	133	154	155	171
	L_{WA}	[dBA]	69,4	62,3	64,1	64,4	65,8
	$L_{0,3}$	[m]	5,2	4,9	5,9	8,4	13,7

In the tables, data is calculated according to grilles frame size average speed between v_a=1 and v_a=3 (m/sec).
The data is ρ=1,2 (kg/m³) density and paralel (open) lamellas as well as in the case of isothermal blowing valid assumption.
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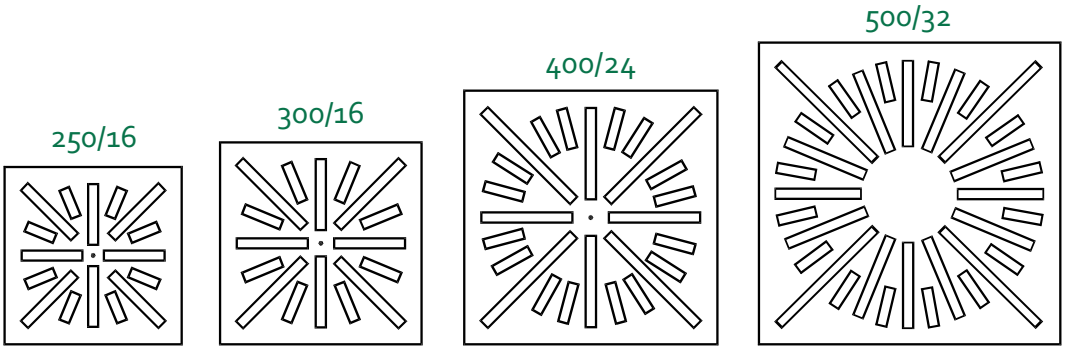
Selection of swirl diffuser type RBN-R1

QUICK SELECTION



Variations of swirl diffuser type RBN-R2

	Type		250	300	400	500
v_a = 1 [m/sec]	Q	[m³/h]	324	441	729	1089
	Δp	[Pa]	18	21	23	24
	L_{WA}	[dBA]	38,2	40,3	41,4	42,2
	$L_{0,3}$	[m]	2,2	2,4	2,6	2,8
v_a = 1,5 [m/sec]	Q	[m³/h]	486	693	1094	1634
	Δp	[Pa]	38	45	49	51
	L_{WA}	[dBA]	47,3	49,5	50,6	51,4
	$L_{0,3}$	[m]	1,9	2,1	2,5	3,2
v_a = 2 [m/sec]	Q	[m³/h]	648	882	1458	2178
	Δp	[Pa]	65	77	84	88
	L_{WA}	[dBA]	53,8	55,9	57,1	57,9
	$L_{0,3}$	[m]	2,4	2,7	3,6	5,0
v_a = 2,5 [m/sec]	Q	[m³/h]	810	1109	1823	2723
	Δp	[Pa]	99	118	127	134
	L_{WA}	[dBA]	58,8	61,0	62,1	62,9
	$L_{0,3}$	[m]	2,9	3,5	5,0	8,0
v_a = 3 [m/sec]	Q	[m³/h]	972	1323	2178	3267
	Δp	[Pa]	140	167	180	190
	L_{WA}	[dBA]	62,9	65,1	66,2	67,0
	$L_{0,3}$	[m]	5,0	6,1	9,0	14,5

In the tables, data is calculated according to grilles frame size average speed between v_a=1 and v_a=3 (m/sec).
The data is ρ=1,2 (kg/m³) density and paralel (open) lamellas as well as in the case of isothermal blowing valid assumption.
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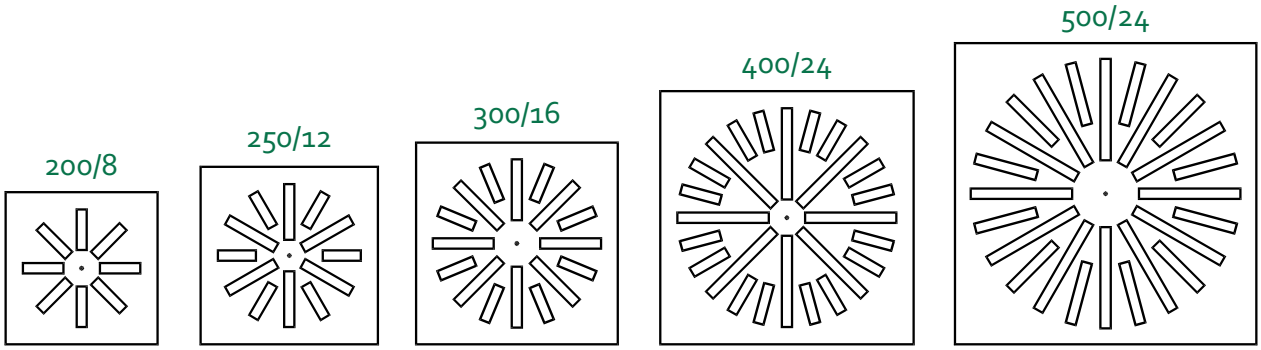
Selection of swirl diffuser type RBN-R2

QUICK SELECTION



Variations of swirl diffuser type RBN-RK

	Type		200	250	300	400	500
v_a = 1 [m/sec]	Q	[m³/h]	225	324	441	729	1089
	Δp	[Pa]	43	18	29	26	28
	L_{WA}	[dBA]	48,5	38,2	44,0	43,0	44,1
	$L_{0,3}$	[m]	2,7	2,2	2,6	2,7	3,0
v_a = 1,5 [m/sec]	Q	[m³/h]	338	486	662	1094	1634
	Δp	[Pa]	93	38	61	56	60
	L_{WA}	[dBA]	57,6	47,3	53,1	52,1	53,2
	$L_{0,3}$	[m]	3,5	1,9	2,3	2,7	3,4
v_a = 2 [m/sec]	Q	[m³/h]	450	648	882	1458	2179
	Δp	[Pa]	160	65	106	96	103
	L_{WA}	[dBA]	64,1	53,8	59,6	58,6	59,7
	$L_{0,3}$	[m]	4,2	2,4	3,0	3,8	5,4
v_a = 2,5 [m/sec]	Q	[m³/h]	563	810	1103	1823	2723
	Δp	[Pa]	243	99	161	146	157
	L_{WA}	[dBA]	69,1	58,8	64,6	63,6	64,7
	$L_{0,3}$	[m]	5,0	2,9	3,9	5,4	8,7
v_a = 3 [m/sec]	Q	[m³/h]	675	972	1323	2187	3267
	Δp	[Pa]	343	140	227	206	222
	L_{WA}	[dBA]	73,2	62,9	68,7	67,8	68,8
	$L_{0,3}$	[m]	5,8	5,0	6,8	9,5	10,7

In the tables, data is calculated according to grilles frame size average speed between v_a=1 and v_a=3 (m/sec).
The data is ρ=1,2 (kg/m³) density and paralel (open) lamellas as well as in the case of isothermal blowing valid assumption.
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Selection of swirl diffuser type RBN-RK