

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 between 4 and 10m.

It is used for introduction of air.

### Technical specifications

#### Characteristics

The design of the blades, 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 3 configurations:

- VSR - manual operation

- VSR-S - electric operation via servomotor

- VSR-T - thermal operation (thermal element)

The VSR-S is equipped with a Belimo servomotor. The servomotor is selected according to the diffuser size, supply voltage, safety function and other technical specifications mentioned in the project.

Dimensional range: Ø250, Ø315, Ø400, Ø500, Ø630.

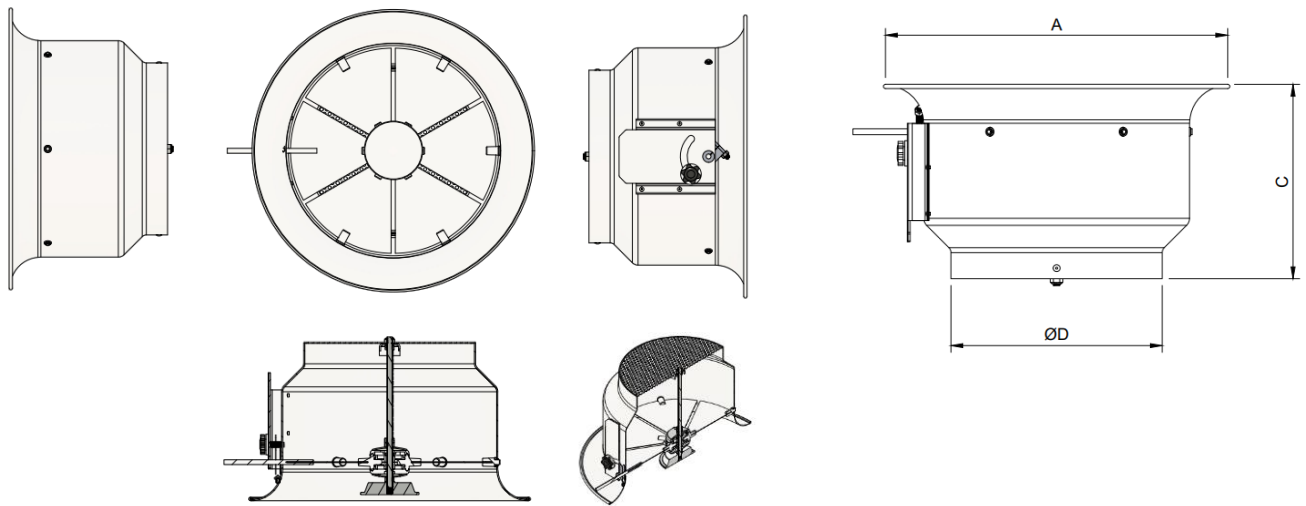
## Materials

The diffuser is made of steel electrostatic field painted in glossy white RAL9016.

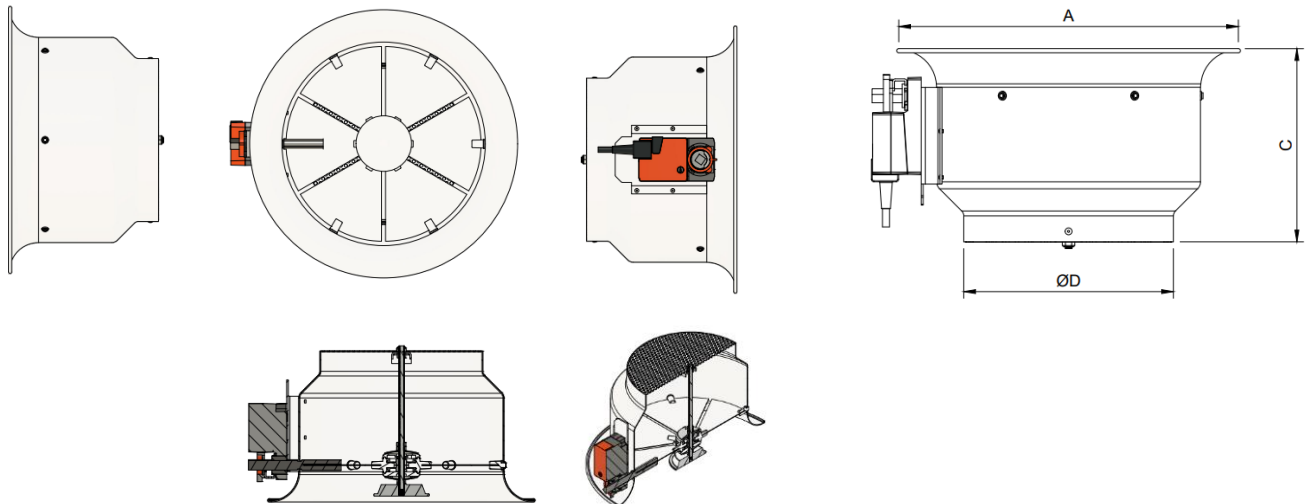
Other RAL colours are available on request.

## Technical drawing

### VSR

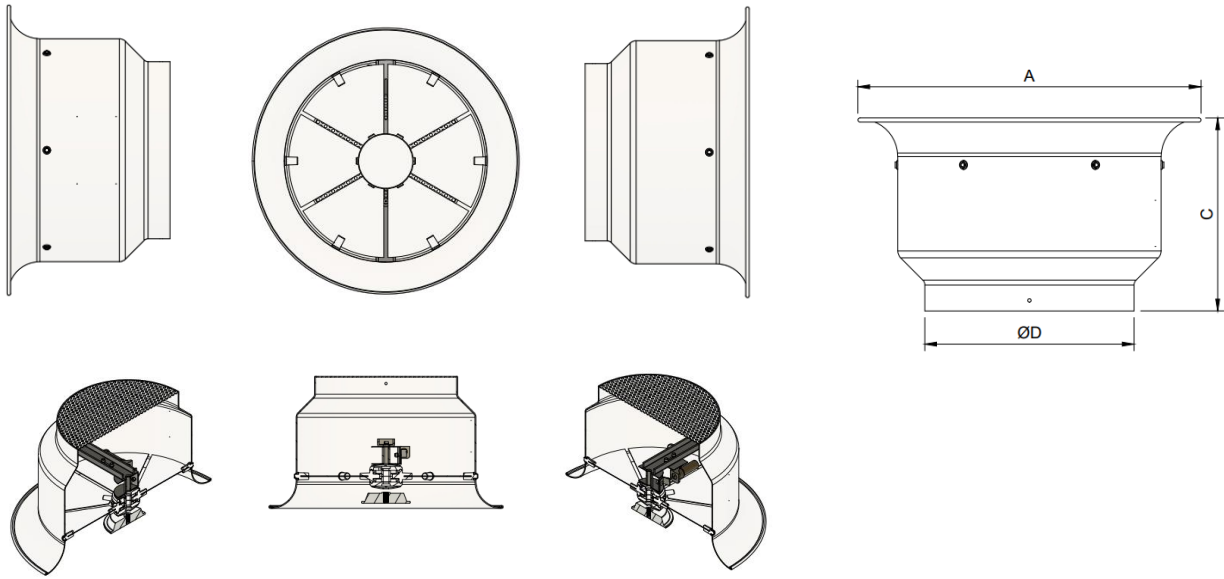


### VSR-S

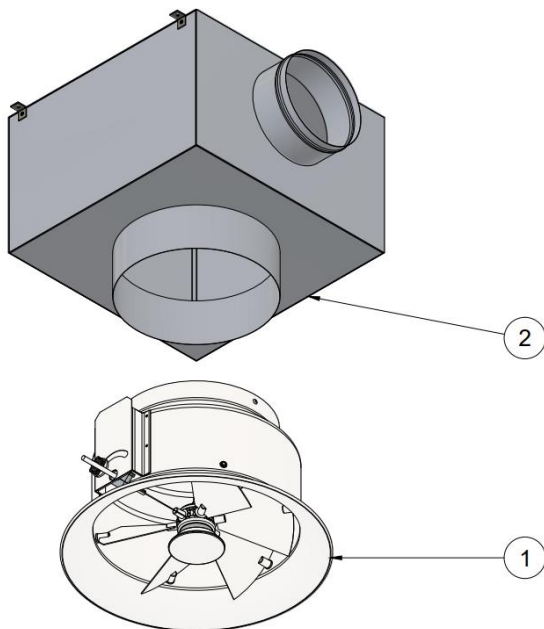


	ØD	ØA	C
<b>250</b>	248	417	230
<b>315</b>	313	491	250
<b>400</b>	398	615	265
<b>500</b>	498	796	320
<b>630</b>	628	935	370

## VSR-T

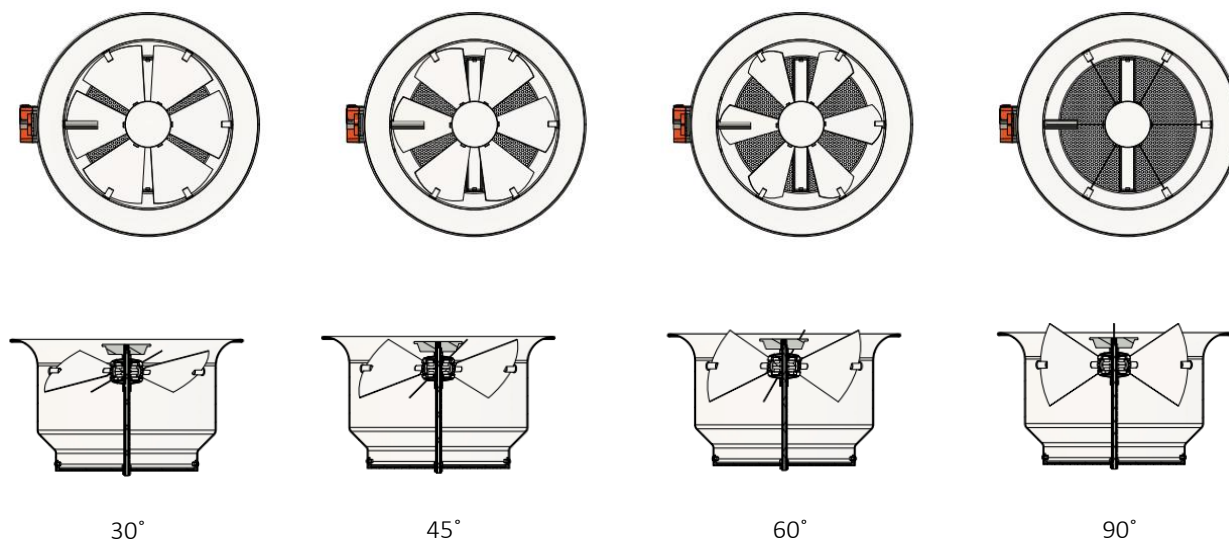


## Product specifications



- 1- VSR diffuser
- 2- Plenum box (optional)

## Positioning the blades



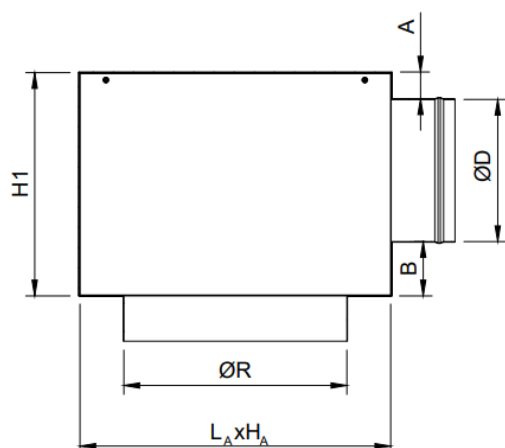
## Accessories

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.

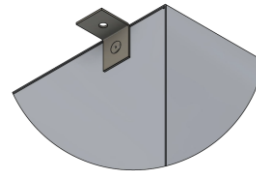
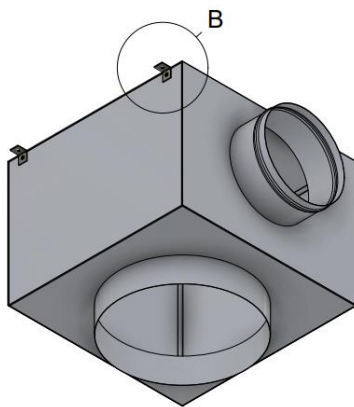
The plenum is delivered insulated or uninsulated.

## Adapter (plenum box)



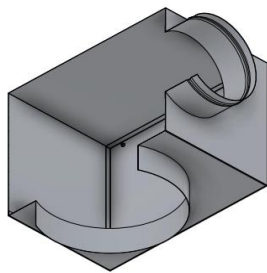
$L_A \times H_A$  – depending on  $\varnothing R$   
 $A, B, H1$  – depending on request and  $\varnothing D$   
 $\varnothing R$  – connection diameter VSR + 3 mm

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

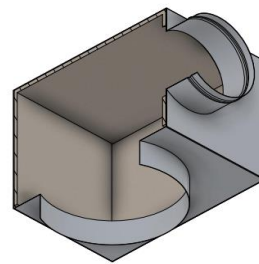


B - Suspension lug

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



AN - Uninsulated adapter



AIZ - Insulated adapter

## Functional parameters

Ø D250								
Ak [m²]	Air flow [m³/h]	250	300	350	400	500	600	700
0.05	Veff [m/s]	1.4	1.7	1.9	2.2	2.8	3.3	3.9
	NR [dB(A)]	<20	<20	22.0	26.0	33.0	38.0	44.0
	X [m]	1.2	1.5	1.6	1.8	2.8	3.6	4.6
	ΔPt [Pa]	10.0	15.0	20.0	28.0	45.0	70.0	91.0

Ø D315								
Ak [m²]	Air flow [m³/h]	500	600	700	800	900	1000	1100
0.078	Veff [m/s]	1.8	2.1	2.5	2.8	3.2	3.6	3.9
	NR [dB(A)]	<20	24.0	27.0	33.0	38.0	43.0	46.0
	X [m]	1.6	2.0	2.6	3.0	3.8	4.2	5.0
	ΔPt [Pa]	17.0	23.0	31.0	41.0	51.0	69.0	77.0

Ø D400								
Ak [m²]	Air flow [m³/h]	900	1000	1100	1200	1400	1500	1600
0.125	Veff [m/s]	2.0	2.2	2.4	2.7	3.1	3.3	3.6
	NR [dB(A)]	<20	23.0	26.0	28.0	32.0	35.0	38.0
	X [m]	1.8	2.1	2.5	3.0	3.8	4.0	4.5
	ΔPt [Pa]	13.0	17.0	21.0	25.0	33.0	38.0	44.0

Ø D500								
Ak [m²]	Air flow [m³/h]	1200	1400	1600	1800	2000	2250	2500
0.195	Veff [m/s]	1.7	2.0	2.3	2.6	2.8	3.2	3.6
	NR [dB(A)]	30.0	33.0	36.0	38.0	41.5	44.0	47.0
	X [m]	1.8	2.5	3.0	3.5	4.0	4.5	5.2
	ΔPt [Pa]	17.0	22.0	28.0	35.0	42.0	51.0	70.0

Ø D630								
Ak [m²]	Air flow [m³/h]	2100	2500	3000	3500	4000	4500	5000
0.31	Veff [m/s]	1.9	2.2	2.7	3.1	3.6	4.0	4.5
	NR [dB(A)]	25.0	28.0	35.0	40.0	44.0	47.0	50.0
	X [m]	3.5	3.8	4.8	5.0	5.5	6.0	7.0
	ΔPt [Pa]	18.0	31.0	38.0	53.0	72.0	86.0	110.0

Note: The values in the table are given for blades tilted at 45 ° and for a temperature difference of 5 degrees.

The legend

Ak [m²] - The free surface

X [m] - The length of the air jet

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

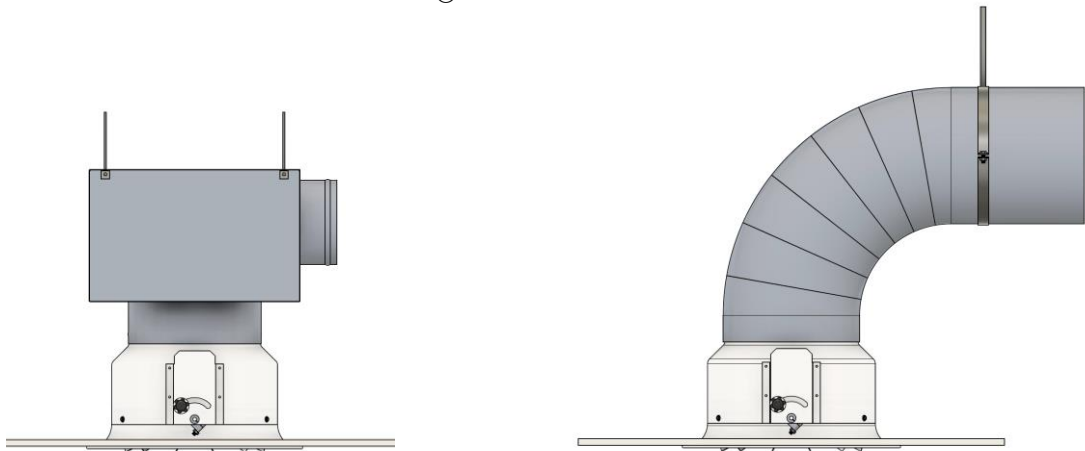
ΔPt [Pa] - Pressure loss

Veff [m/s] - The effective air velocity

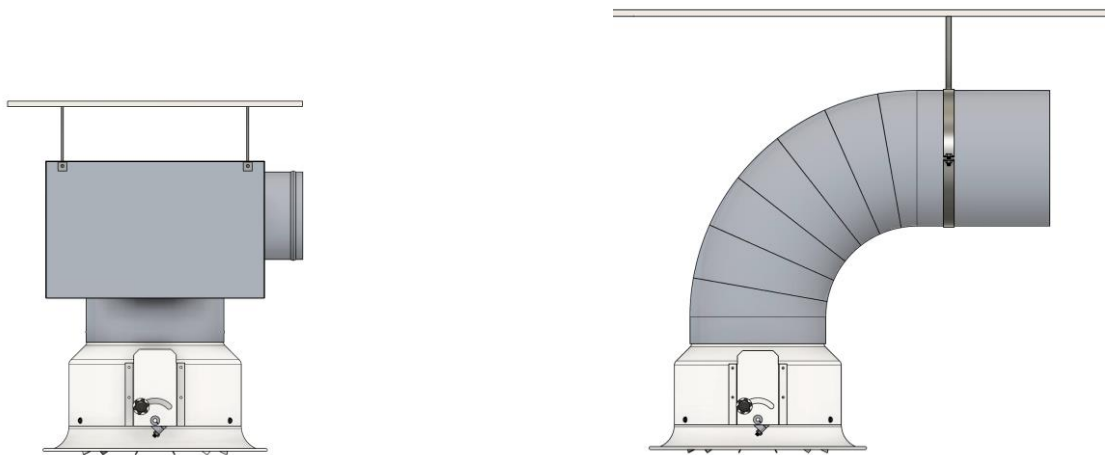
Installation

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 - manual				
VSR-S - servomotor				
VSR-T - thermal				
Ø250 ... Ø630 mm				
AIZ - Insulated adapter				
AN - Uninsulated adapter				
RAL 9016				
RAL.. - Other RAL colors on request				