

# NTDZ

## SWIRL DIFFUSER WITH THERMOSTATIC ACTUATOR



### Description:

Round aluminium swirl diffuser with movable steel vanes regulated by a thermostatic actuator.

### Intended use

The NTDZ diffusers are designed for low and medium pressure ventilation systems. They make it possible to achieve the swirl airflow. They are especially recommended for rooms with a height of 3 to 15 meters, where heating and cooling is carried out by a ventilation system. Thanks to the thermostatic actuator, the NTDZ can automatically (without an external power source or control) change the geometry of the air supply depending on the temperature of the supplied air.

### Design

The NTDZ diffusers have movable steel vanes, set by means of a thermostatic actuator with the operating range from +15°C to +40°C. The diffuser body is made of aluminium. The device is entirely powder-coated with RAL9010 white paint. They can also be coated in another RAL colour on request.

### Operation method:

The NTDZ uses a thermostatic actuator to adjust the vanes, which does not require electrical power. When cool air is supplied through the diffuser, the actuator sets the diffuser vanes to the horizontal air supply. When the air flowing through the diffuser is warm, the vanes are set to vertical supply. The maximum inclination angle of the vanes for the heating and cooling modes can be changed thanks to two limiters in the diffuser body.

### Vane adjustment

For supplying warm air (heating), it is recommended to set the diffuser vanes at an angle of 10 degrees. For supplying cool air (cooling), it is recommended to set the vanes at an angle of 80 degrees.

### Dimensions

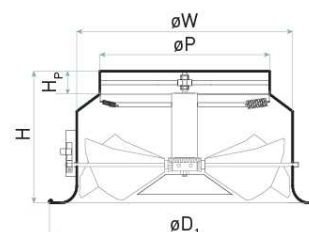


Figure 1. NTDZ diffuser dimensions.

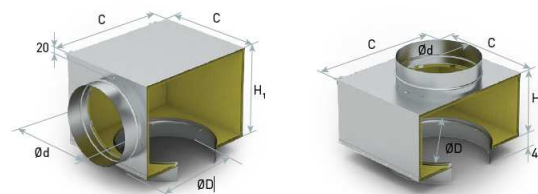


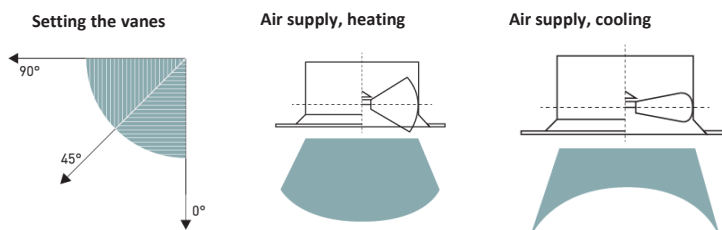
Figure 2. Dimensions of SR rectangular plenum boxes for NTDZ diffusers.

Table 1. Standard dimensions of diffusers and plenum boxes, NTDZ

Size	øD <sub>1</sub> [mm]	øW [mm]	øP [mm]	H [mm]	H <sub>P</sub> [mm]	ød [mm]	C [mm]	øD [mm]	H <sub>1</sub> [mm]	H <sub>2</sub> [mm]
200	350	248	198	180	40	123	300	200	175	150
250	400	298	248	205	40	198	350	250	250	175
315	500	398	313	230	40	248	415	315	300	208
400	615	465	398	270	60	313	500	400	365	250
500	780	565	498	320	60	313	600	500	365	300
630	935	665	628	390	80	398	730	630	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 ventilation duct segment of minimum length equal to 1.5\* øP should be placed upstream of the diffuser.



Technical data of the diffusers, including pressure loss, noise level and airflow ranges, is available at smay.eu, in the document Flow Characteristics for Grilles and Diffusers.



# NTDZ – Swirl diffusers with thermostatic actuator

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

NTDZ - <S> - AL<RAL> / <ADD>

Where:

<b>S</b>	Diffuser size: 200, 250, 315, 400, 500, 630
<b>AL</b>	finish: lacquered aluminium (steel lacquered vanes)
<b>RAL</b>	colour according to the RAL palette (standard RAL9010)*
<b>ADD</b>	Specify additional accessories here, as below**

### Accessories:

Plenum box as per the configuration below:

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

Where:

<b>I</b>	Insulation*
	<b>None</b> – No insulation
	t – Insulated
<b>H</b>	Plenum box height in mm*
<b>K</b>	Position of spigot *
	<b>b</b> – Side
	g – Top

<b>D</b>	Connection pipe diameter in mm*
<b>R</b>	Damper in spigot *
	<b>None</b> – No damper
	P – Damper adjusted from outside the box
	Pc – Damper adjusted from inside the box with a cord
	Pd– damper adjusted from inside the box with a lever

\* Optional values – if not specified, default values will be used

\*\* For more information see the accessories sheet

Sample order: **NTDZ – 315 – RAL9010 / SRt – 280 – b248P**



Revit blocks, selection program and approval documents available at [www.smay.pl](http://www.smay.pl)