

Description and application

Nozzle diffuser on the square panel NWK-5d 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 HK/K/0522/01/2016

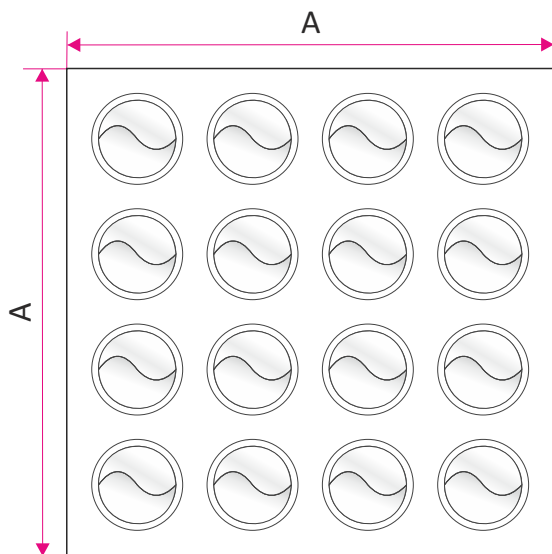
Material and workmanship

Diffusers are made up of faceplate galvanised sheet steel powder coated white RAL 9016 and specially profiled nozzles made of plastic in white. In this type of diffuser have been used the nozzle of the external dimension of 56mm. Upon customer request we can paint faceplate in any color from RAL palette and made of special stainless steel or aluminum.

Size

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

Example: 300x300/16

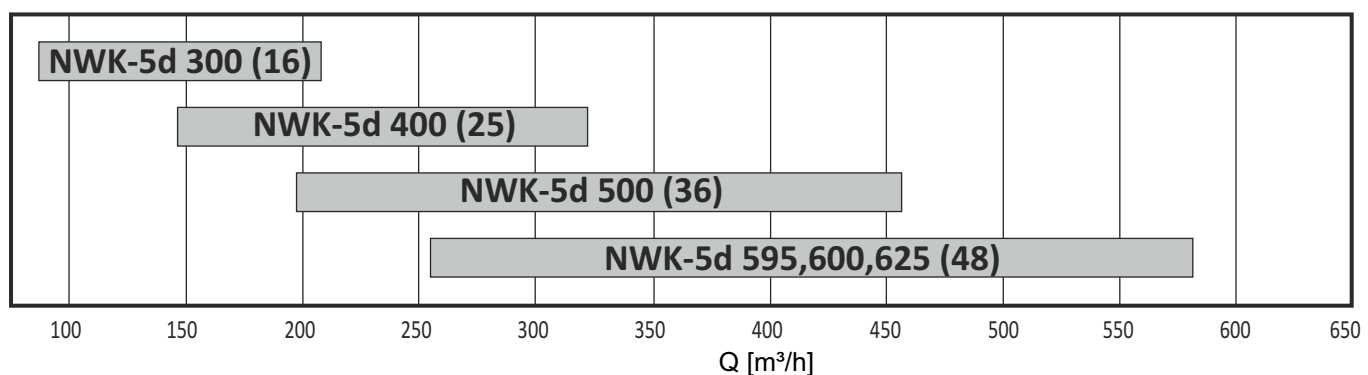


Size A	Quantity of nozzles*
300x300	16
400x400	25
500x500	36
595x595 600x600 625x625	49

*- quantity proposed by the producer

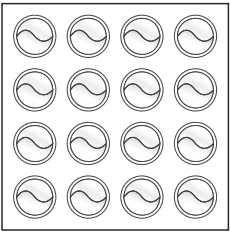
Technical data

Quick selection of diffusers NWK-5d for LWA<40dB (in parentheses the number of nozzle)

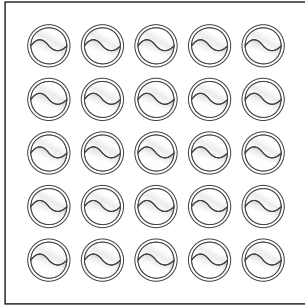


Sizes - examples of the nozzles arrangement

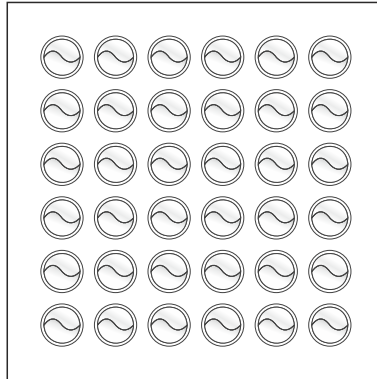
300x300/16



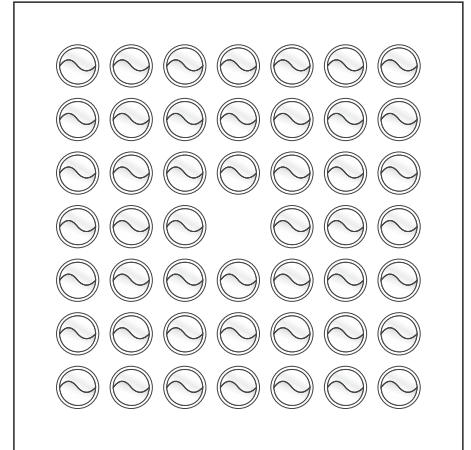
400x400/25



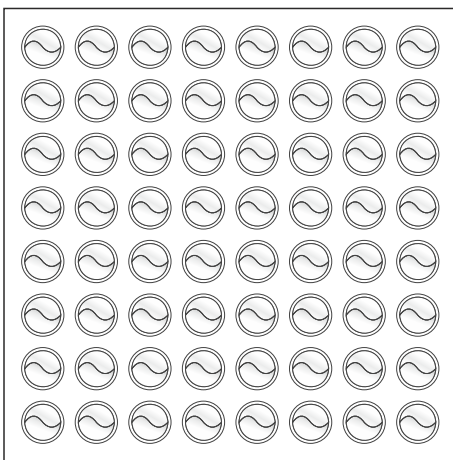
500x500/36



600x600/48



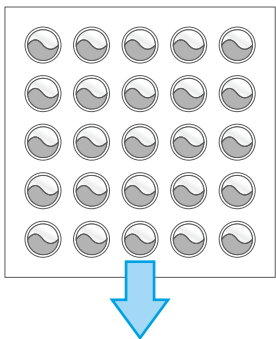
600x600/64



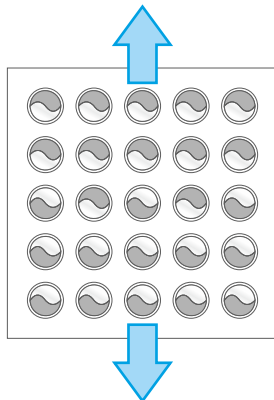
You can order a diffuser with individual arrangement and the number of nozzles (after prior consultation with the manufacturer).

Sizes - examples of the nozzles arrangement

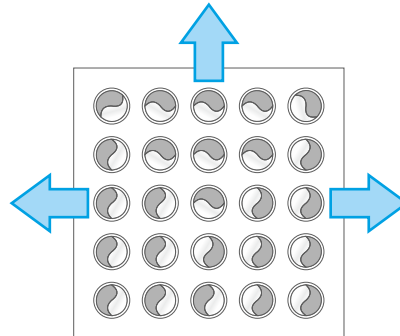
1-direction



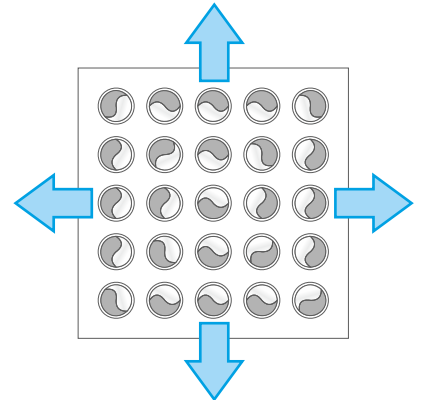
2-directions



3-directions

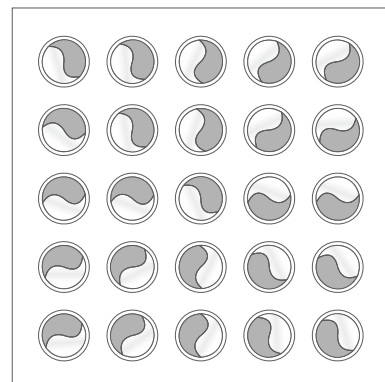
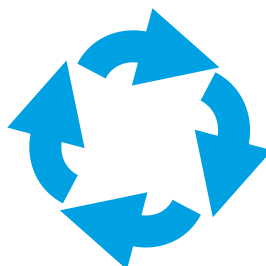


4-directions



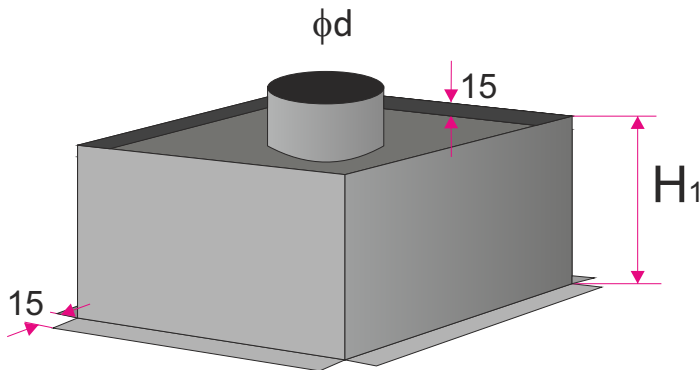
swirl system

'W'

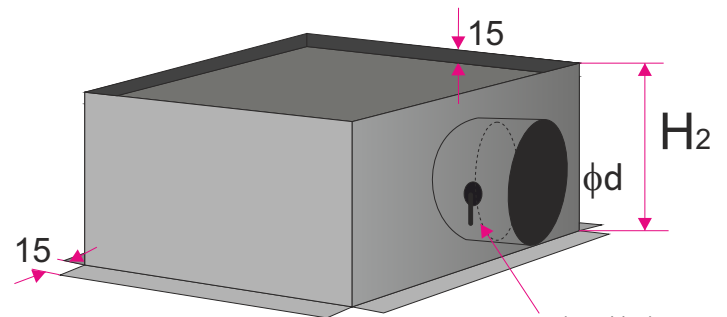


Accessories- plenum box

Plenum box is made of galvanized steel. On request it can be equipped with a damper control onto the connected spigot. The box can be isolated on the inside or outside with rubber isolation or mineral wool. 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).

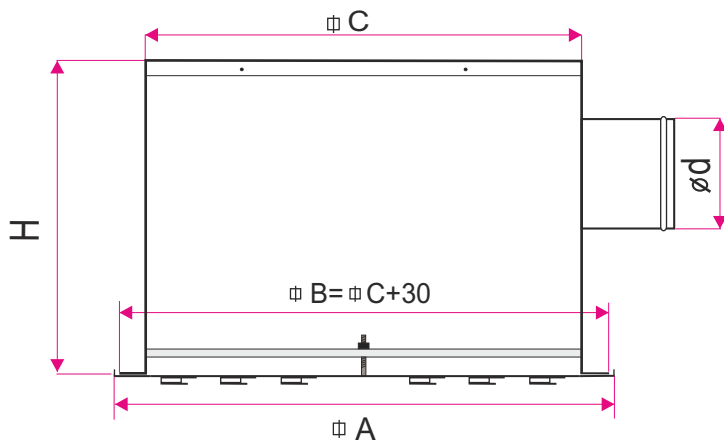


Rectangular plenum box with the spigot on the top



Rectangular plenum box with the spigot on the side

adjustable damper on the spigot



Size A	C	H ₁	H ₂	ϕd
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



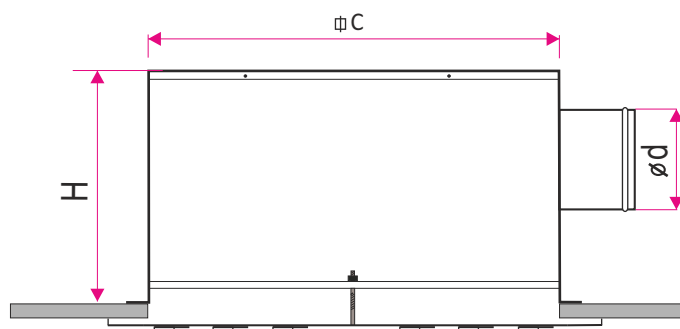
Assembly invisible on the construction of the suspended ceiling
- diffuser panel 595x595 -diffuser without mounting holes in the panel.



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

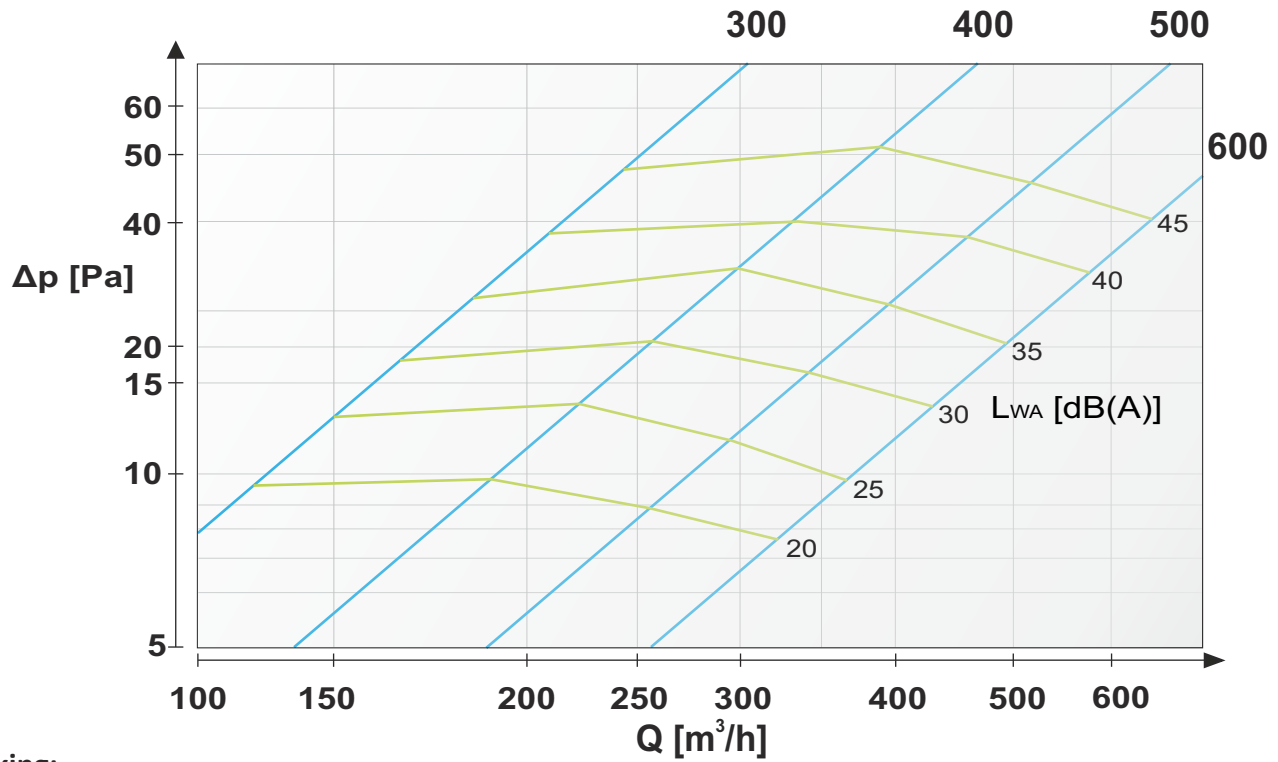
W3

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



Technical data

Pressure drop and acoustic power



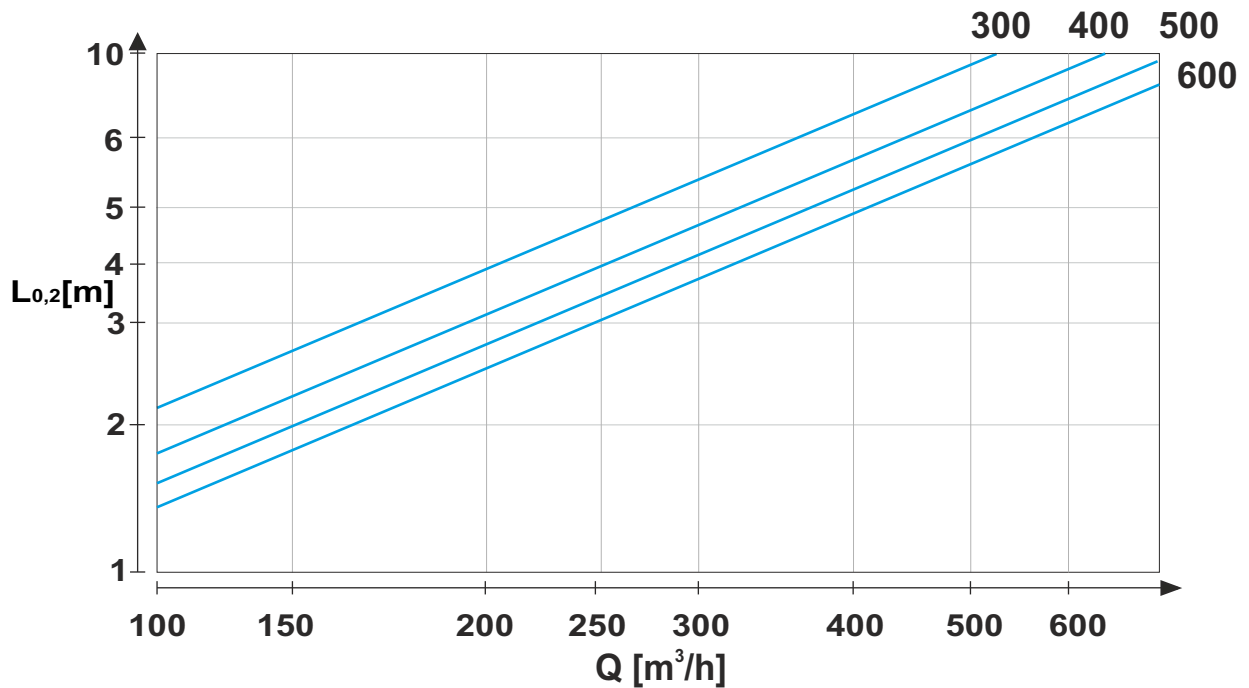
Marking:

Q [m³/h]- air volume flow

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

ΔP [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

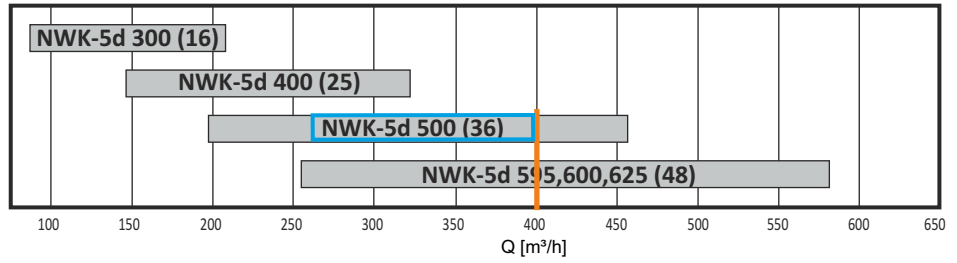
EXAMPLE

- efficiency of the diffuser $Q=400 \text{ m}^3/\text{h}$

Reading the graph:

Appropriate diffusers: 500x500 (36 nozzles)
595x595, 600x600, 625x625 (48 nozzles)

- appropriate diffuser NWK-5d 500x500

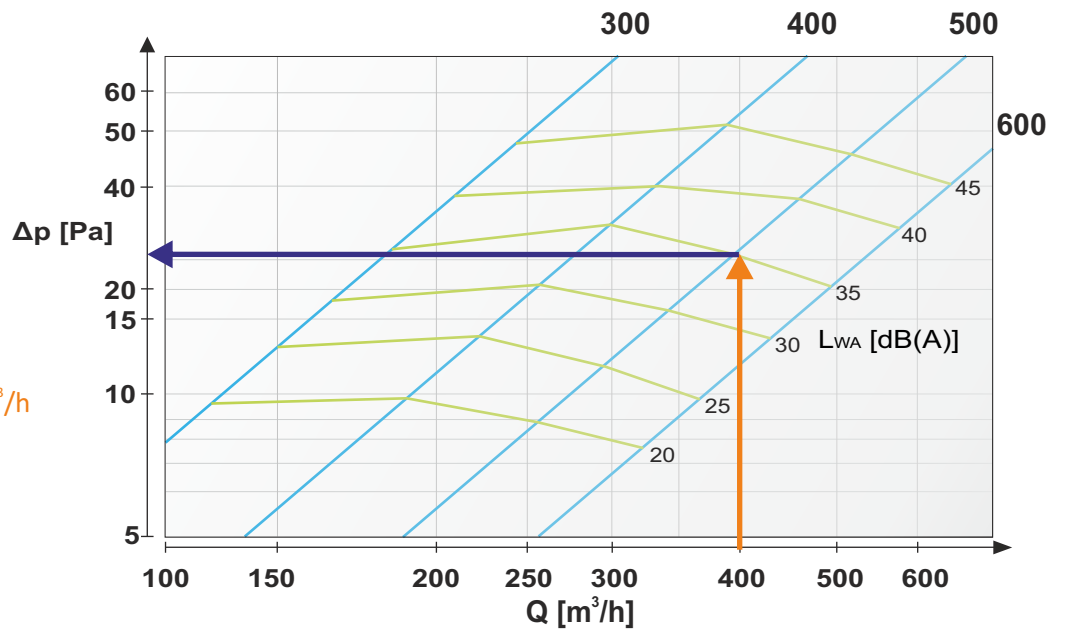


EXAMPLE

- efficiency of the diffuser $Q=400 \text{ m}^3/\text{h}$

Reading the graph:

- acoustic power $L_{WA}=35 \text{ dB}$
- pressure drop $\Delta p=32 \text{ Pa}$

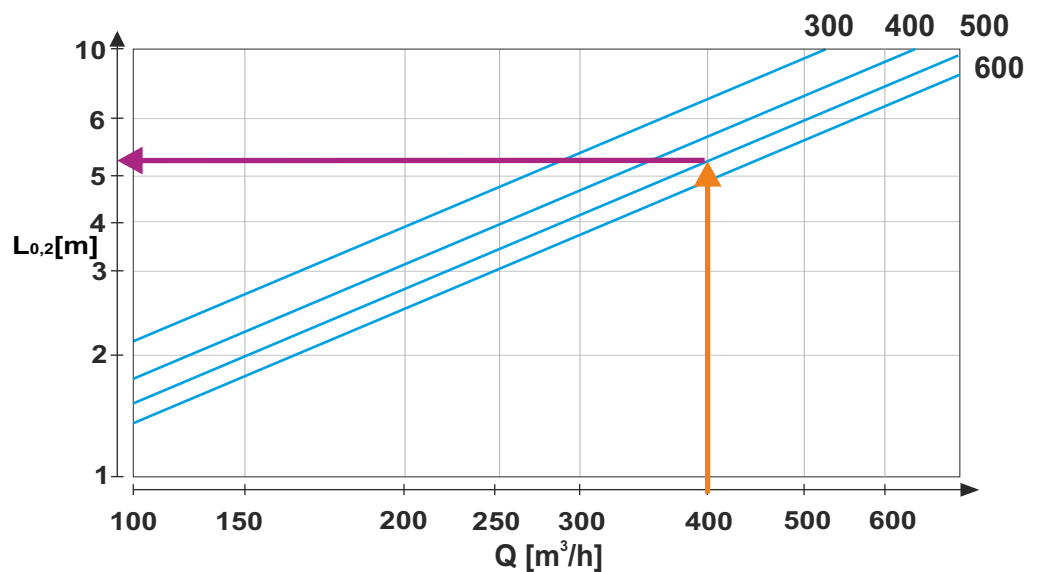


EXAMPLE

- efficiency of the diffuser $Q=400 \text{ m}^3/\text{h}$
- supply air 4-directional

Reading the graph:

- stream range $L_{0,2}=5,3 \text{ m}$



The method of placing an order

Please make orders according to the following formula:

NWK-5d / '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)
- '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.