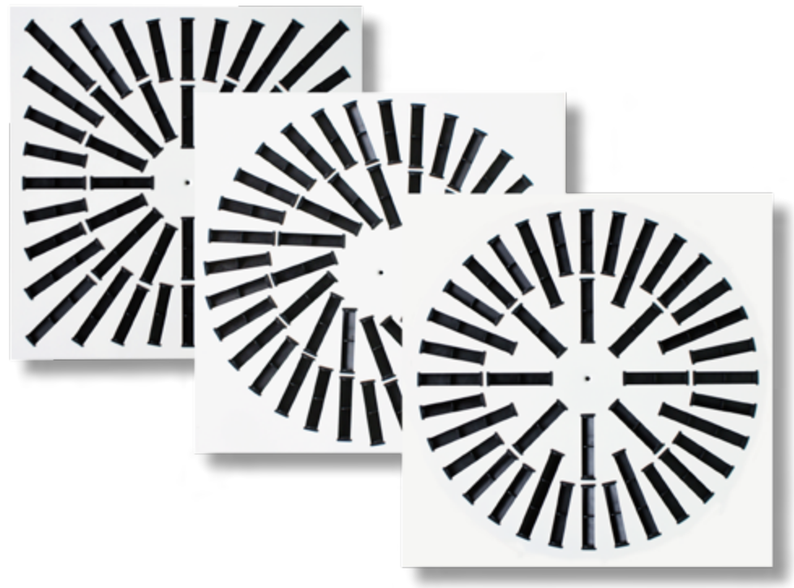
2/S5
v 3.3 (en)

ADJUSTABLE CEILING DIFFUSERS

DEV, DEK, DEU



klimaoprema

TABLE OF CONTENTS

Definition of symbols:

V [m³/h]	- Air flow	v_h [m/s]	- Average core velocity at distance h (m) from diffuser
V_{uk} [m³/h]	- Total air volume in motion		
h [m]	- Distance from the ceiling to the occupied zone	Δp [Pa]	- Total pressure drop
		t_p [°C]	- Air temperature in the room
H [m]	- Room height	t_z [°C]	- Supply air temperature
A,B [m]	- Distance between diffusers	t_m [°C]	- Core air temperature
x [m]	- Distance from wall	Δt_z [°C]	- $(t_z - t_p)$
L [m]	- Throw distance (x+h)	Δt_L [C°]	- $(t_m - t_p)$
A_{ef} [m2]	- Effective discharge area	i	- Induction V_{uk}/V
v_{ef} [m/s]	- Effective jet velocity	L_{WA} [dB(A)]	- Sound power level
v_L [m/s]	- Average core velocity at distance L (m) from diffuser		

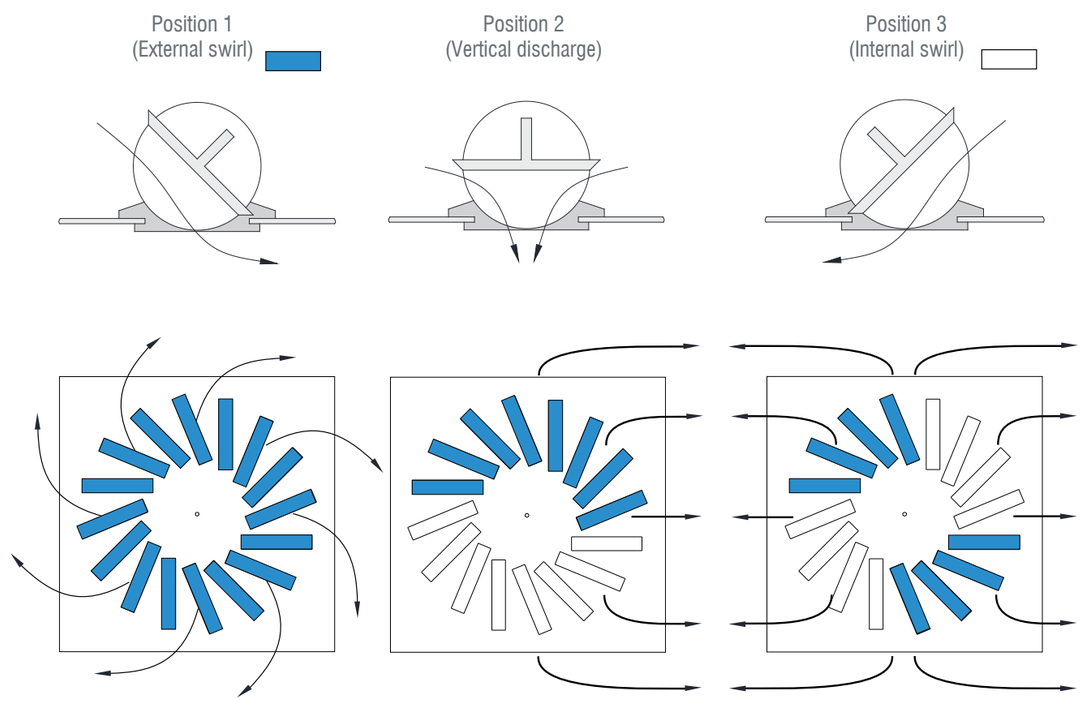
DEV, DEK, DEU

- Ceiling diffuser for room heights from 2,3 to 4m.
- Made out of steel sheet, standard RAL 9010
- Individually adjustable black discharge elements
- Central screw fixing

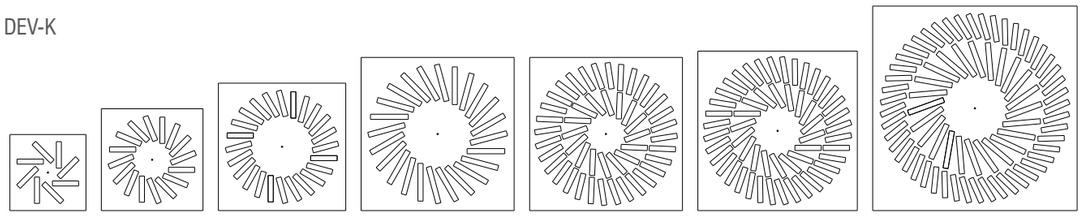
Options

- RAL...
- Plenum box
- White discharge elements

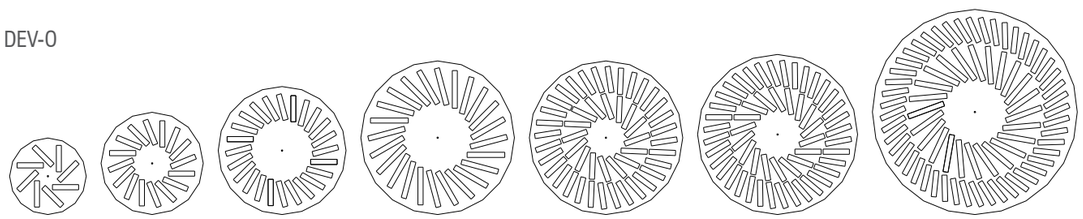
Adjusting discharge direction



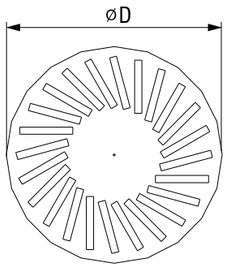
DEV-K

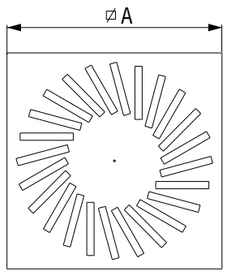


DEV-O



DEV	⍁A [mm]	øD [mm]	Number of outlets	A_{ef} [m^2]	ød [mm]
300/8	298	298	8	0,0095	158
400/16	398	398	16	0,0189	198
500/16	498	498	16	0,0189	198
500/24	498	498	24	0,0284	198
600/16	595	595	16	0,0189	198
600/24	595	595	24	0,0449	248
600/48	595	595	48	0,0568	248
625/16	623	623	16	0,0189	198
625/24	623	623	24	0,0449	248
625/48	623	623	48	0,0568	248
625/54	623	623	54	0,0639	248
800/72	798	798	72	0,1017	313





Ordering key:

Type	DEV	- K	- 600/16	- C	- A	- H	- ød	- Z
K - squre diffuser **O** - round diffuser								
Size								
B - white discharge elements **C** - black discharge elements								
A - supply air **B** - exhaust air								
H - horizontal connection **V** - vertical connection								
Connection diameter								
Insulation								

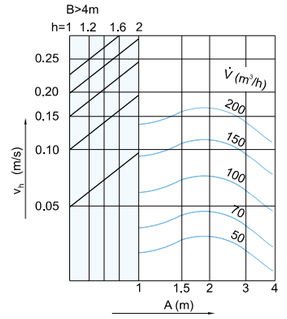
*Screws are not delivered
**Ordering key for Plenum box on page 184

ADJUSTABLE CEILING DIFFUSERS

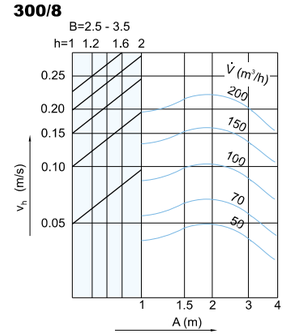
SELECTION DIAGRAMS FOR DEV-K I DEV-O

Diagrams of mean jet velocity v_h at distance B and diagrams of mean jet velocity along the wall v_L and temperature ratio for diffuser DEV (300/8 - 625/24)

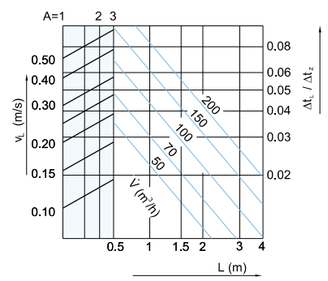
300/8



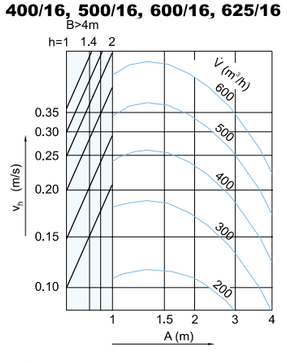
300/8



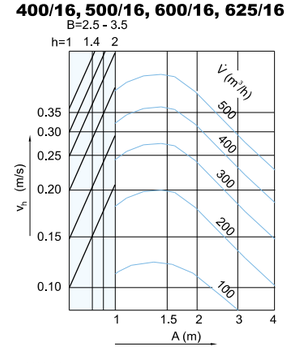
300/8



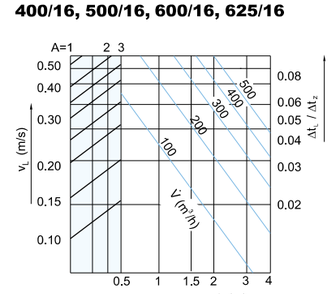
400/16, 500/16, 600/16, 625/16



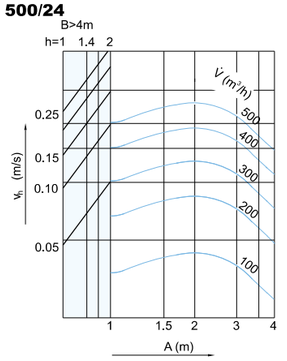
400/16, 500/16, 600/16, 625/16



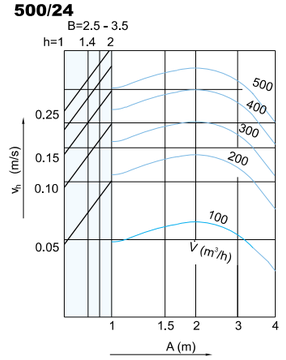
400/16, 500/16, 600/16, 625/16



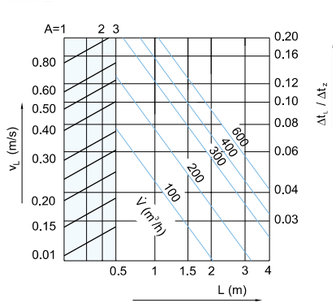
500/24



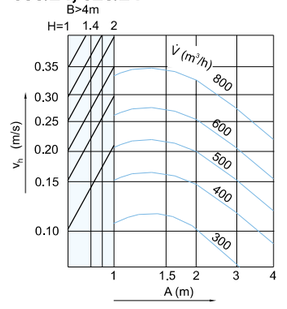
500/24



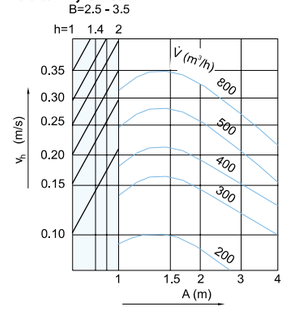
500/24



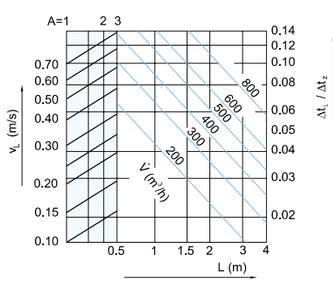
600/24, 625/24



600/24, 625/24

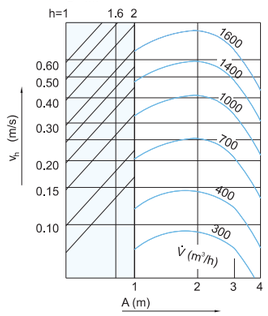


600/24, 625/24

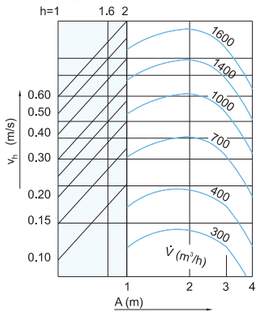


Diagrams of mean jet velocity v_h at distance B and diagrams of mean jet velocity along the wall v_L and temperature ratio for diffuser DEV (625/48 - 825/72)

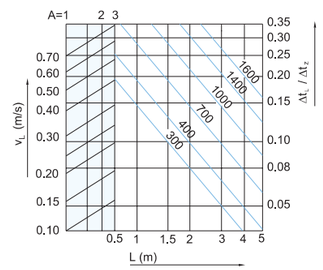
600/48



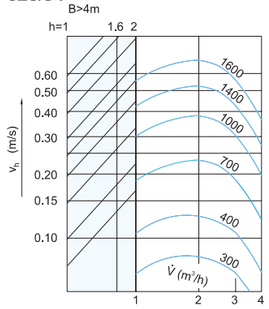
600/48



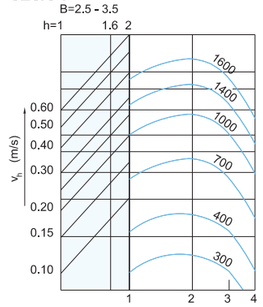
600/48



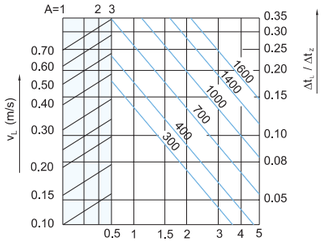
625/54



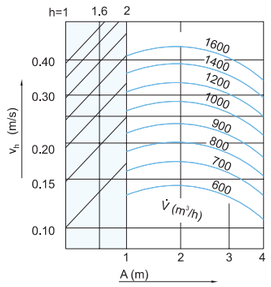
625/54



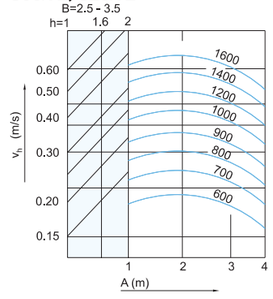
625/54



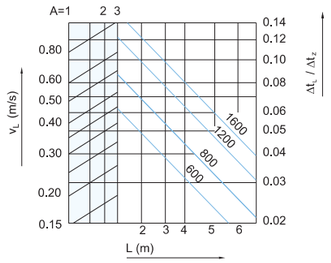
800/72, 825/72



800/72, 825/72

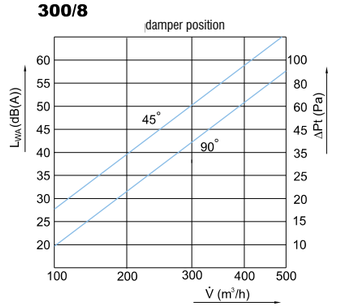


800/72, 825/72

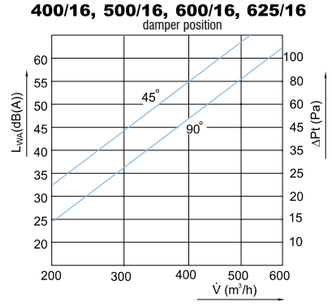


Air pressure drop and sound power level diagrams depending on damper position

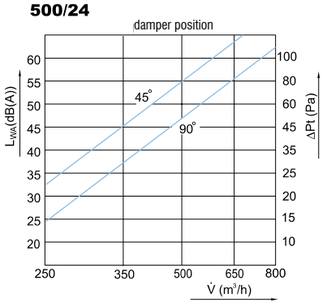
300/8



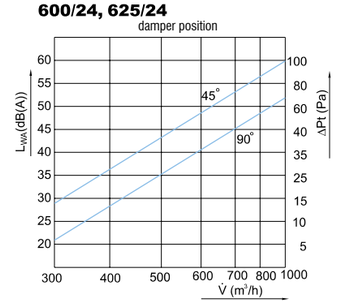
400/16, 500/16, 600/16, 625/16



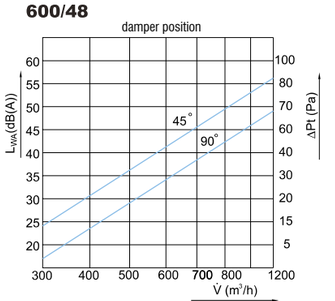
500/24



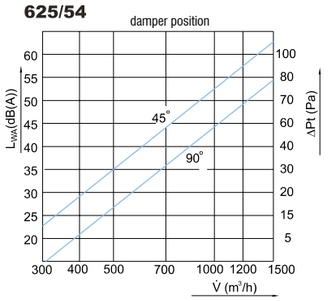
600/24, 625/24



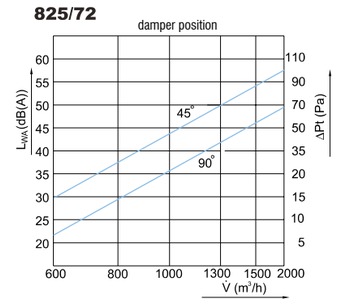
600/48



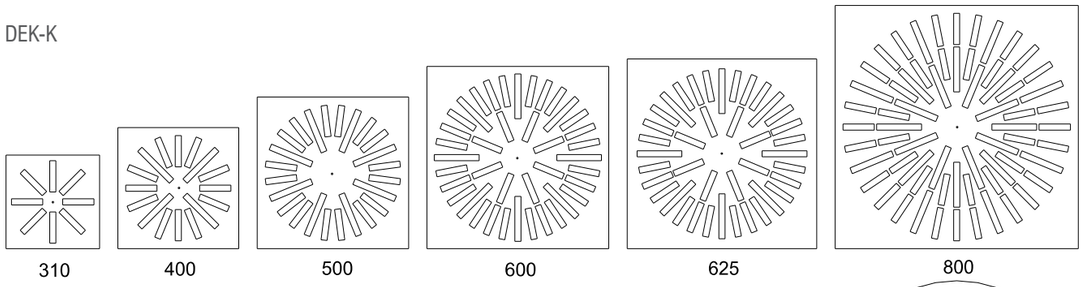
625/54



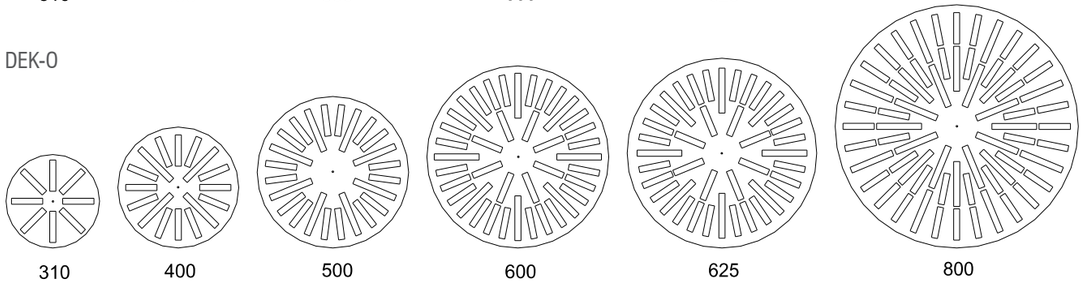
825/72



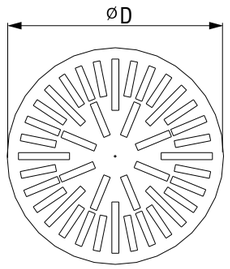
DEK-K

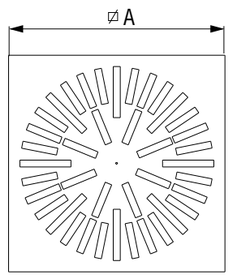


DEK-O



DEK	⍁ A [mm]	øD [mm]	Number of outlets	A_{ef} [m^2]	ød [mm]
310	308	308	8	0,012	158
400	398	398	16	0,0248	198
500	498	498	24	0,0392	248
600	595	595	40	0,0565	248
625	623	623	40	0,0565	248
800	798	798	64	0,0938	313





Ordering key:

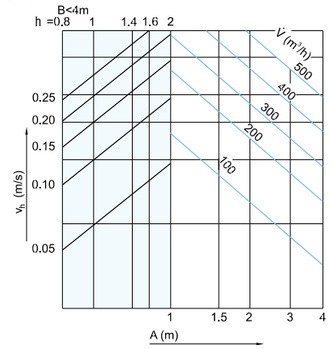
Type	DEK	- K	- 400	- C	- A	- H	- ød	- Z
K - square diffuser **O** - round diffuser								
Size								
B - white discharge elements **C** - black discharge elements								
A - supply air **B** - exhaust air								
H - horizontal connection **V** - vertical connection								
Connection diameter								
Insulation								

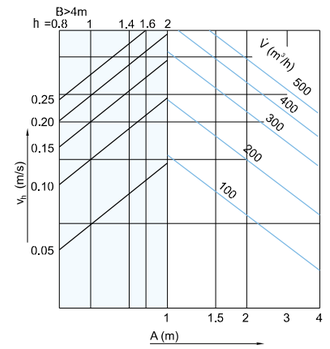
*Screws are not delivered
**Ordering key for Plenum box on page 184

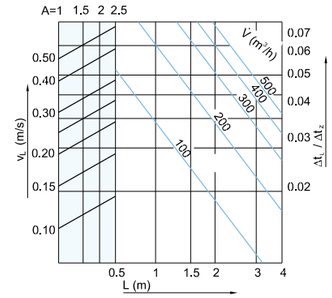
SELECTION DIAGRAMS FOR DEK-K AND DEK-O

Diagrams of mean jet velocity v_h at distance B and diagrams of mean jet velocity along the wall v_L and temperature ratio for diffuser DEK (310 - 500)

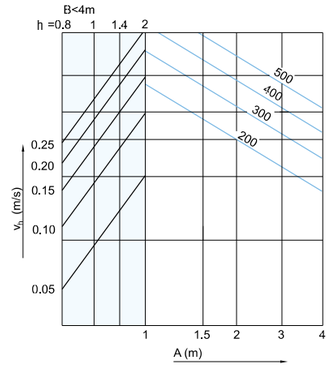
310

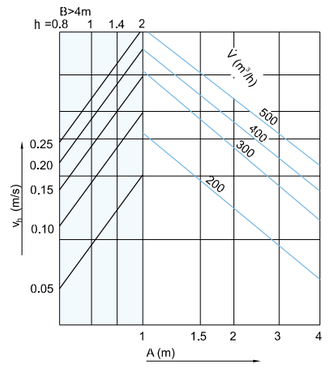


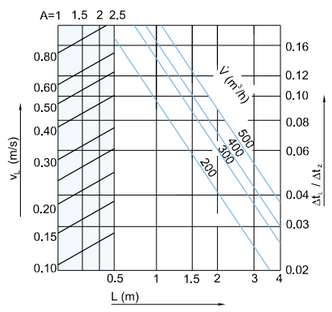




400







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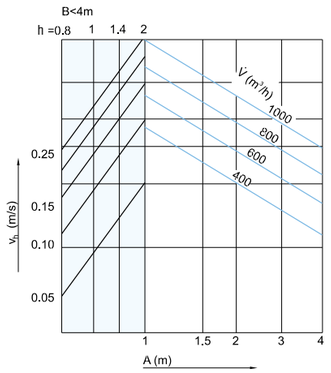
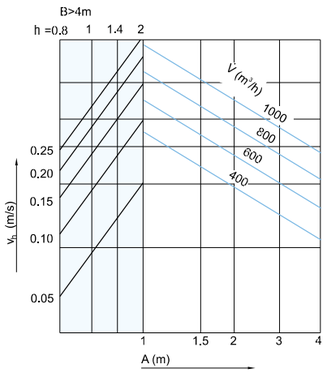
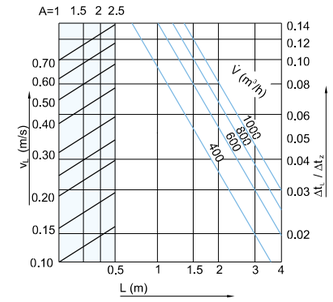
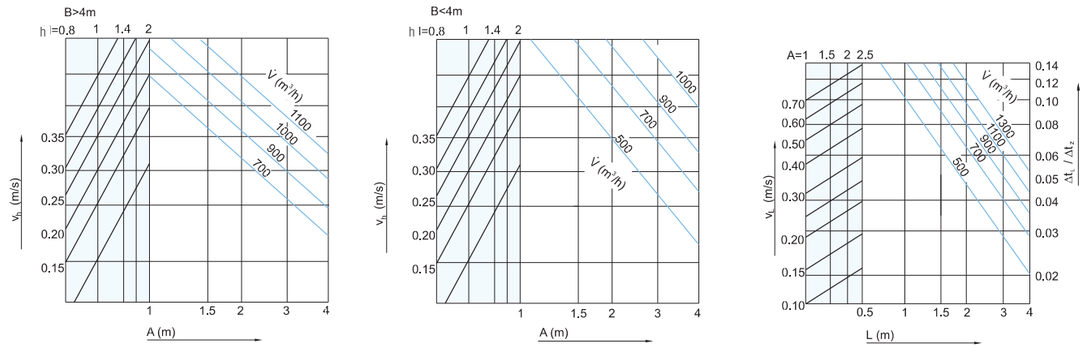






Diagrams of mean jet velocity v_h at distance B and diagrams of mean jet velocity along the wall v_L and temperature ratio for diffuser DEK (600 - 800)

600,625



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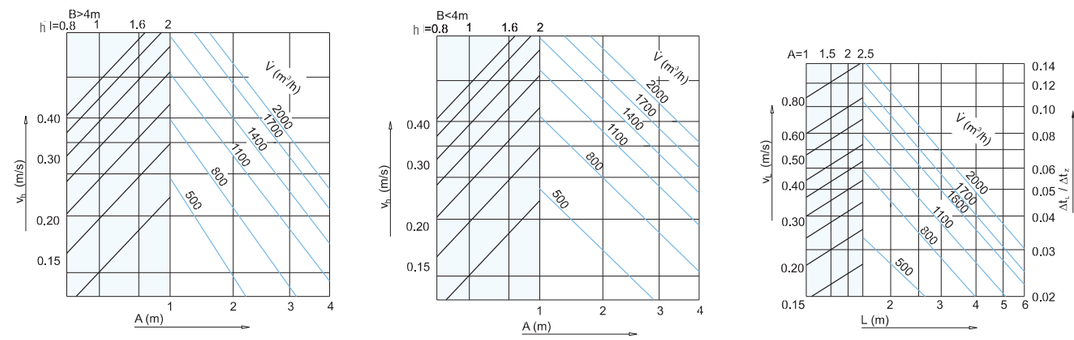
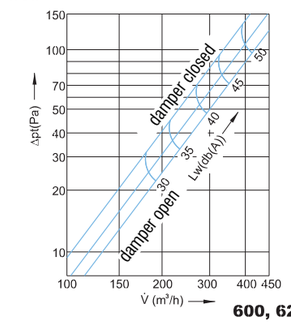


Air pressure drop and sound power level diagrams depending on damper position (for diffuser with plenum box)

310



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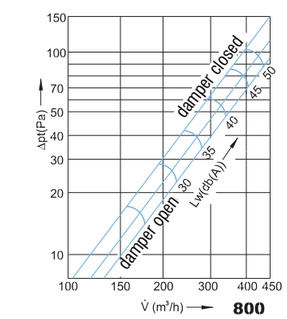
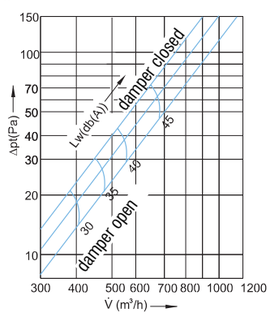
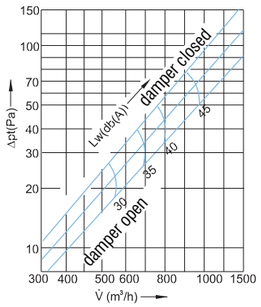


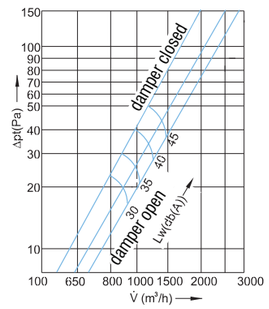
500



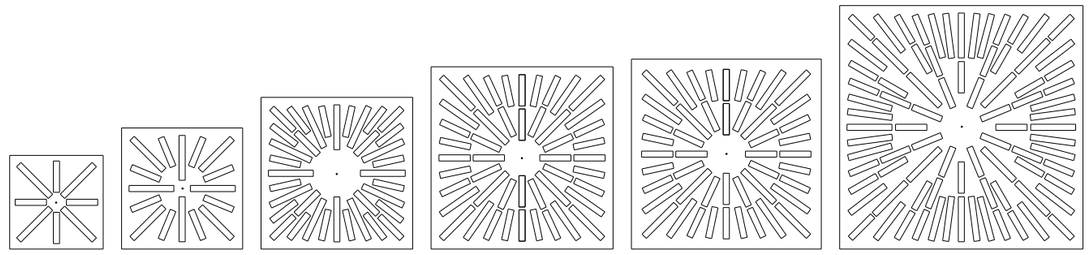
600, 625



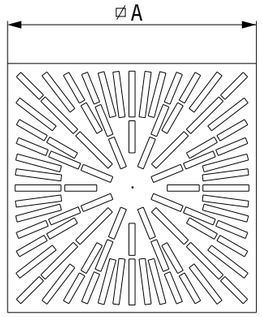
800



DEU



DEU	⍁A [mm]	øD [mm]	Number of outlets	A_{ef} [m²]	ød [mm]
310	308	-	8	0,0192	158
400	398	-	16	0,0248	198
500	498	-	36	0,0517	248
600	595	-	48	0,0718	248
625	623	-	48	0,0718	248
800	798	-	84	0,1359	313



Ordering key:

Type **DEU - 600 - C - A - H - ød - Z**

Size

B - white discharge elements
C - black discharge elements

A - supply air
B - exhaust air

H - horizontal connection
V - vertical connection

Connection diameter

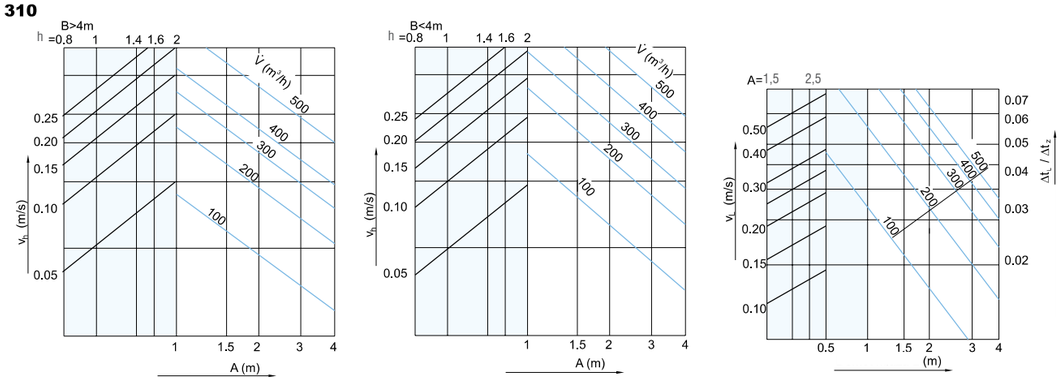
Insulation

*Screws are not delivered
**Ordering key for Plenum box on page 184

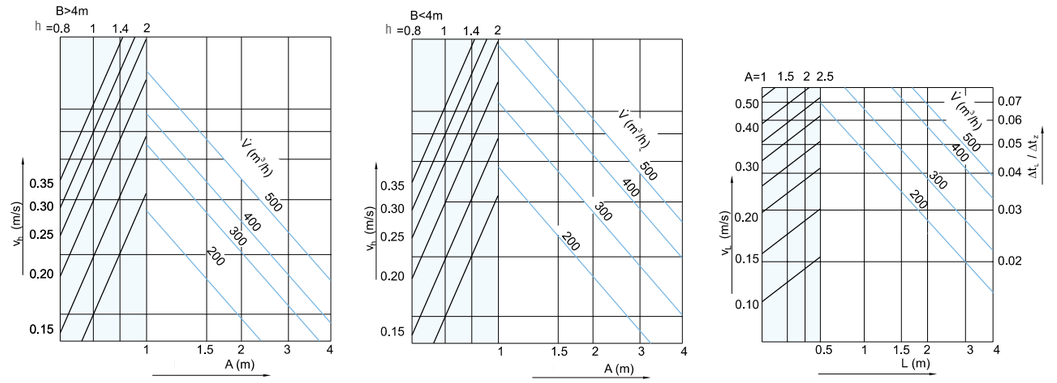
SELECTION DIAGRAM FOR DEU

Diagrams of mean jet velocity v_h at distance B and diagrams of mean jet velocity along the wall v_L and temperature ratio for diffuser DEU (310 - 500)

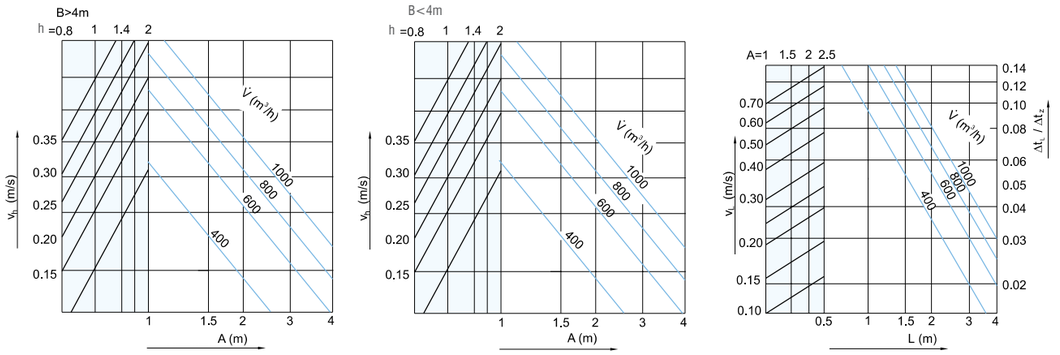
310



400

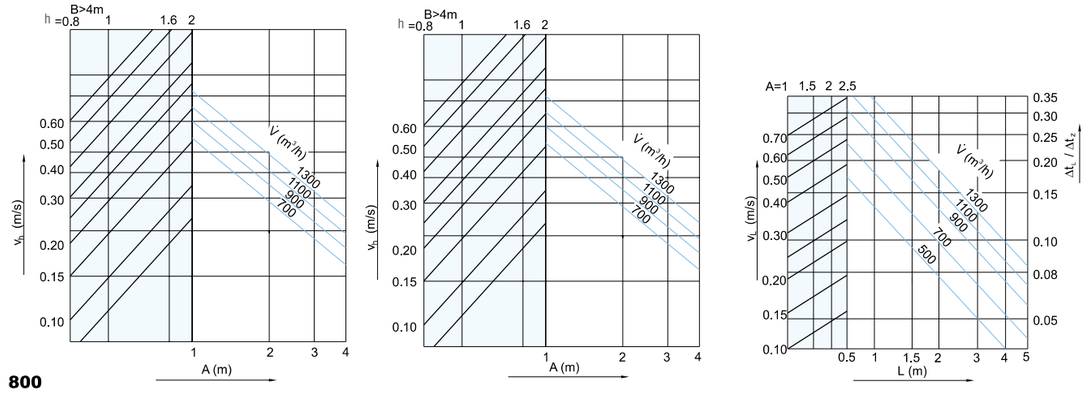


500

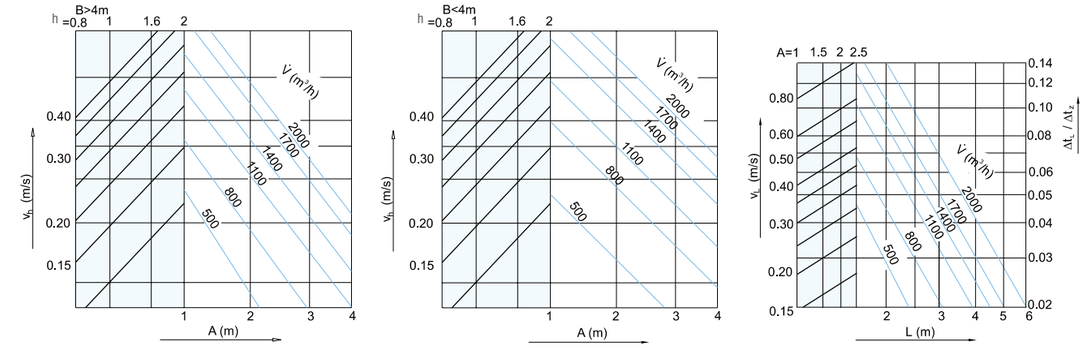


Diagrams of mean jet velocity v_h at distance B and diagrams of mean jet velocity along the wall v_L and temperature ratio for diffuser DEU (600 - 800)

600, 625

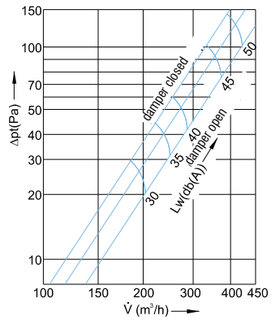


800

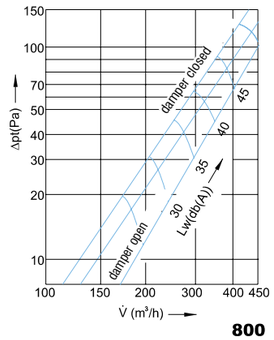


Air pressure drop and sound power level diagrams depending on damper position (for diffuser with plenum box)

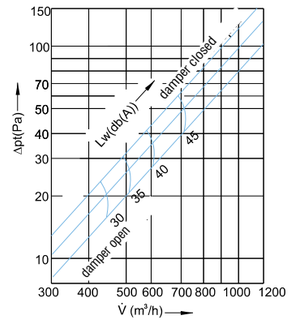
310



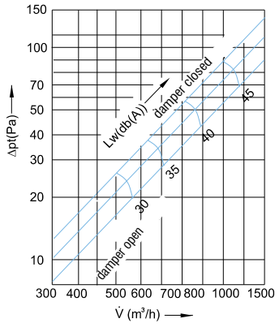
400



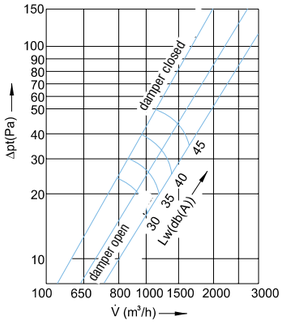
500



600, 625



800



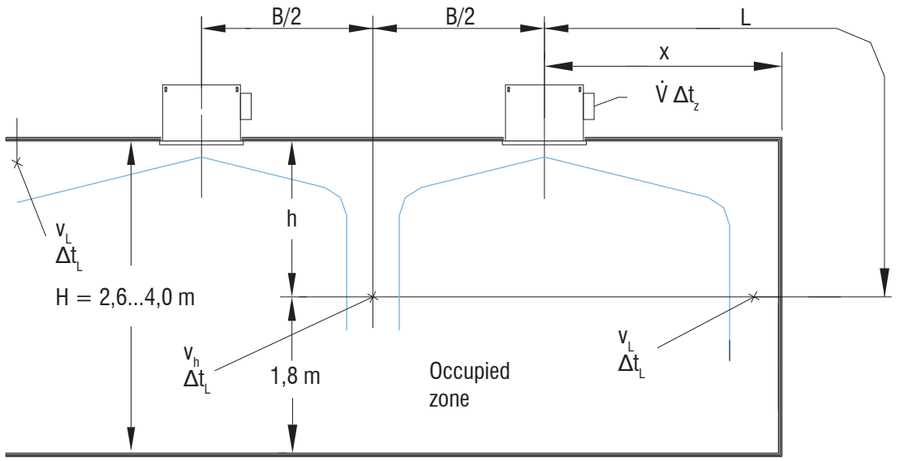
Example 1:

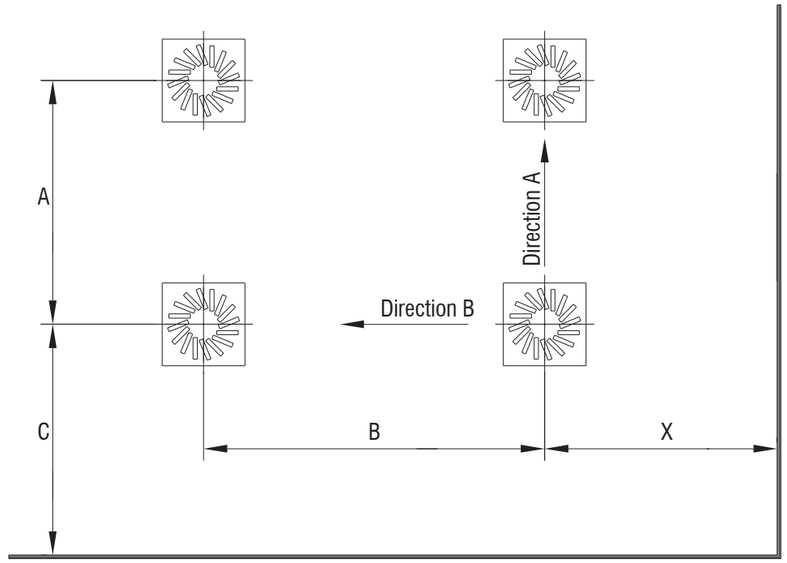
Given:

Type DEV 300/8
A = 2 m
h =1.6 m
L =3 m
B > 4 m
V = 150 m³/h

Solution:

Diagram pg. 5
v_h = 0.07 m/s
v_L = 0.13 m/s
Diagram pg. 7
Damper open 45%
p= 24 Pa
L_{WA}= 34 dB (A)





NOTES: