

Description and application

Nozzle diffuser on the square panel NWK-5k is used for ventilation and air conditioning industrial and public buildings with a height of 2.5 m - 4.5 m, such as offices, hotels, cinemas, conference rooms, supermarkets. They are characterized by easy assembly in suspended ceilings, plenum boxes or directly on rectangular ducts. Assembly is done using visible screws in the corners of the faceplate or using a central mounting. By appropriate location of the nozzle in the faceplate we get different directions supplied air or the rotational motion.

Nozzle diffuser has Hygienic Certificate

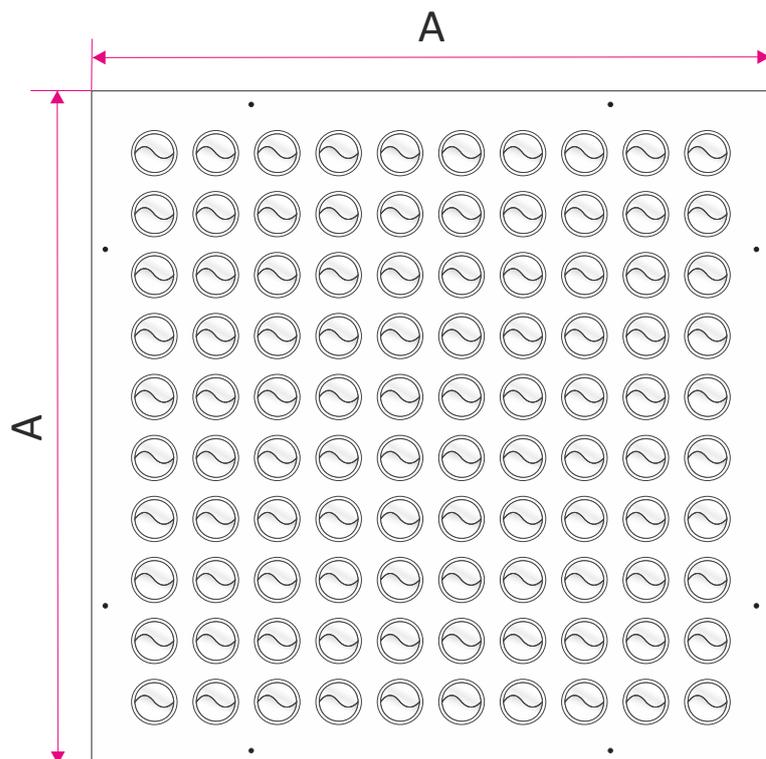
Material and workmanship

Diffusers are made up of faceplate galvanized sheet steel powder coated white RAL 9016 and specially profiled nozzles made of plastic in white. Upon customer request we can paint faceplate in any color from RAL palette and made of special stainless steel or aluminum. The manufacturer reserves the right to make technological changes.

Size

The diffusers are manufactured on order. Examples dimensions of the diffusers are given in the table.

595x595/100

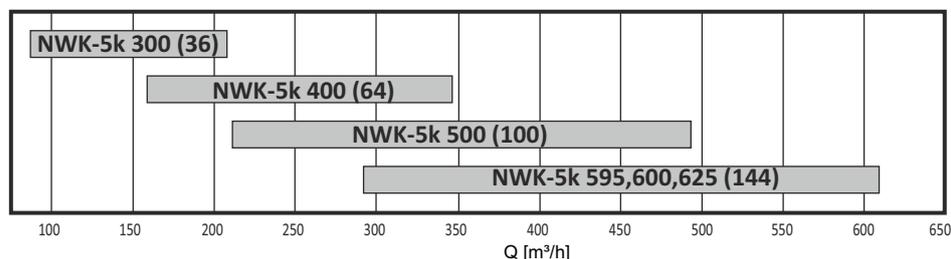


Size A	Quantity of nozzles*
300x300	16
300x300	25
400x400	36
400x400	49
500x500	64
500x500	81
595x595	100
600x600	100

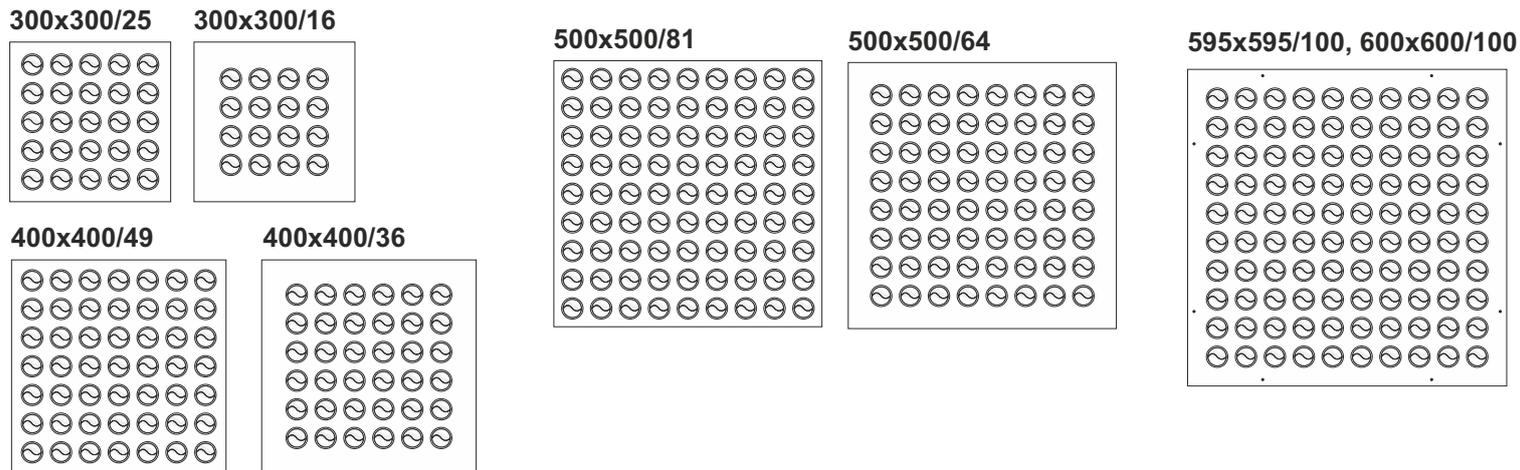
*- quantity proposed by the producer

Technical data

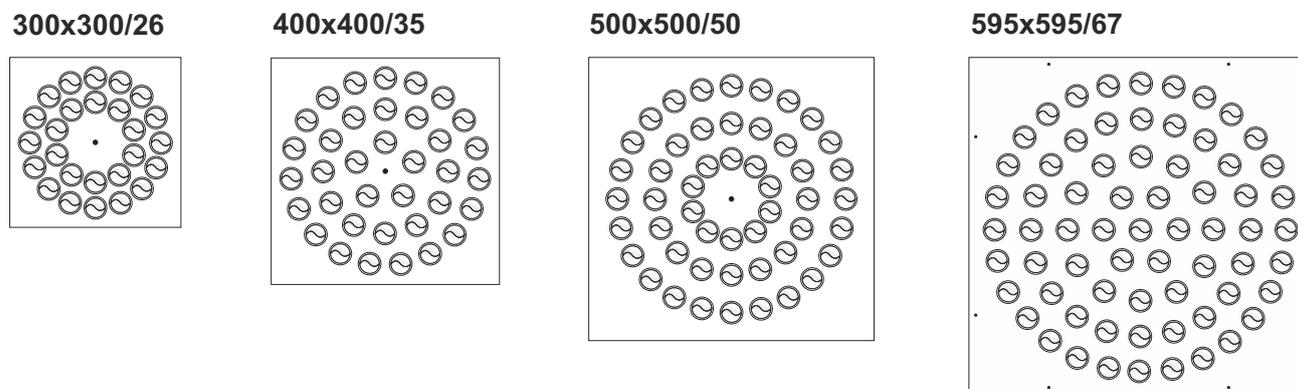
Quick selection of diffusers NWK-5k for $L_{wA} < 40\text{dB}$ (in parentheses the number of nozzle)



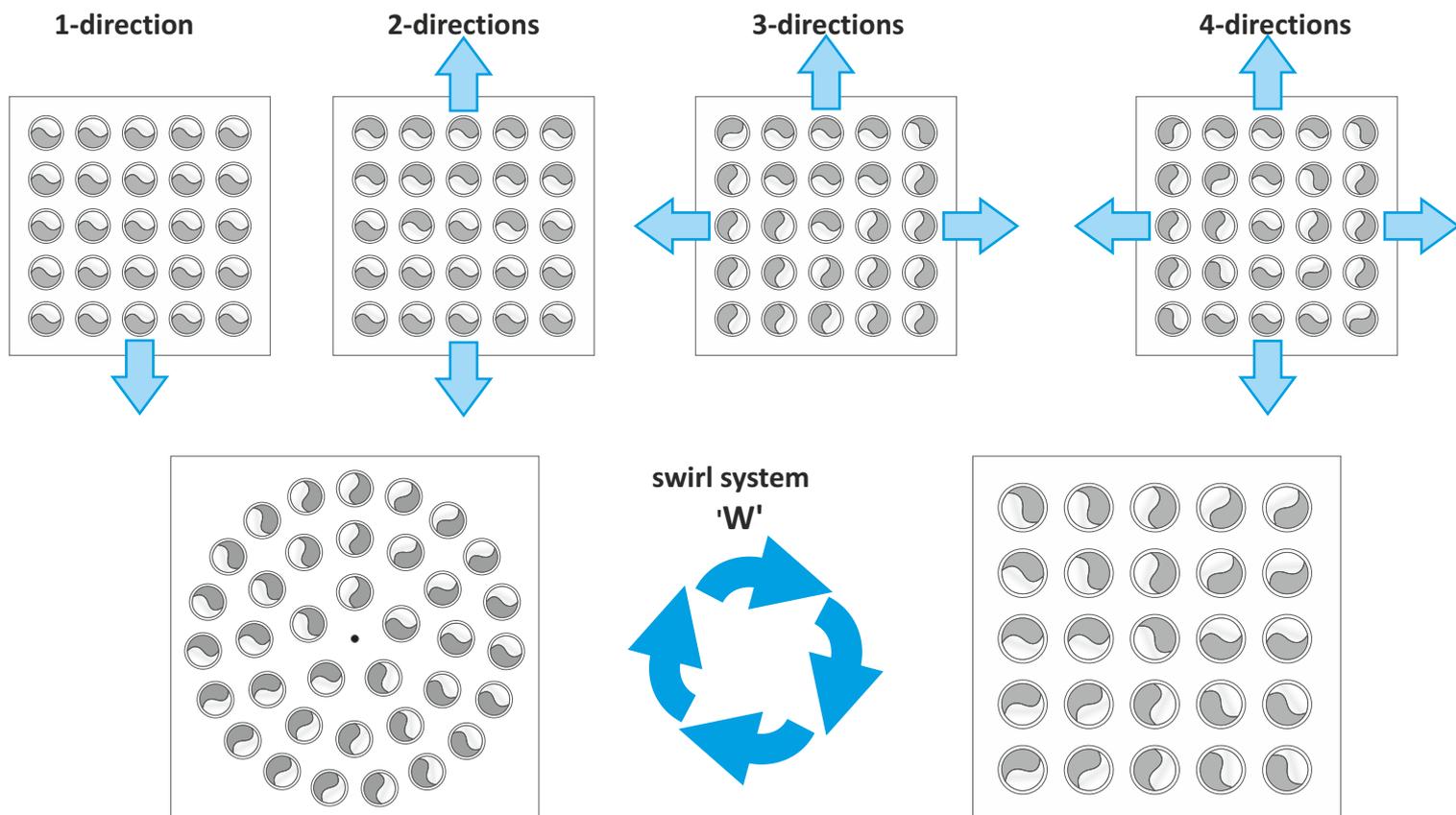
Sizes - examples of the nozzles arrangement in the square system



Sizes - examples of the nozzles arrangement in the vortex system

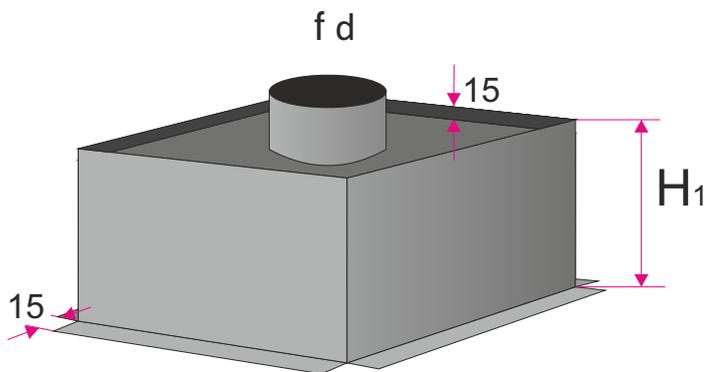


Sizes - examples of the nozzles arrangement

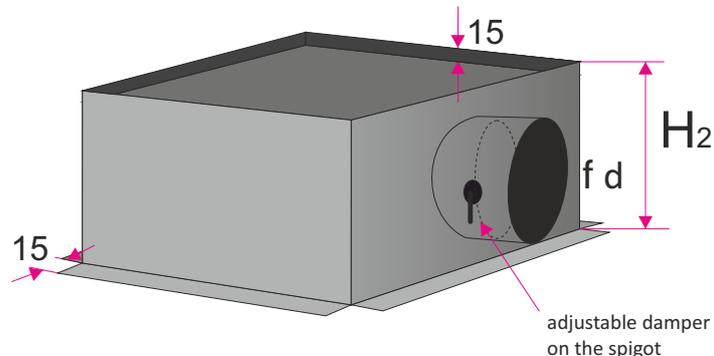


Accessories- plenum box

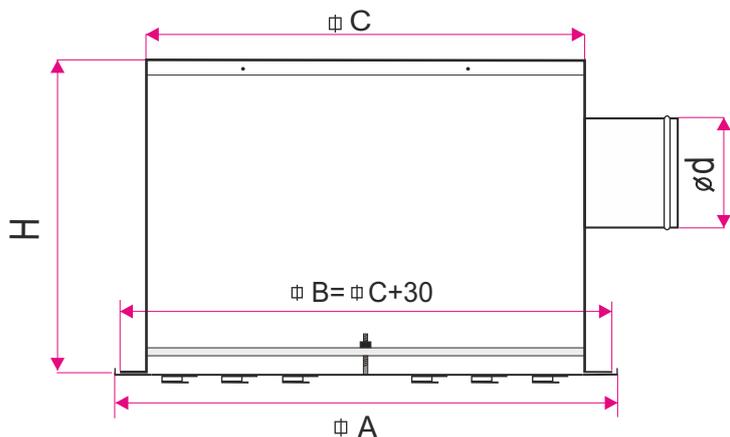
Plenum box is made of galvanized steel. On request it can be equipped with a damper control onto the connected spigot. The plenum box can be isolated inside with rubber (acoustic) or outside with mineral wool (thermal). In the standard height of the plenum box is adapted to size of the spigot or diffuser size (you can specify the height of the plenum box).



Rectangular plenum box with the spigot on the top



Rectangular plenum box with the spigot on the side



Size A	C	H ₁	H ₂	f d
300x300	265x265	310	280	158
400x400	365x365	310	280	158
500x500	465x465	310	280	198
595x595	560x560	310	330	248
600x600	565x565	310	330	248
625x625	590x590	310	330	248

Other sizes are produced on customer request

Methods of mounting



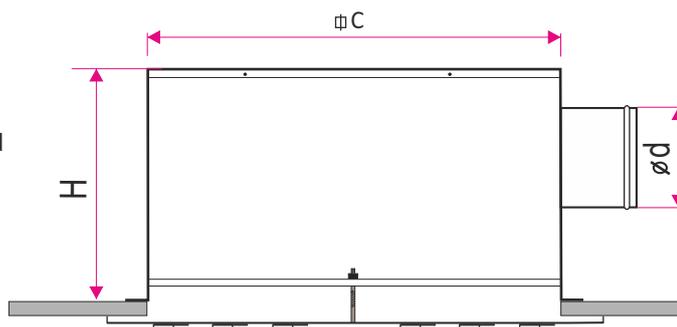
Assembly invisible on the construction of the suspended ceiling
- diffuser panel 595x595 -diffuser without mounting holes in the panel.



Assembly visible using screws and the mounting holes in the corners of diffuser faceplate.

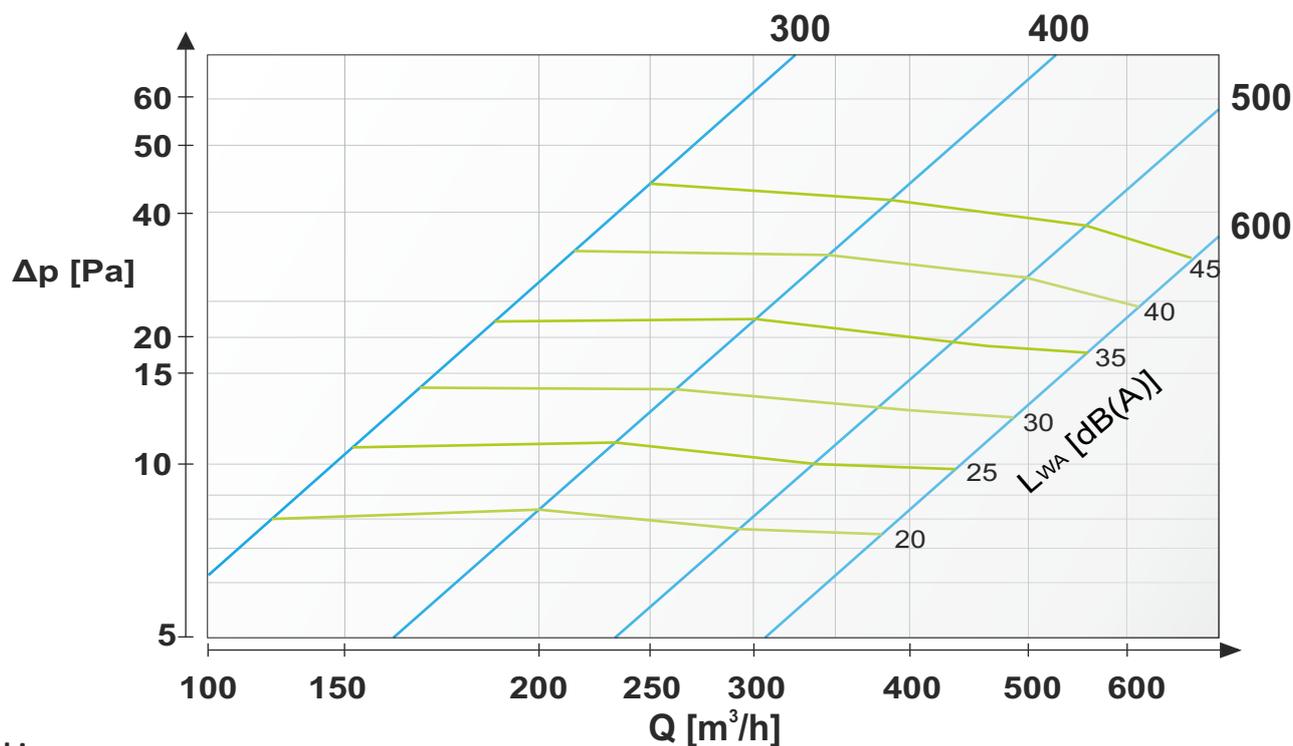
W3

Central assembly through the crossbar (WMC) mounted in the plenum box and the central mounting screw.



Technical data

Pressure drop and acoustic power



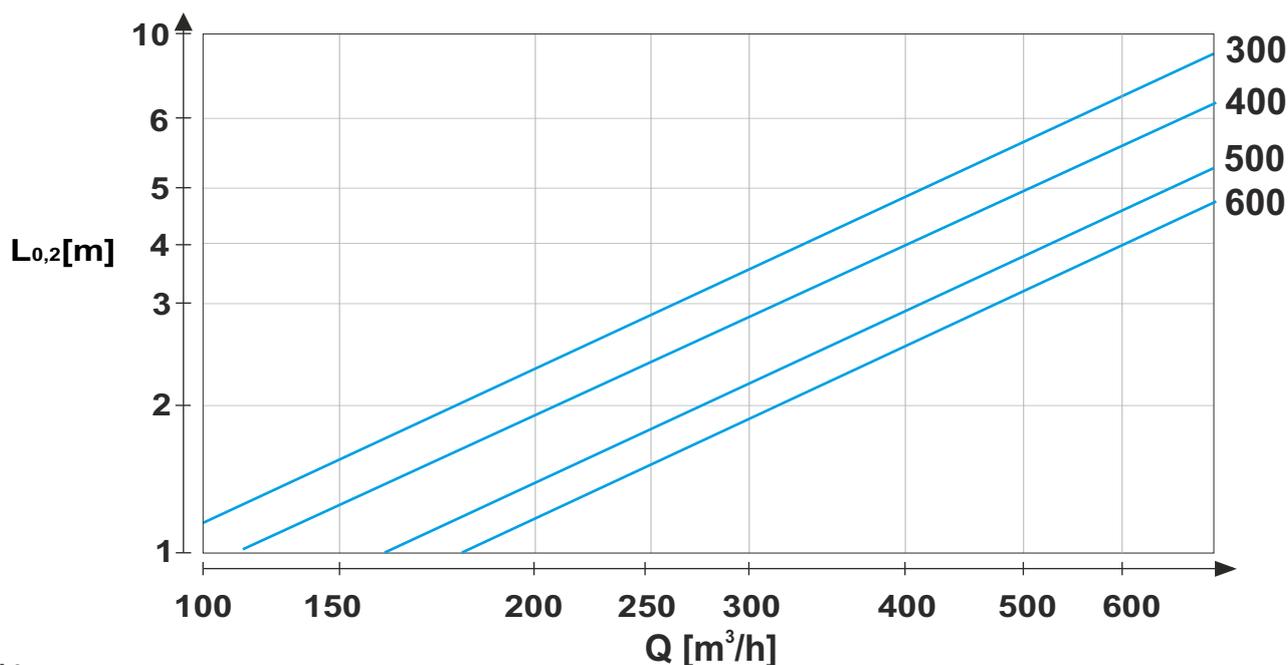
Marking:

Q [m³/h]- air volume flow

L_{WA} [dB(A)]- acoustic power

DP [Pa]- pressure drop

Dependence of range air flow L_{0,2} [m] from air volume flow Q [m³/h] (for supply air 4-directional)



Marking:

Q [m³/h]- air volume flow

L_{0,2} [m]- stream range with final velocity 0,2 m/s

EXAMPLE

EXAMPLE

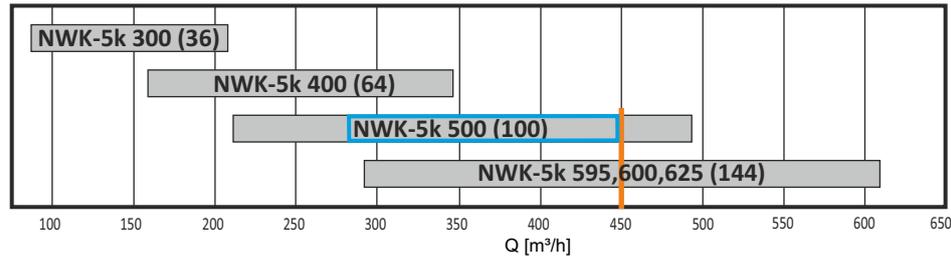
- efficiency of the diffuser $Q=450 \text{ m}^3/\text{h}$

Reading the graph:

Appropriate diffusers: 500x500 (100 nozzles)

595x595, 600x600, 625x625 (144 nozzles)

- appropriate diffuser NWK-5k 500x500



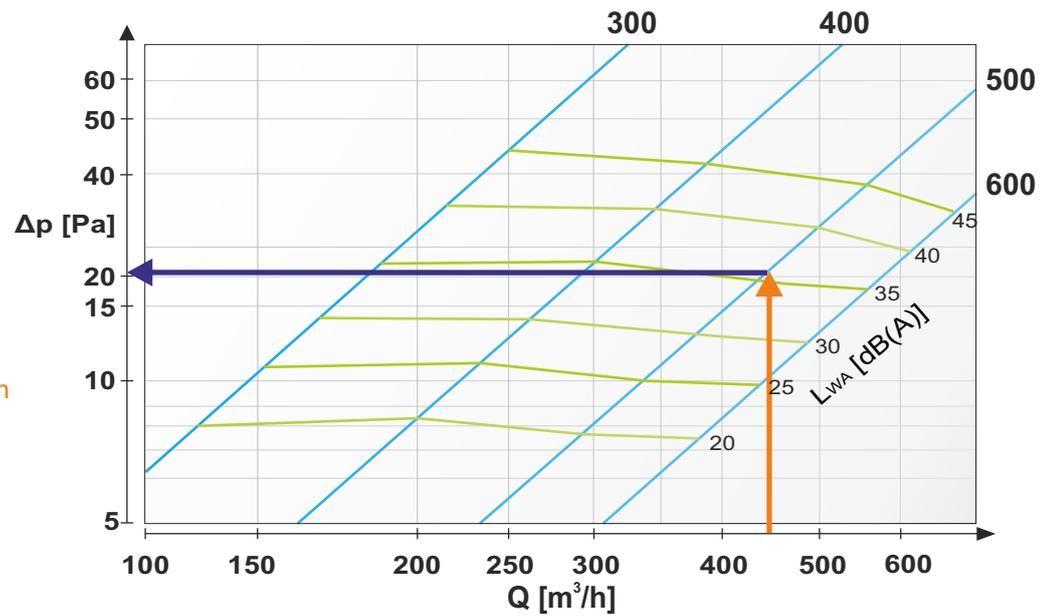
EXAMPLE

- efficiency of the diffuser $Q=450 \text{ m}^3/\text{h}$

Reading the graph:

- acoustic power $L_{WA}=36 \text{ dB}$

- pressure drop $\Delta p=22 \text{ Pa}$



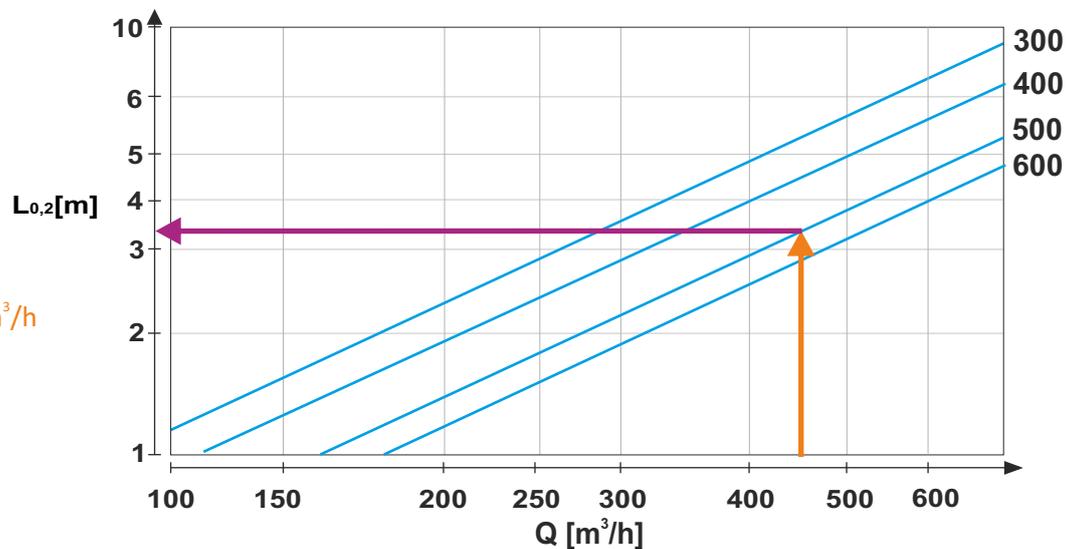
EXAMPLE

- efficiency of the diffuser $Q=450 \text{ m}^3/\text{h}$

- supply air 4-directional

Reading the graph:

- stream range $L_{0,2}=3,4 \text{ m}$



The method of placing an order

Please make orders according to the following formula:

NWK-5k / 'R' / 'L' / 'U' / 'N' / 'RAL' / 'M' / 'W' + 'SR' / 'I' / 'P' / 'K' / 'H'

'R'	the size of the diffuser: 300, 400, 500, 595, 600, 625
'L'	quantity of nozzles (Producer verification in terms of accommodate the nozzles quantity)
'U'	nozzle arrangement: O - round nozzle arrangement K - square nozzle arrangement
'N'	air flow direction: 1-direction, 2-directions, 3-directions, 4-directions, W
'RAL'	diffuser color according to RAL palette (standard RAL 9016*)
'M'	material: ST - powder coated steel* AL - aluminum powder coated KO - stainless steel / acid proof steel (type 1.4301 or 1.4404)
'W'	mounting option: W1 - assembly invisible on the construction of the suspended ceiling W2 - visible assembly with screws W3 - the central assembly using the crossbar (in plenum box)
'SR'	plenum box: SR-Gc - plenum box with top spigot connection SR-Bc - plenum box with side spigot connection
'I'	isolation: none - plenum box without isolation* Iz - outside isolation (thermal) Iw - inside isolation (acoustic)
'P'	adjustment damper at spigot connection: none - no damper* P - damper on spigot connection adjustable from the outside PP - damper on spigot connection adjustable from the inside
'K'	diameter spigot connection in size mm
'H'	the height of the plenum box in mm*

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