

NSDZ

SWIRL DIFFUSER WITH MOVABLE VANES



Characteristics:

Circular swirl diffuser with movable vanes controlled by an electric actuator or manually.

Intended Use

NSDZ diffusers are designed for low and medium pressure ventilation systems. They make it possible to achieve the swirl airflow. They are particularly recommended for rooms from 3 to 12 meters high, where heating and cooling are being provided by a ventilation system, or where the precise settings of the supply airflow final velocity in a zone occupied by people is a crucial parameter.

Design

NSDZ diffusers are equipped with a set of vanes, adjusted manually or by means of an actuator. The diffuser body is made of steel. The device is entirely powder-coated with RAL9010 white paint. On request, other RAL colour is available.

Diffuser versions

Manual regulation R – the diffuser is adjusted by setting the assembly of integrated vanes by means of a lever located on the outer side of the diffuser body.

Regulation by means of an actuator S – depending on the selected electric actuator manufactured by Belimo, either stepless regulation (any angle configuration of vanes within the operating range of the diffuser) or open/close type regulation (setting boundary angles for heating and cooling by means of a mechanical lock) is possible.

Vanes adjustment

For warm air supply (heating) it is recommended to set the diffuser vanes at a maximum angle of 75 degrees. In case of cold air supply (cooling) it is recommended to set the diffuser vanes at a minimum angle of 20 degrees.

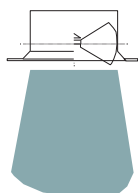


Figure 1. Air supply, heating.

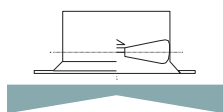


Figure 2. Air supply, cooling.



The technical data of the diffusers, including pressure loss, noise level and stream ranges, is available at smay.eu in the document entitled "Flow Characteristic for Grilles and Diffusers".

Dimensions

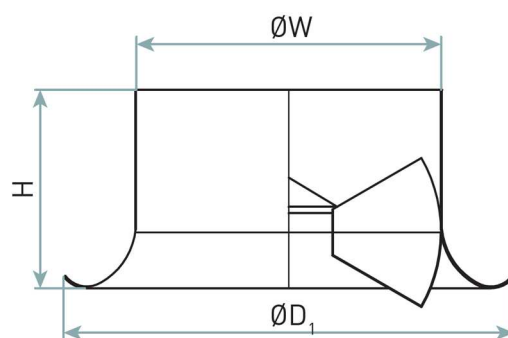


Figure 3. Dimensions of NSDZ diffusers.

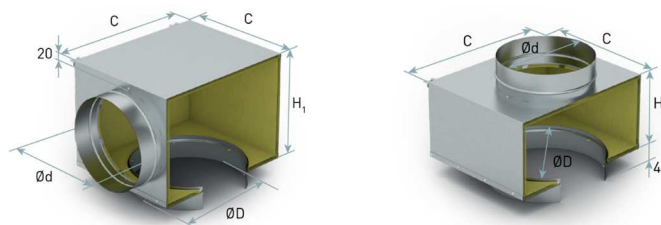


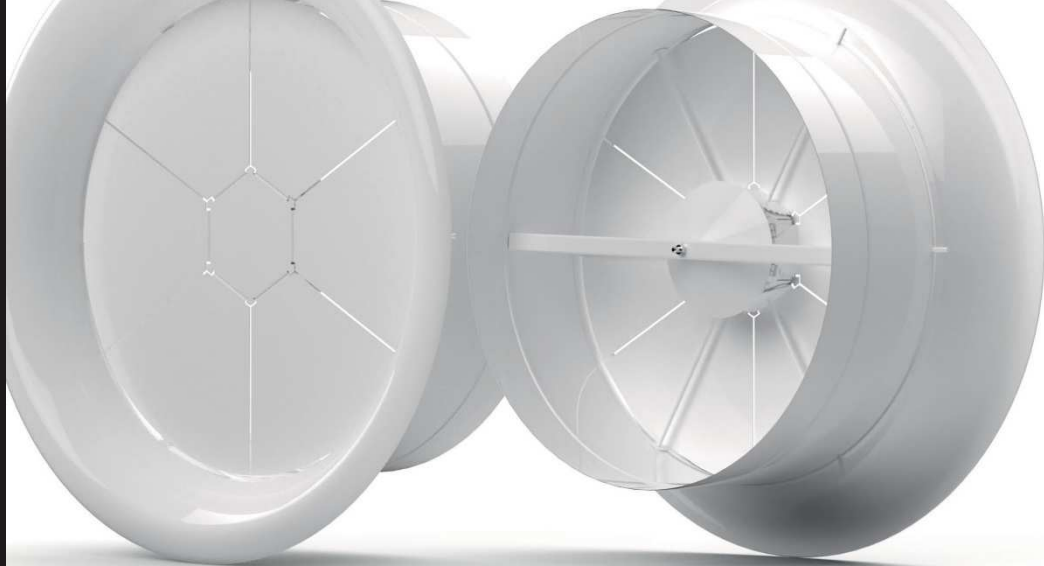
Figure 4. Dimensions of SR rectangular plenum boxes for NSDZ diffusers.

Table 1. Dimensions of NSDZ diffusers.

Size	ØD ₁ [mm]	ØW [mm]	H [mm]	Ød [mm]	C [mm]	ØD [mm]	H ₁ [mm]	H ₂ [mm]
315	465	315	225	248	415	311	300	208
400	580	400	240	313	500	396	365	250
500	680	500	305	313	600	496	365	300
630	880	630	350	398	730	626	450	365

Installation

The diffusers may be mounted to a plenum box or ventilation duct by means of Ø5 screws with no more than 125 mm spacing. If the diffuser is mounted directly to the ventilation duct (without a plenum box), a straight pipe segment of minimum length equal to 1.5*ØP should be placed upstream of the diffuser. On request the diffuser may be equipped with a flange connection – you should specify it in your order.



NSDZ – Swirl diffuser with movable vanes

When ordering, please provide information in accordance with the following pattern:

NSDZ - <W> - <R> - SL<RAL> / <ADD>

Where:

W	diffuser size: 315, 400, 500, 630
R	vanes adjustment mode*
	R - manual regulation
	S - regulation by means of an electric actuator***
SL	finishing: coated steel
RAL	colour according to the RAL Colour Chart*
ADD	specify additional accessories here, as below**

* optional values – if not specified, default values will be used

** for more information see the accessories sheet

*** additionally specify actuator supply voltage, 24 V AC/DC or 230 V AC

Order example:

NSDZ - 315 - S - SL9010 / SRt - 280 - b248P (24V AC/DC)



Blocks for REVIT software,

- Selection programme,
- Certificates,
- available at www.smay.pl.

Accessories:

Plenum box as per the configuration below:

<SR> <I> - <H> - <K> <D> <R>

Where:

I	insulation*
	none - no insulation
	t - insulated
H	plenum box height in mm*
K	connection pipe position *
	b - side
	g - top
D	connection pipe diameter in mm*
R	damper in a connection pipe *
	none - no damper
	P - damper adjusted from outside the box