

Air through perfection

Circular swirl diffuser

VSR



ACP
Swirl diffusers

Circular swirl diffuser VSR



Description

VSR is a swirl air diffuser with radially adjustable blades.

The diffuser is recommended for installations with constant or variable air flow and is intended for spaces with heights up to 16 m.

It is used for air supply.

Technical specifications

Characteristics

The blades design, their radial arrangement and the swirl action determine a high level of induction rate.

The diffuser is equipped with a perforated plate positioned on the diffuser connection.

VSR is available in 2 configurations:

- VSR - manual operation

The blades position can be modified manually through the long rod ($\varnothing 7$ mm) located on the side of the diffuser's body.

Blades can be fixed in the wanted position by removing the protective cover of the blades system and easy screwing the nut until the blades are blocked. Excessive tightening is not necessary as there is a risk of damaging the adjustment system.

- VSR-T - thermal operation (thermal element).

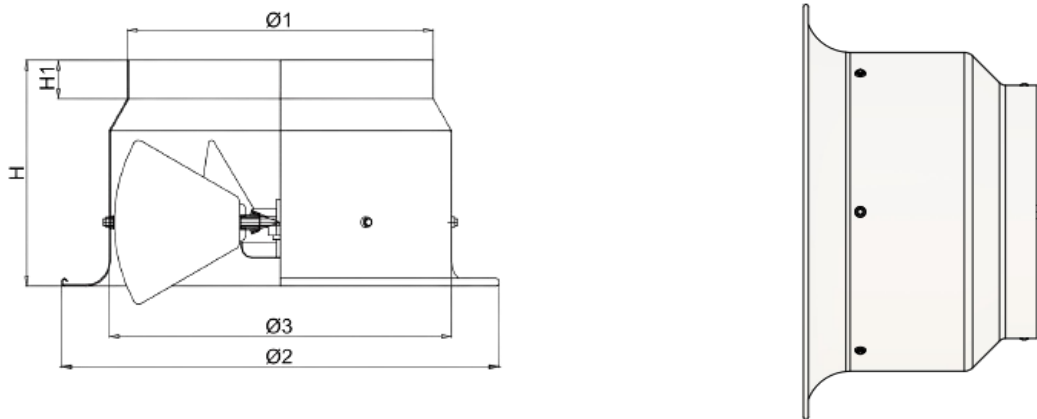
Dimensional range: $\varnothing 250$, $\varnothing 315$, $\varnothing 400$, $\varnothing 500$, $\varnothing 630$.

Materials

The main bell of the diffuser is made of aluminum and blades are made of galvanized steel.

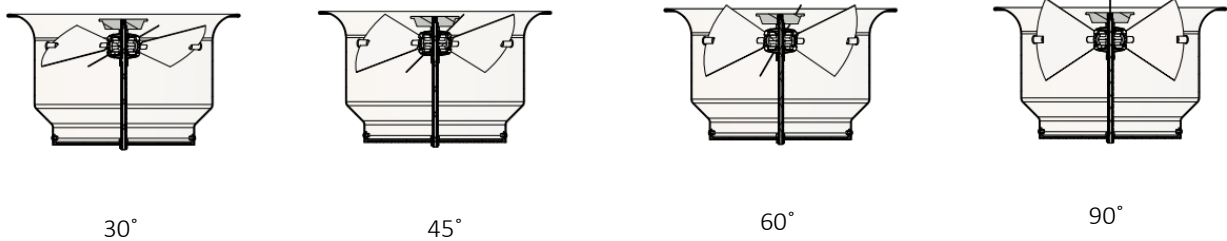
The diffuser is painted in electrostatic field in glossy white RAL9016.

Technical drawing



Model	Ø1	Ø2	Ø3	H	H ₁
	[mm]	[mm]	[mm]	[mm]	[mm]
250	248	393	283	200	40
315	313	458	348	230	40
400	398	563	437	260	60
500	498	683	540	280	60
630	628	803	675	325	70

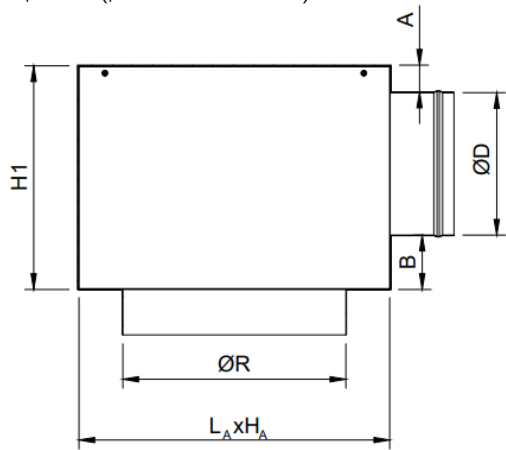
Positioning the blades



Accessories

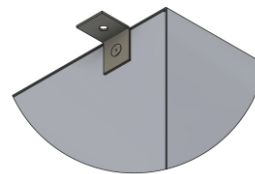
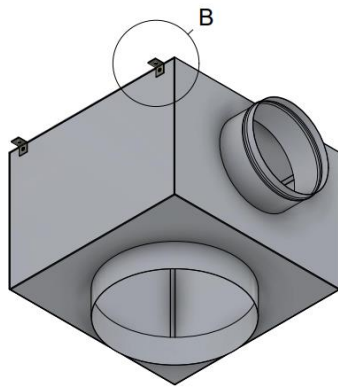
The diffuser can be delivered with a connecting plenum to the circular duct, with horizontal connection.
 The plenum is provided with suspension elements (lugs) and bead roll on the spigot, for easy fixing of the flexible duct.
 The plenum is delivered insulated or uninsulated.

Adapter (plenum box)



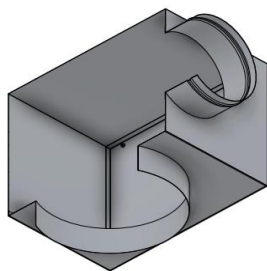
$L_A \times H_A$ – depending on $\varnothing R$
 A, B, H1 – depending on request and $\varnothing D$
 $\varnothing R$ – connection diameter VSR + 4 mm

The adapter is made of galvanized steel sheet Z140 and is equipped with 4 lugs for suspension.

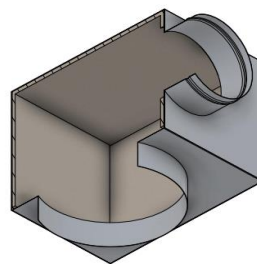


B - Suspension lug

On request, the plenum can be insulated inside with 6 mm thick elastomeric rubber.



AN - Uninsulated adapter



AIZ - Insulated adapter

Functional parameters

Blades on 45° - heating

ØD250											
Ak [m ²]	Air flow [m ³ /h]	174	348	522	696	869	1043	1217	1391	1565	1739
0.04831	NR[dB(A)]	32	34	37	40	43	46	49	52	54	57
	X[m] (Vt = 0.25m/s)	1.3	2.7	4	5.3	6.6	8	9.3	10.6	12	13.3
	ΔPt[Pa]	3	11.8	26.6	47.3	73.9	106.5	144.9	189.3	239.6	295.8

ØD315											
Ak [m ²]	Air flow [m ³ /h]	277	554	831	1108	1385	1662	1939	2216	2493	2770
0.07694	NR[dB(A)]	30	34	38	42	46	49	53	57	61	65
	X[m] (Vt = 0.25m/s)	1.3	2.6	3.9	5.2	6.5	7.8	9.1	10.4	11.7	13
	ΔPt[Pa]	4.5	18	40.6	72.1	112.7	162.3	220.9	288.6	365.2	450.9

ØD400											
Ak [m ²]	Air flow [m ³ /h]	448	896	1344	1792	2239	2687	3135	3583	4031	4479
0.12441	NR[dB(A)]	29	34	39	45	50	55	60	66	71	76
	X[m] (Vt = 0.25m/s)	1.4	2.7	4.1	5.5	6.8	8.2	9.6	11	12.3	13.7
	ΔPt[Pa]	4.6	18.4	41.3	73.4	114.8	165.2	224.9	293.8	371.8	459

ØD500											
Ak [m ²]	Air flow [m ³ /h]	701	1402	2104	2805	3506	4207	4909	5610	6311	7012
0.19478	NR[dB(A)]	26	31	36	41	46	51	56	61	66	71
	X[m] (Vt = 0.25m/s)	1.4	2.9	4.3	5.7	7.2	8.6	10	11.5	12.9	14.4
	ΔPt[Pa]	4.4	17.8	40	71.1	111.2	160.1	217.9	284.5	360.1	444.6

ØD630											
Ak [m ²]	Air flow [m ³ /h]	1115	2230	3345	4460	5575	6691	7806	8921	10036	11151
0.30975	NR[dB(A)]	29	33	37	41	45	48	52	56	60	64
	X[m] (Vt = 0.25m/s)	1.6	3.1	4.7	6.2	7.8	9.3	10.9	12.4	14	15.5
	ΔPt[Pa]	3.8	15.1	34	60.4	94.3	135.8	184.9	241.4	305.6	377.2

Blades on 67.5° - cooling

ØD250											
Ak [m ²]	Debit [m ³ /h]	174	348	522	696	869	1043	1217	1391	1565	1739
0.04831	NR[dB(A)]	32	35	38	41	44	47	50	53	56	59
	X[m] (Vt = 0.25m/s)	0.3	0.7	1	1.3	1.7	2	2.3	2.7	3	3.3
	ΔPt[Pa]	4.5	18.2	40.9	72.6	113.5	163.4	222.5	290.6	367.7	454

ØD315											
Ak [m ²]	Debit [m ³ /h]	277	554	831	1108	1385	1662	1939	2216	2493	2770
0.07694	NR[dB(A)]	30	34	38	43	47	52	56	61	65	69
	X[m] (Vt = 0.25m/s)	0.3	0.6	1	1.3	1.6	1.9	2.3	2.6	2.9	3.2
	ΔPt[Pa]	7.5	29.8	67.1	119.3	186.4	268.5	365.4	477.3	604.1	745.7

ØD400											
Ak [m ²]	Debit [m ³ /h]	448	896	1344	1792	2239	2687	3135	3583	4031	4479
0.12441	NR[dB(A)]	29	35	41	46	52	58	64	69	75	81
	X[m] (Vt = 0.25m/s)	0.3	0.7	1	1.4	1.7	2.1	2.4	2.7	3.1	3.4
	ΔPt[Pa]	8.1	32.3	72.7	129.2	201.9	290.8	395.8	516.9	654.2	807.7

ØD500											
Ak [m ²]	Debit [m ³ /h]	701	1402	2104	2805	3506	4207	4909	5610	6311	7012
0.19478	NR[dB(A)]	27	32	37	43	48	53	58	64	69	74
	X[m] (Vt = 0.25m/s)	0.4	0.7	1.1	1.4	1.8	2.2	2.5	2.9	3.2	3.6
	ΔPt[Pa]	8.4	33.7	75.8	134.8	210.7	303.4	412.9	539.3	682.6	842.7

ØD630											
Ak [m ²]	Debit [m ³ /h]	1115	2230	3345	4460	5575	6691	7806	8921	10036	11151
0.30975	NR[dB(A)]	30	35	39	44	48	53	57	62	66	71
	X[m] (Vt = 0.25m/s)	0.4	0.8	1.2	1.6	1.9	2.3	2.7	3.1	3.5	3.9
	ΔPt[Pa]	7.7	30.9	69.5	123.5	192.9	277.8	378.1	493.9	625.1	771.7

The legend

Ak [m²] - The free surface

X [m] - The length of the air jet

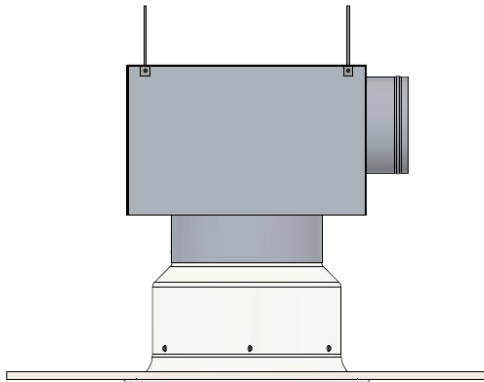
NR [dB (A)] - Noise level without room attenuation

ΔPt [Pa] - Pressure loss

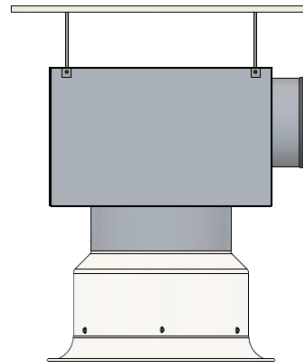
Installation

The diffuser is mounted in a continuous ceiling or suspended. Fastening is done with screws.

Installation in continuous ceiling



Suspended in the ceiling



Order code

Example on how to place an order

	Type	Dimensions	Accessories	Finish
VSR				
VSR-T				
$\varnothing 250 \dots \varnothing 630$ mm				
AIZ - Insulated adapter				
AN - Uninsulated adapter				
RAL 9016				