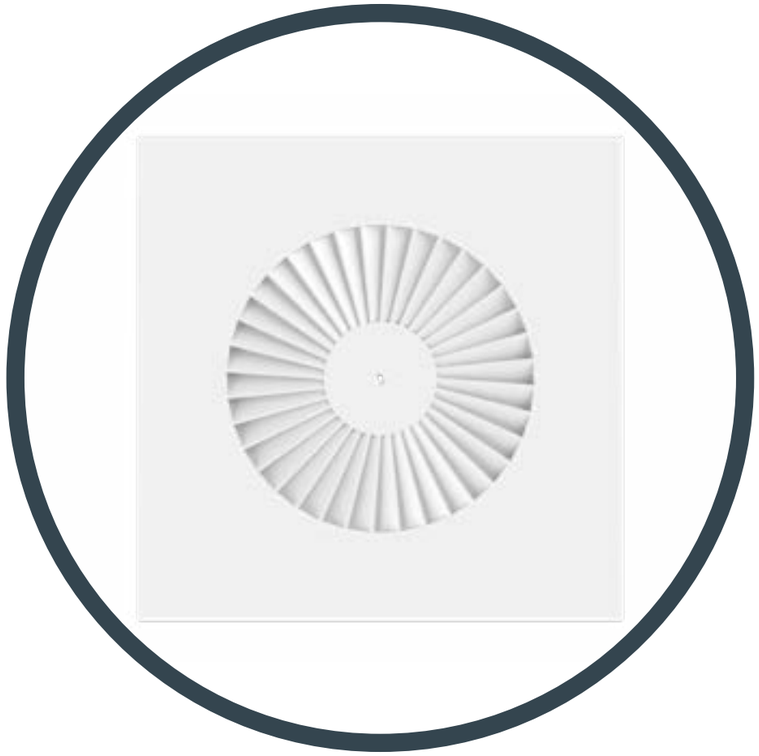
Gradna 78A, 10430 Samobor, Croatia
+385 (0)1 33 62 513
info@klimaoprema.com
www.klimaoprema.com



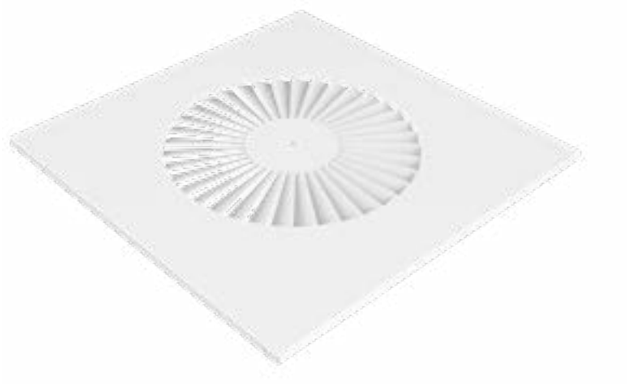
Product manual

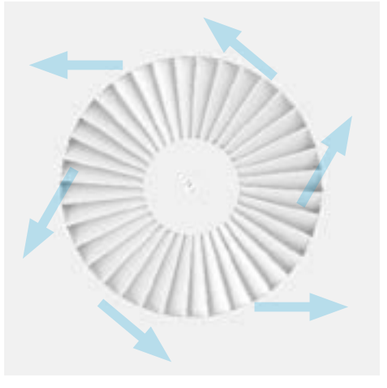
Diffusers

DVS

Air distribution

Version 1.0.0
Date: 10.09.2024.





DVS

- Ceiling diffuser for room heights from 2,3 to 4m.
- Frame and blades made out of steel sheet, standard RAL 9010
- Fixed blades
- Fixing with central screw

Options

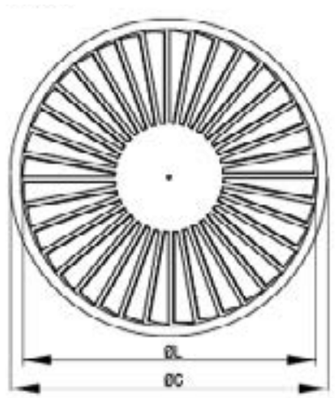
- RAL...
- Plenum box

Dimensions

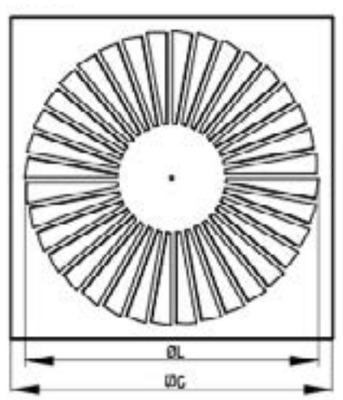
Size	Ø C [mm]	⍁C [mm]	Ø L [mm]	A_{ef} [m²]
400	398	395	350	0,0439
500	498	495		
600	595	595	538	0,0964
625	623	620		

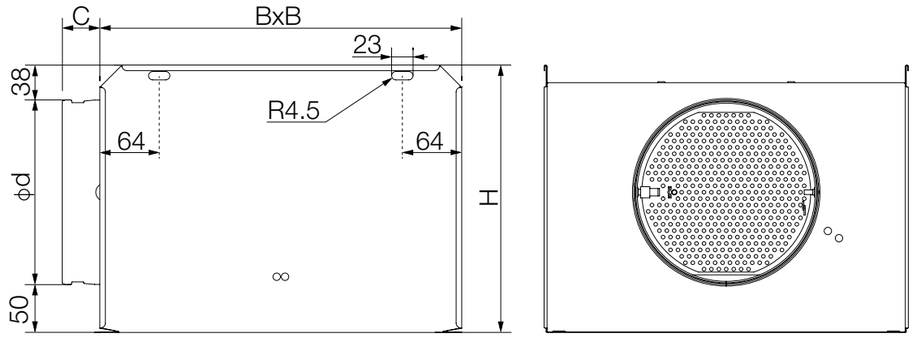
Plenum box dimensions	PBQ	PBR
400	400	400
500	500	500
600	600	600
625	600	600

DVS-R



DVS-Q

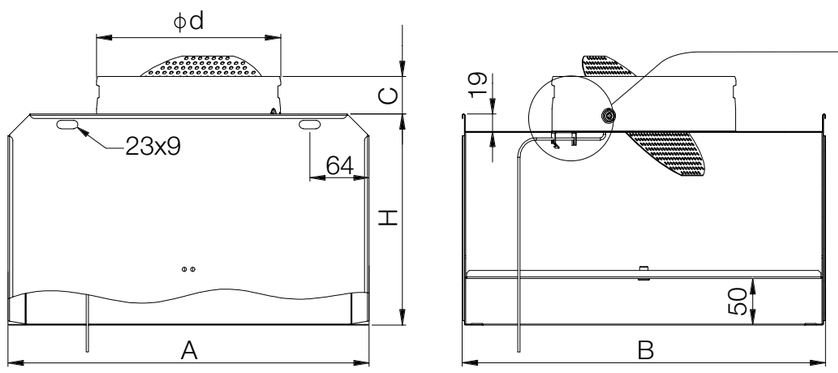




PBQ-H

- Square plenum box design
- Horizontal duct connection
- Vertical duct connection
- Fixing with a central screw
- Manual flow adjustment via cable mechanism
- Possible with 5mm internal insulation

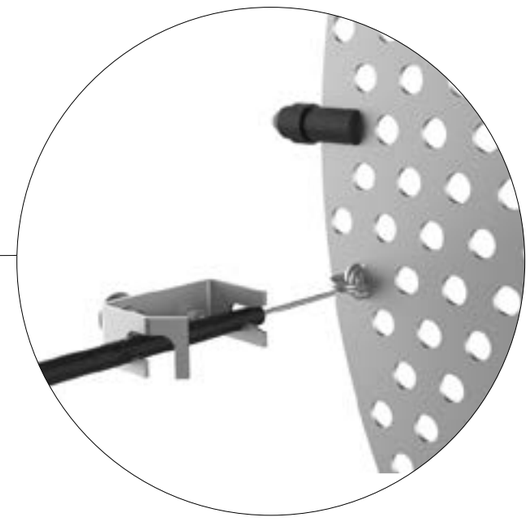
Model	Ø d	BxB	H	C
300	160	292,5	248	40,5
400	200	392,5	288	40,5
500	200	492,5	288	40,5
600	250	592,5	338	40,5
625	250	617,5	338	40,5

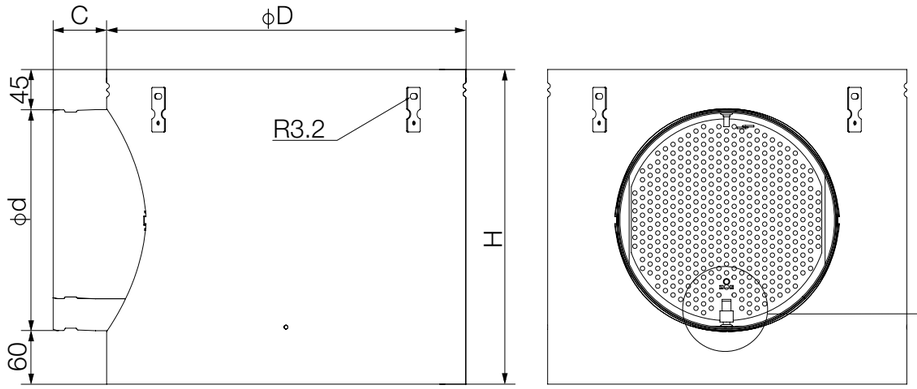


PBQ-V

- Square plenum box design
- Vertical duct connection
- Fixing with a central screw
- Manual flow adjustment via cable mechanism
- Possible with 5mm internal insulation

Model	Ø d	AxB	H	C
300	160	290 x 292,5	228	40,5
400	200	290 x 392,5	228	40,5
500	200	290 x 492,5	228	40,5
600	250	290 x 592,5	328	40,5
625	250	290 x 617,5	328	40,5





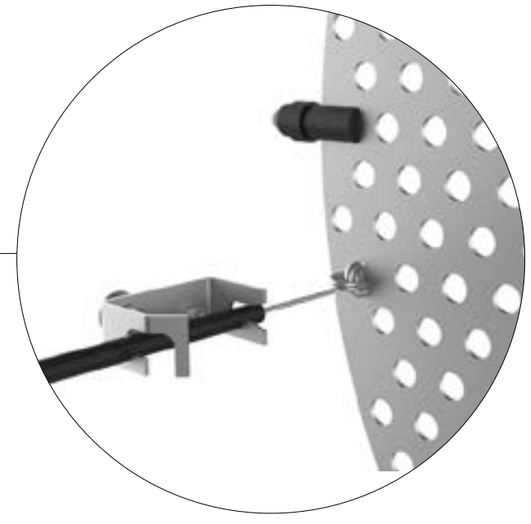
PBR

- Plenum box for round diffusor plates
- Round plenum with horizontal spigot connection
- Available in RAL, suitable for visible installation
- Fixing with a central screw
- Manual flow adjustment via cable mechanism
- Possible with 5mm internal insulation

Model	ØD	Ød	H	C
300	284	158	263	60
400	384	198	303	60
500	484	198	303	60
600	590	248	353	60
625	615	248	353	60

SOLVEAIR
DIAGRAM
ORDERING KEY

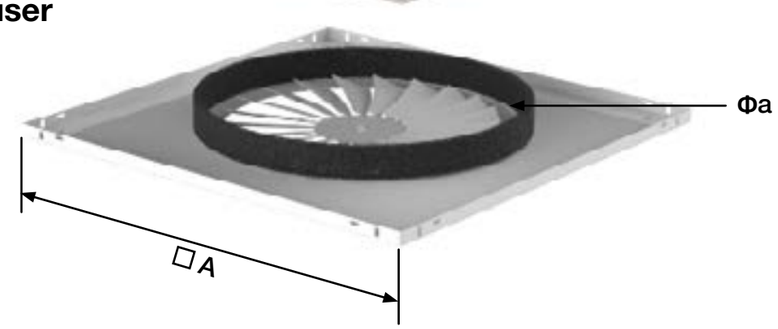
PLENUM BOXES



Ordering keys

PBQ-H / PBQ-V

Diffuser



PBR

(1) Plenum box	(2) Size	(3) Insulation
PBQ-H -	600 -	Z

(1) **PBQ-H** - ractangular plenum box
PBQ-V - ractangular plenum box
PBR - cilindical plenum box

(2) Size **300, 400, 500, 600 i 625**

(3) Insulation: **Z**
***Z1** - polyethylene FRM 5mm insulation
***Z2** - I-Fiber 20mm insulation

* For PBR plenum box

(1) Diffuser shape	(2) Size	(3) RAL
DVS-K -	600 -	4007

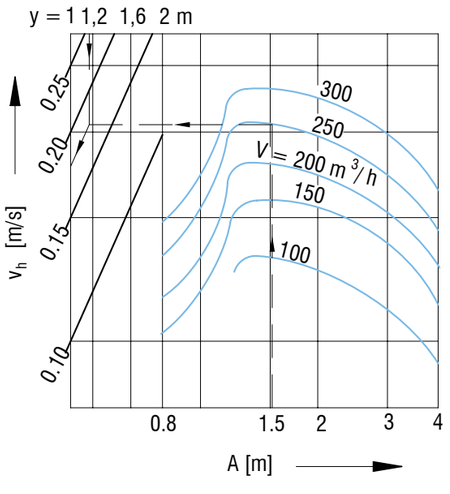
(1) **DVS-Q** - ractangular shape
DVS-R - cilindical shape

(2) Diffuser size **300, 400, 500, 600**

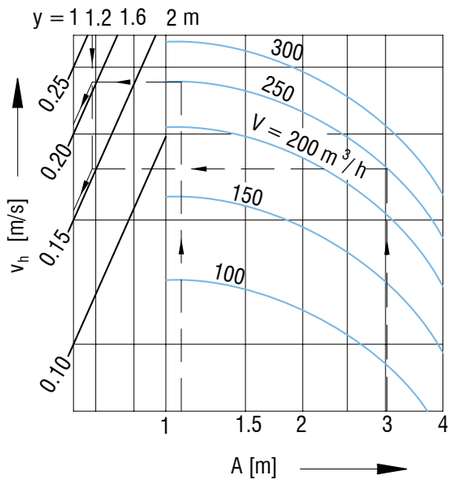
(3) **RAL**

SOLVEAIR
DIAGRAM
ORDERING KEY
ORDERING KEYS

1. Air velocity between two diffusers by single-or multiple-row arrangement, if spacing B ≥ 4 m



2. Air velocity between two diffusers by multiple-row arrangement, if spacing B = 2,8 m... 3,5 m



Example 1

Given:
DVS-O/400-A/H 1 diffuser row
A = 1.5m
h = 1.16 m
x = 1.5 m
H = 2.96 m
V = 250 m^3/h
Δtz = -7°C

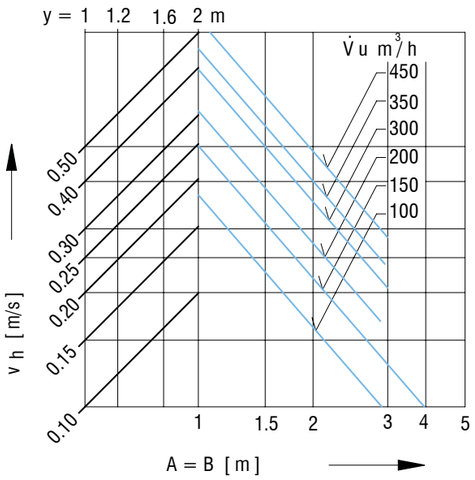
Solution:
Diagram 1
Velocity between two diffusers
vh = 0.18 m/s
Diagram 4
between wall and diffuser
L=x+h=1.5+1.16=2.66 m
vL = 0.16 m/s
ΔtL/ Δtz = 0,055
ΔtL = -7 x 0,055 = -0,385
Diagram 9
LWA = 33 dB (A)
Δpt = 14 Pa

Example 2

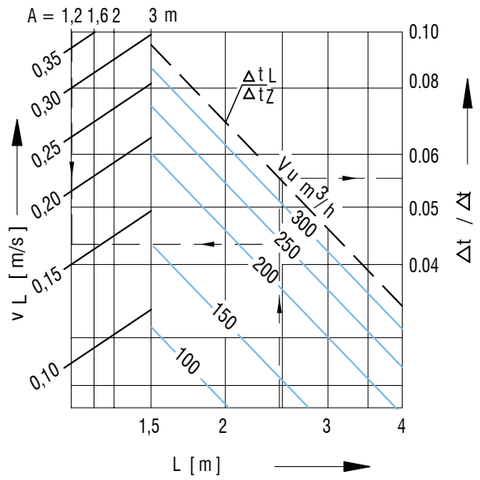
Given:
DVS-O/400-A/H 2 diffuser rows
A = 1.2 m
B = 3.0 m
h = 1.16 m
x = 1.5 m
H = 2.96 m
V = 250 m^3/h
Δtz = -7°C

Solution:
Diagram 2
Velocity between two diffusers, direction A
vh = 0.22 m/s
Velocity between two diffusers, direction B
vh = 0.16 m/s
Diagram 4
between wall and diffuser
L=x+h=1.5+1.16=2.66 m
vL = 0.16 m/s
ΔtL/ Δtz = 0,055
ΔtL = -7 x 0,055 = -0,385
Diagram 7
LWA = 33 dB (A)
Δpt = 14 Pa

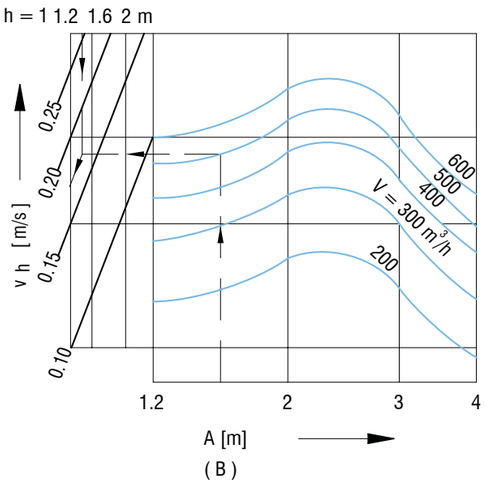
3. Air velocity between two diffusers- square arrangement (A = B)



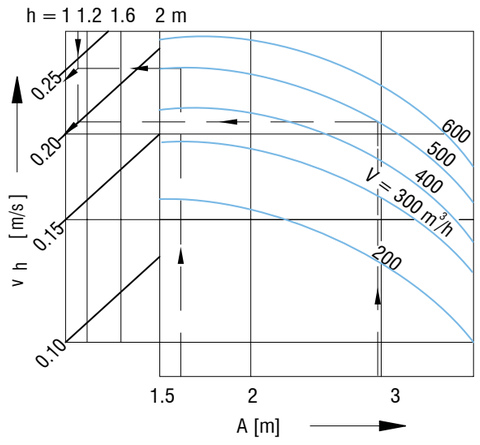
4. Air velocity at the wall and temperature ratio



5. Air velocity between two diffusers by single or multiple row arrangement, if spacing B ≥ 4 m



6. Air velocity between two diffusers by single or multiple row arrangement, if spacing B = 2,8 m... 3,5 m



SOLVEAIR
DIAGRAM
ORDERING KEY

DIAGRAMS

Example 3

Given: DVS-O/600-A/H 1 diffuser row
A = 1.5 m
h = 1.16 m
x = 1.8 m
H = 2.96 m
V = 500 m^3/h
Δtz = -7˚C

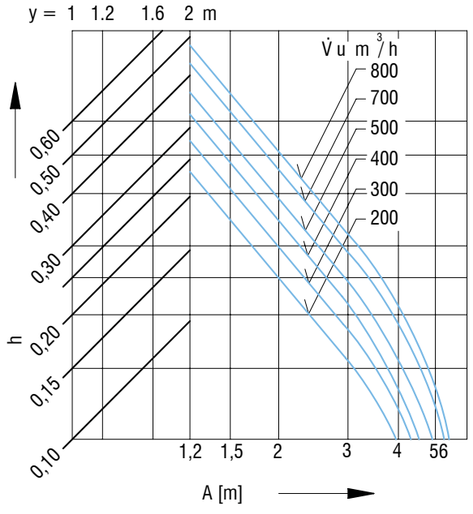
Solution:
Diagram 5
Velocity between two diffusers
vh = 0.18 m/s
Diagram 8
between wall and diffuser
L=x+h=1.8+1.16=2.96 m
vL = 0.22 m/s
ΔtL/ Δtz = 0,061
ΔtL = -7 x 0,061 = -0,4 ˚C
Diagram 11
LWA = 38 dB (A)
Δpt = 23 Pa

Example 4

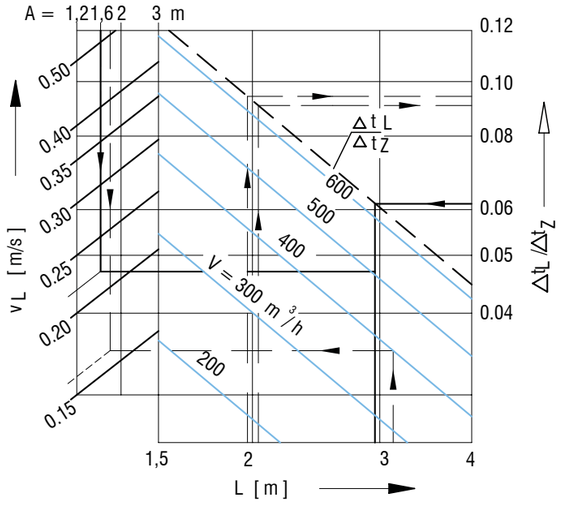
Given: DVS-O/600-A/H 2 diffuser rows
A = 1.6 m
B = 3 m
h = 1.16 m
x = 1.5 m
V = 500 m^3/h
Δtz = -7˚C

Solution:
Diagram 6
Velocity between two diffusers, direction A
vh = 0.24 m/s
Velocity between two diffusers, direction B
vh = 0.20 m/s
Diagram 8
between wall and diffuser
L=x+h=1.5+1.16=2.66 m
vL = 0.22 m/s
ΔtL/ Δtz = 0,065
ΔtL = -7 x 0,065 = -0,46 ˚C
Diagram 11
LWA = 23 dB (A)
Δpt = 23 Pa

7. Air velocity between two diffusers - square arrangement (A = B)



8. Air velocity at the wall and temperature ratio



Sound power level and pressure drop

Diagram 9: Type DVS 400 and 500-A

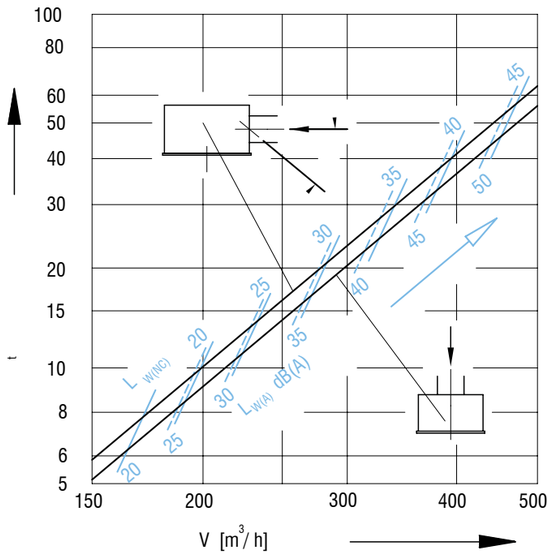
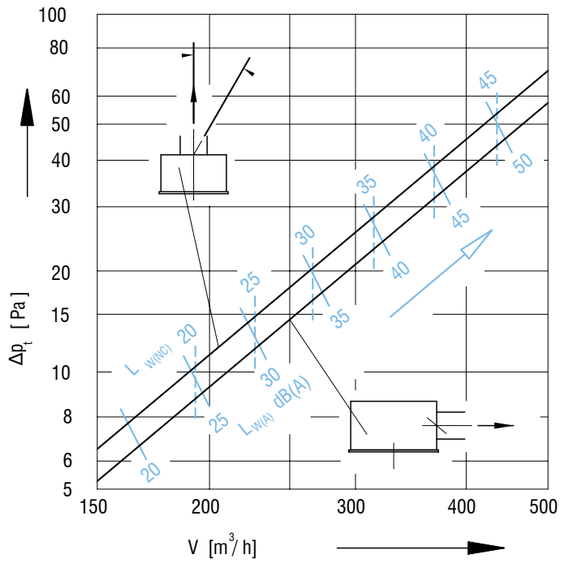


Diagram 10: Type DVS 400 and 500-B



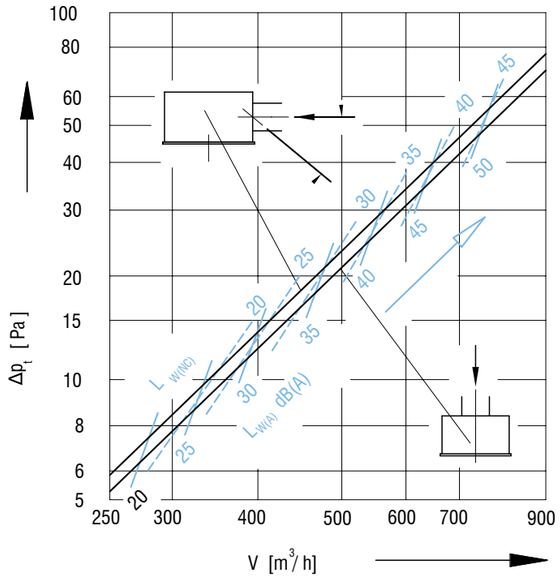
Sound power level corrections and pressure drop from diagram 9

Damper angle α	0°	45°	90°
Δp_t	x 1,0	x 1,2	x 2,1
L_{WA}	-	+1	+3
L_{WNC}	-	+1	+3

Sound power level corrections and pressure drop from diagram 10

Damper angle α	0°	45°	90°
Δp_t	x 1,0	x 1,1	x 2,1
L_{WA}	-	+1	+2
L_{WNC}	-	+1	+2

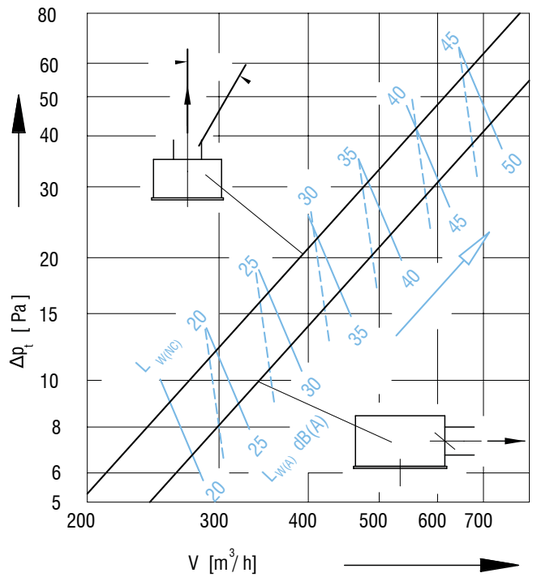
Diagram 11: Type DVS 600 and 625-A



Sound power level corrections and pressure drop from diagram 11

Damper angle α	0°	45°	90°
Δp_t	x 1,0	x 1,2	x 2,5
L_{WA}	-	+1	+2
L_{WNC}	-	+1	+2

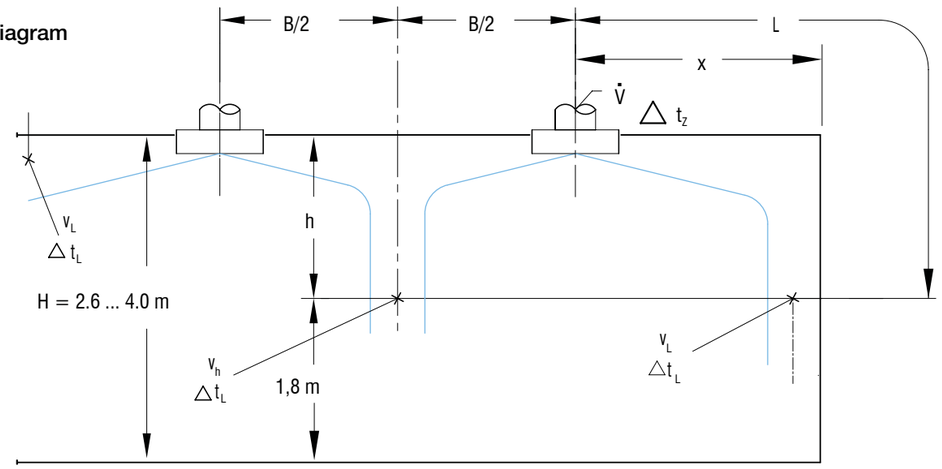
Diagram 12: Type DVS 600 and 625-B



Sound power level corrections and pressure drop from diagram 12

Damper angle α	0°	45°	90°
Δp_t	x 1,0	x 1,1	x 2,2
L_{WA}	-	+1	+4
L_{WNC}	-	+1	+4

Discharge diagram



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