Round displacement flow diffuser NWJ-1 single-coat industrial

Description and application

Round displacement flow diffuser NW are used in industrial facilities or public utility, in places where there is a need to bring a large amount of fresh air. The air is supplied at low speed from 0.3 m/s to 1.5 m/s near of the workstations and the occupied zone. The entire surface of the diffuser blowing air has a low turbulence, easily displaces the used air from the work area or occupied zone in the extract air openings. Installation at a height of 3.5m to 10m. Diffusers can be free-hanging - mounted directly to the ventilation duct or at wall - additionally attached to a wall or column. Diffuser NWJ-1 is recommended especially in areas with strong air pollution, where in cooling mode (horizontal direction cooling) we get an appropriate supply of low turbulence.

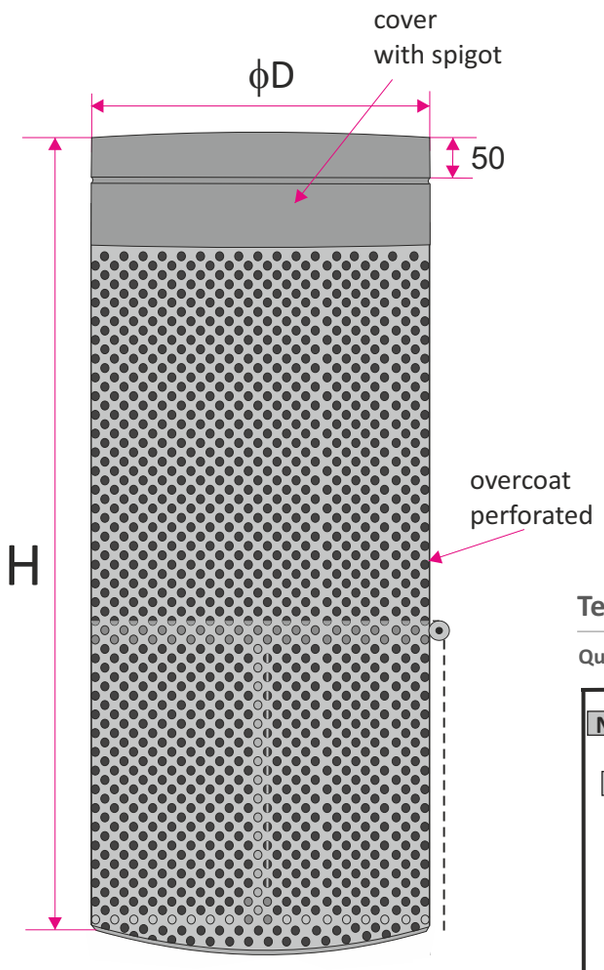
Displacement flow diffuser has Hygienic Certificate HK/K/0522/02/2016

Description and application

The diffusers are made of single coating perforated sheet, powder coated agreed to RAL color. Spigot supply and diffuser pedestal are made of galvanized steel sheet, also powder coated in a chosen RAL color. NWJ-1 is designed for mounting directly onto round ducts. Inside the diffuser is plate that change airflow direction - set manually using pull rope.

Size

The dimensions according to the table in product details or to individual order.

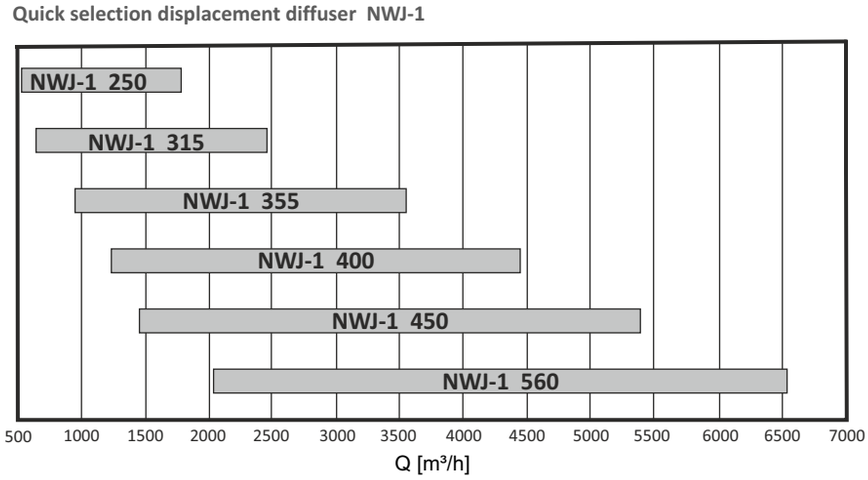


diffuser type	ϕ D [mm]	Height H [mm]
250	253	850
315	318	850
355	358	850
400	403	850
450	453	850
560	563	850

On request the dimensions can be changed, after discussing it with the producer technical capabilities.

Technical data

Quick selection displacement diffuser NWJ-1



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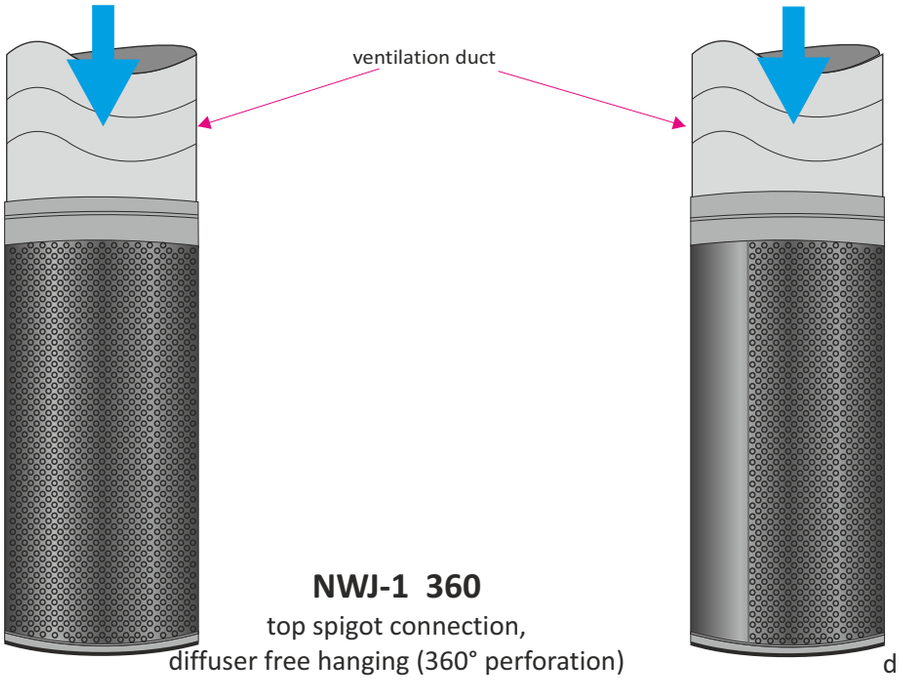
Variants realization / location

Diffusers can be divided due to the installation location at hanging and at wall (2/3 perimeter perforation).



NWJ-1 360
top spigot connection,
diffuser free hanging (360° perforation)

NWJ-1 240
top spigot connection
diffuser at wall (240° perforation)

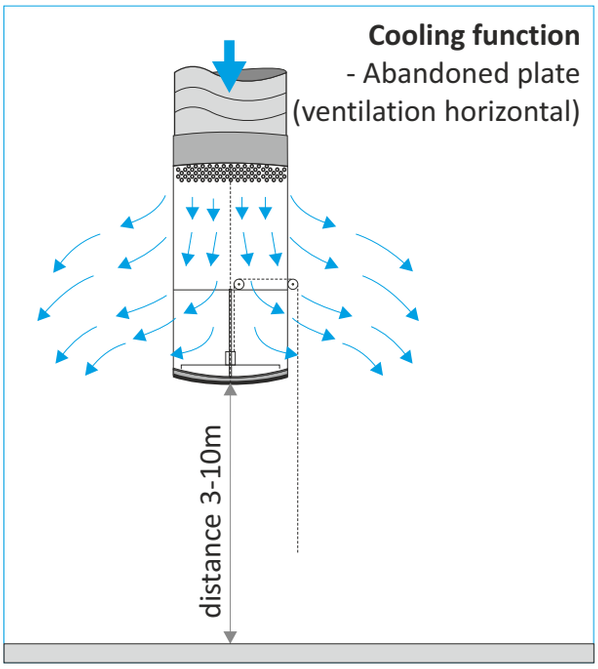
To ensure optimal conditions working of diffuser is recommended a straight portion the ventilation duct in front of diffuser length minimum of **1.8** m.

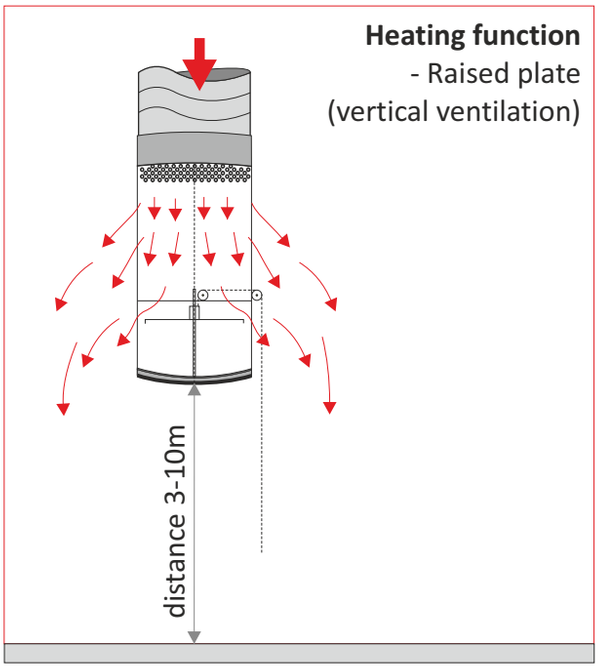
Specification - air flow regulation

In the case of displacement flow diffusers NWJ-1 it is possible to adjust the air flow direction, especially important it is when diffuser working in functions both heating and cooling. Plate, which is mounted inside diffuser, is responsible for changing the air flow. Adjustment the plate can be manual - from the outside with the pull rope (length of rope is adapted to mounting height) or by a actuator.

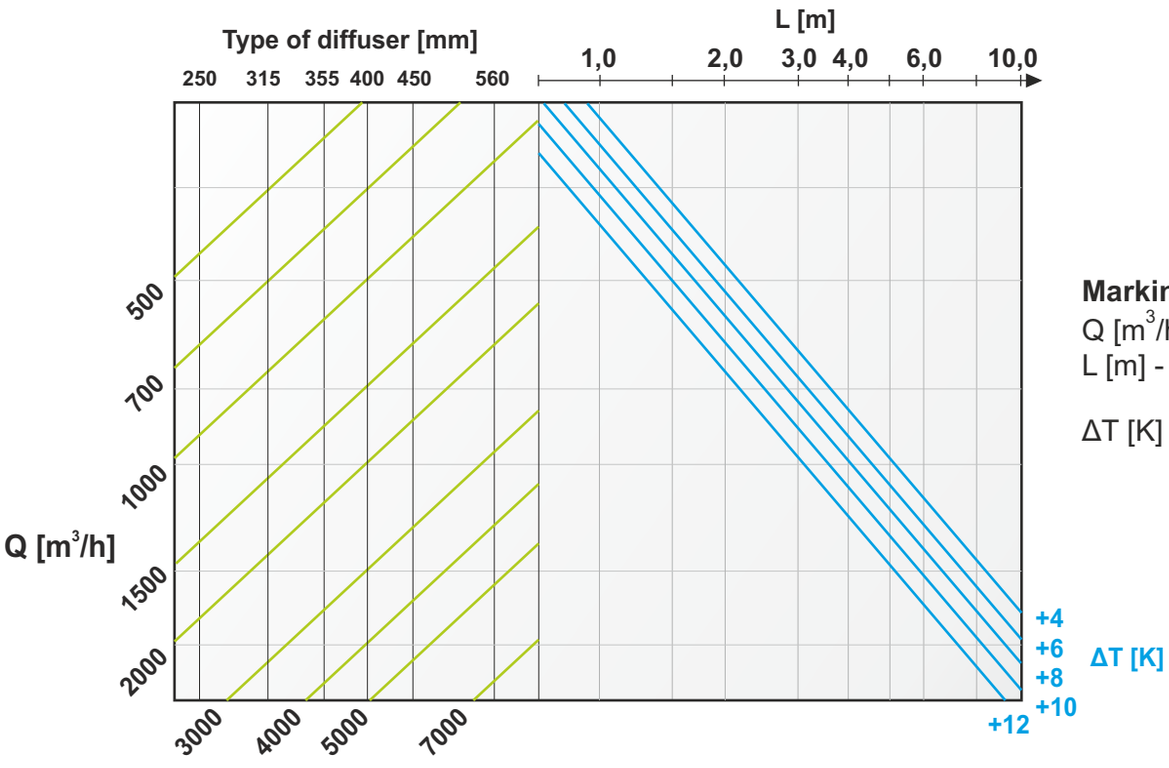
Use - Flow diagram of the air in room

The recommended range of temperature difference is -8K to +12K.



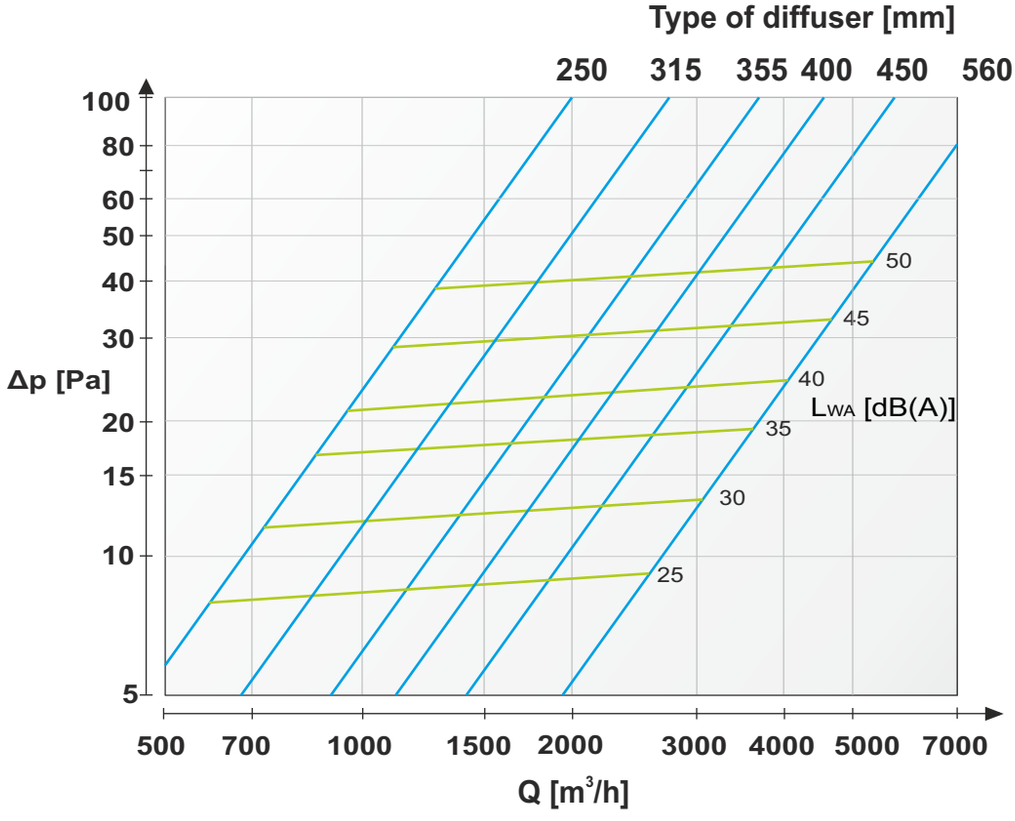


Dependence range the stream (L) (vertical ventilation - heating mode) from air flow (Q) and the type of diffuser.



Marking:
Q [m^3/h] - air flow
L [m] - maximum range
in heating mode
ΔT [K] - temperature difference

The pressure loss (Ap) and the acoustic power level (LWA) depending on air flow (Q) and the type of diffuser for horizontal air flow.



Marking:
Q [m^3/h] - air flow
Δp [Pa] - pressure drop
L_{WA} [dB(A)] - acoustic power

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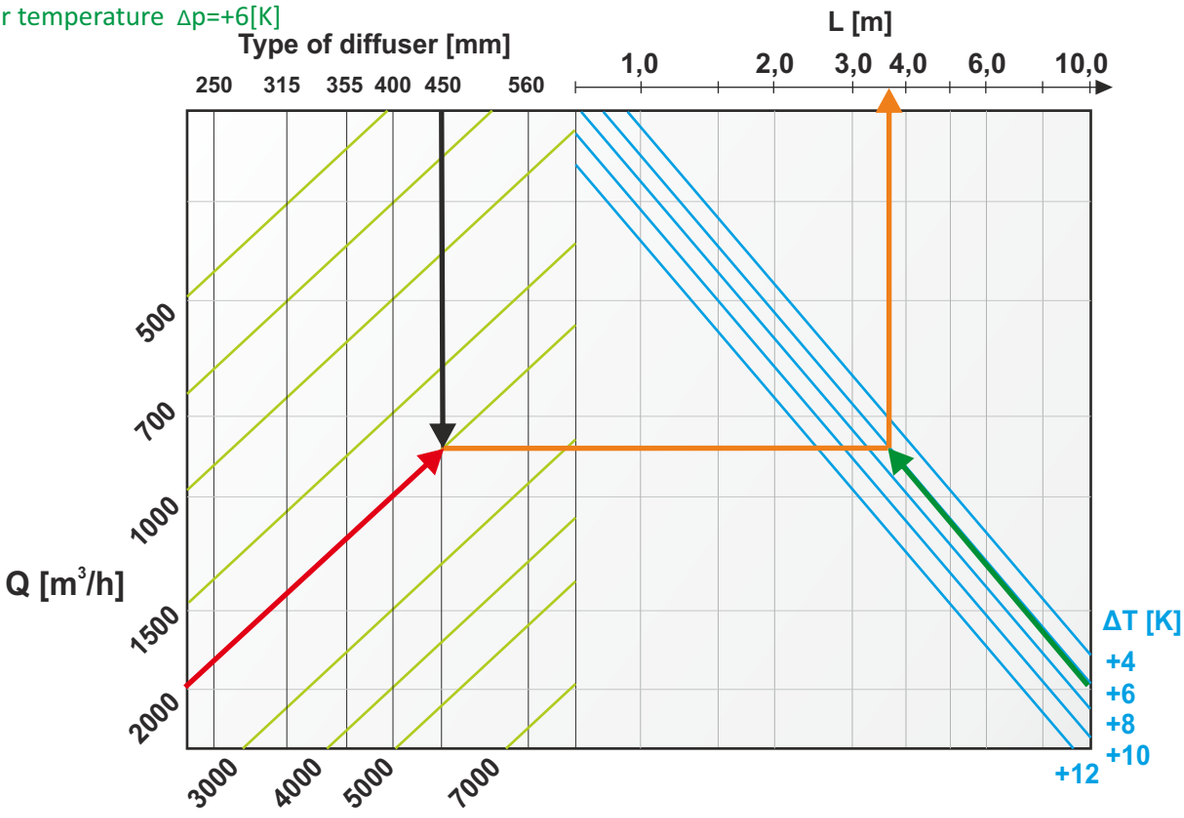
EXAMPLE

- air volume flow Q=2000 m³/h
- diameter of the diffuser ϕD=450 mm
- difference of supply air temperature Δp=+6[K]

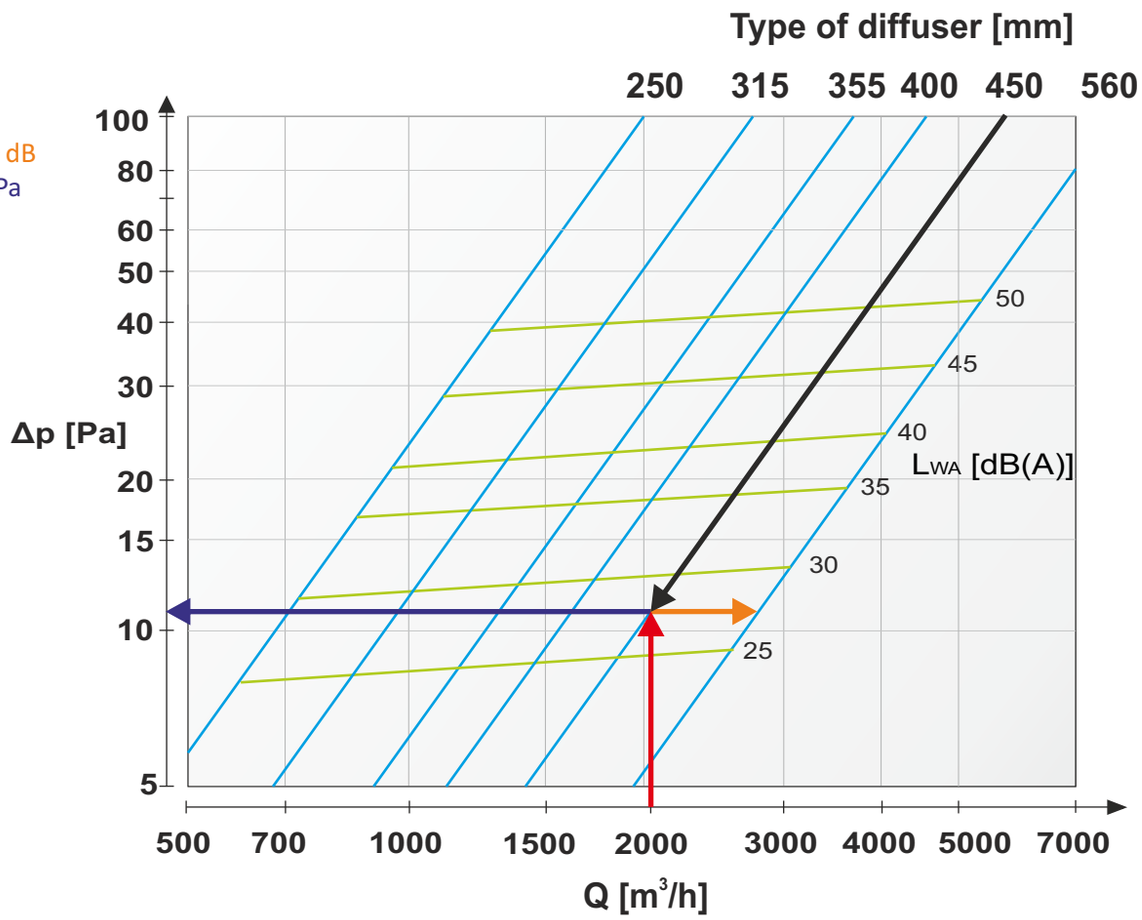
Reading the graph:

- range stream L=3,6 m



Reading the graph:

- acoustic power L_{WA}<30 dB
- pressure drop Δp=12 Pa



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The method of placing an order

Please make orders according to the following formula:

NWJ-1/ 'W' / 'P' / 'K' / 'ϕd' / 'H' / 'RAL' / 'M'

'W'	- Variants realization / location:
	1 - round diffuser free-hanging (perforation 360°)
	2 - round diffuser at wall (perforation 240°)
'P'	Air flow regulation:
	RR - manual adjustment using the pull rope *
	RS - adjusting by electric actuator Belimo (not included)
'K'	- position of connection spigot:
	G - spigot from top *
'ϕd'	- diameter of diffuser connection spigot **200, 250, 315, 355 ...**
'H'	- height of the diffuser *
'RAL'	- diffuser color RAL
'M'	- material:
	OC - galvanized steel*
	AL - aluminum powder coated
	KO - stainless steel (type 1.4301 or 1.4404)

* - If you don't give the information will be used standard parameters.