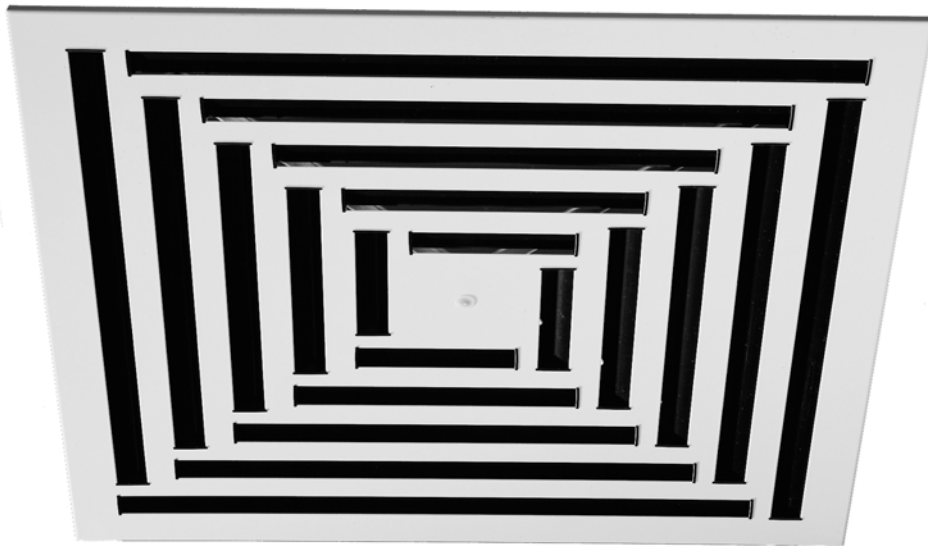




Ceiling diffuser

4DE



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Telephone +49 (0) 74 63 - 980 - 0
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info@schako.de
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Ceiling diffuser 4DE

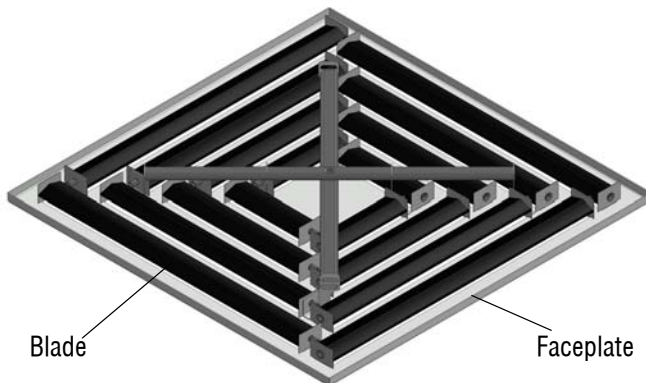
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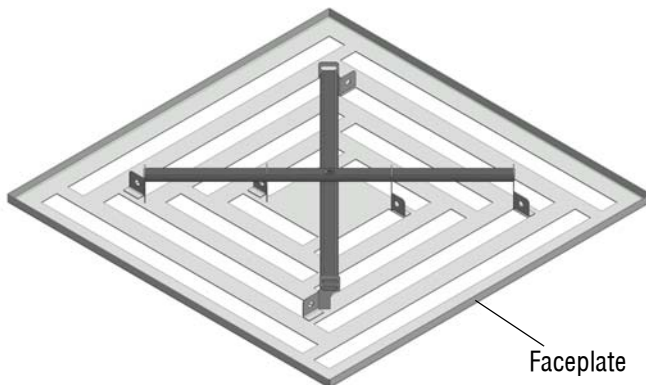
Ceiling diffuser 4DE

Overview of product versions

4DE-Z... (supply air)



4DE-A... (return air)



Description

Square ceiling diffuser type 4DE features **manually adjustable air deflection blades**. The blades can be adjusted from below even if the diffuser is installed in order to allow an adaptation of the air throw pattern to changing room use. Both horizontal and vertical air throw patterns can be achieved. Ceiling diffuser type 4DE can be used in **heating or cooling mode**.

The fastening without edges of the air deflection blades in the front plate allows easy cleaning. The air deflection blades made of plastic in support blade profile are aerodynamic and ensure an optimal air throw pattern. By consistently avoiding sharp edges, a **low noise function** is achieved.

Ceiling diffuser type 4DE is manufactured in **supply air and return air models**. In the return air model, the air deflection blades have been omitted. In exchange, the plenum box is painted to the RAL colour 9005 (black) on the inside.

A hit-and-miss damper can be fitted to the diffuser instead of a plenum box when the duct is fitted or if the false ceiling has a low height.

A volumetric flow meter can be integrated into the spigot of the plenum box at an extra charge. The measurement error of the volumetric flow meter is $\pm 5\%$ for a connection spigot velocity of 2–5 m/s and a straight flow pattern of at least $1 \times D$. The measurement is carried out with the diffuser mounted. By adjusting the damper, the required air volume of each diffuser can be set quickly and correctly.

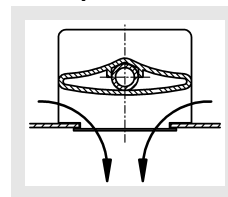
The damper, equalising grid and volume flow measuring device can easily be removed from the plenum type SK-Q-... model for easy cleaning from the room side.

Variable volumetric flow

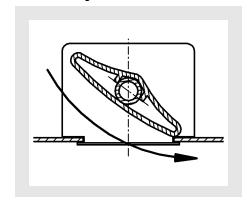
Ceiling diffuser type 4DE is also highly suitable for systems with variable volumetric flows. A stable air jet is guaranteed by the high exit velocities thus ensuring no air dumping.

Blade setting options

Blade position 1



Blade position 2



Ceiling diffuser 4DE

Construction

Faceplate

- Sheet steel (-SB-...):
 - painted in RAL colour 9010 (white, standard) (-9010)
 - painted to a different RAL colour, freely selectable (-xxxx) (always with 4 digits)
- natural colour anodised aluminium (E6/EV1, only possible with concealed mounting) (-AL-ELOX)

Blades

- without blades (standard for return air) (-00000)
- Plastic:
 - Similar to RAL colour 9005 (black) (-L9005)
 - Similar to RAL colour 9006 (grey) (-L9006)
 - Similar to RAL colour 9010 (white) (-L9010)
- Aluminium:
 - painted in RAL colour of the faceplate (subsequent adjustment of blades not possible) or in another RAL colour which can be freely selected (subsequent adjustment of blade is possible) (-Axxxx, always 5 digits)

Model

4DE-Z-...	Supply air
4DE-A-...	Return air, without blades
4DE-...-H-...	all blades in position 2 (standard)
4DE-...-V-...	blades in position 1, set ex works
4DE-...-C-...	without blades

Accessories

Hit-and-miss damper (-SN/-SS)

- without hit-and-miss damper (-SN) (standard)
- with hit-and-miss damper (-SS), for air volume regulation, made of galvanised sheet steel (only possible without plenum box)

Ball-impact guard (-B0/-BS)

- without ball-impact guard (-B0) (standard)
- with ball-impact guard (-BS):
 - only possible with SM mounting and for NW 800 only with VS mounting
 - made of steel painted in RAL colour of the faceplate (RAL colour 9010 [white, standard]) or painted in a freely selectable RAL colour different from the faceplate (possible at an extra charge)

plenum box (SK-Q-06-...) with square design, suitable for air diffuser 4DE, made of galvanised sheet steel (-SV), with fixing lugs

Type of air:

- supply air (-Z), with integrated perforated straightener
- return air (-A), painted inside in RAL colour 9005 (black)

Fastening:

- Concealed mounting (-VM)
- Screw mounting (SM)
- Screw mounting with concealed mounting (only model with ball-impact guard (-VS))

Damper:

- Without damper (-DK0) (standard)
- with damper in plenum box, adjustable from below, for easy air volume regulation without dismantling the faceplate
 - with damper without cable-operated adjustment (-DK1)
 - with damper with cable-operated adjustment (-DK2)

Rubber lip seal:

- without rubber lip seal (-GD0) (standard)
- with rubber lip seal (-GD1), made of special rubber, at the connection spigot

Volumetric flow meter:

- Without volumetric flow meter (-VME0) (standard)
- with volumetric flow meter (-VME1)

ROB version:

- without ROB version (-ROB0) (standard)
- with ROB version (-ROB1), removable diffuser plate, damper and volumetric flow meter

Insulation:

- without insulation (-I0) (standard)
- with internal insulation (-Ii), thermal insulation inside the plenum box
- with external insulation (-Ia), thermal insulation on the outside of the plenum box

Ceiling diffuser 4DE

- Height of box:
 - Standard height of plenum box (-KHS)
 - height of box in mm, freely selectable (-xxx, always 3 digits) (min. box height [KHS] = spigot diameter D +102 mm, but at least 200 mm) (for SK-Q-06-Z-310/-400-...-DK1/-DK2-...-S0 models, observe special height of box)
- Spigot diameter:
 - Standard spigot diameter (-SDS)
 - spigot diameter (D) in mm, freely selectable (-xxx, always 3 digits)
- Spigot position:
 - Spigot from above (-S0)
 - 1 lateral spigot on the plenum box (-S1) (standard)
 - 2 lateral spigots, offset by 90° (-S2)
 - 2 lateral spigots, offset by 180° (-S3)
 - 2 spigots arranged next to each other (-S5)

Fastening

Screw mounting (-SM, standard)

- screws are to be placed on site (with 4 slotted shallow-raised, countersunk-head tapping screws, not possible for NW 800)

Concealed mounting (-VM, standard for NW 800)

- only possible with plenum box (-SK-Q-06-...)
- in concealed mounting, the ceiling air diffuser is fastened to the plenum box with a pole brace and hexagon socket head screws (DIN EN ISO 4762 M6)
- pole brace fastening with aerodynamic aluminium profile (up to NW 400 with 4-point suspension/NW 500 and higher with 6-point suspension)

Screw mounting with concealed mounting (-VS)

- Screw mounting (-SM) in combination with concealed mounting (-VM)
- only possible for NW 800 in conjunction with ball-impact guard (-BS)

Ceiling diffuser 4DE

Models and dimensions

Air throw pattern

Possible blade settings and screw mounting (SM)

Air throw "H" (horizontal)

all blades in position 2

Air throw pattern "H" is preset in factory

Air throw pattern "V" (vertical)

Different blade settings, blade positions 1 and 2

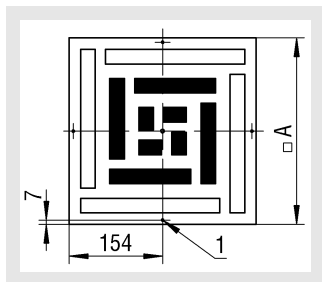
Blade position 1



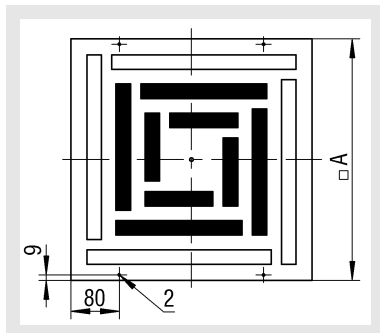
Blade position 2



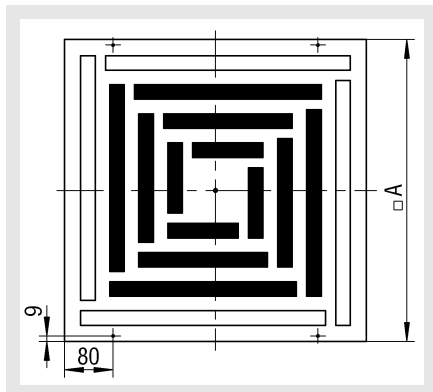
4DE-...-310-...



4DE-...-400-...



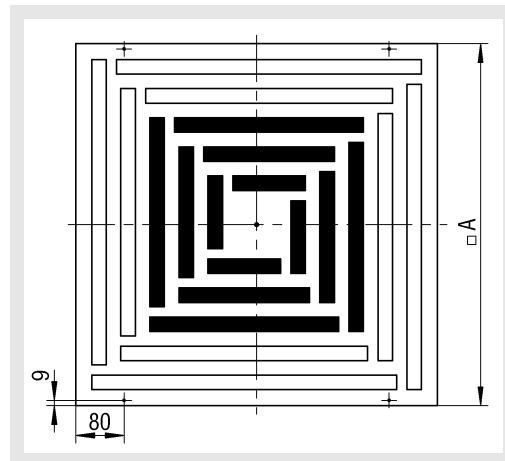
4DE-...-500-...



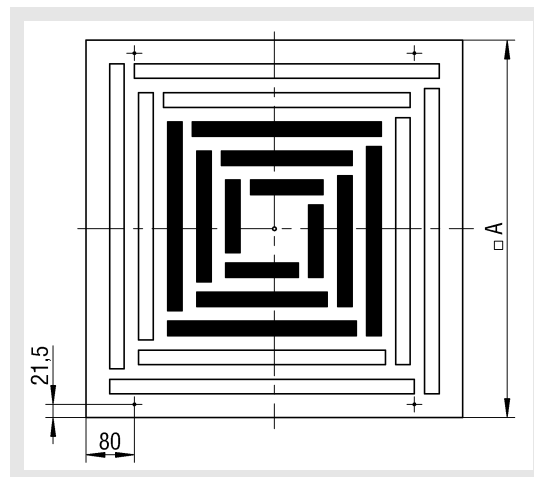
1 = Indentation for slotted shallow-raised countersunk-head tapping screw DIN ISO 7051 pitch 3.9

2 = available from NW 400. Indentation for raised countersunk head tapping screw according to DIN ISO 7051 pitch 4.8.

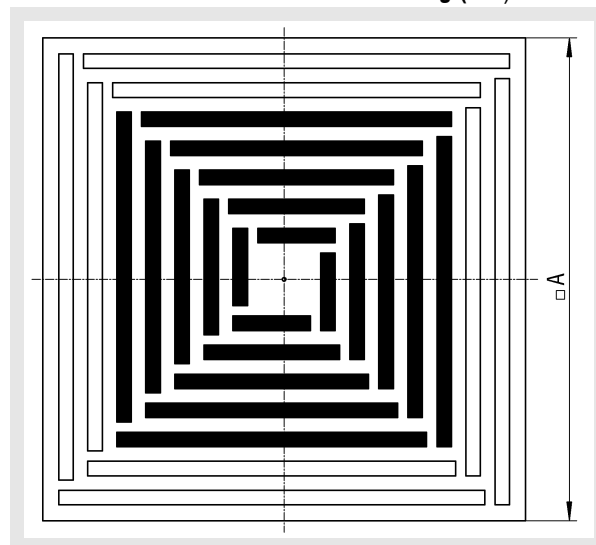
4DE-...-600-...



4DE-...-625-...



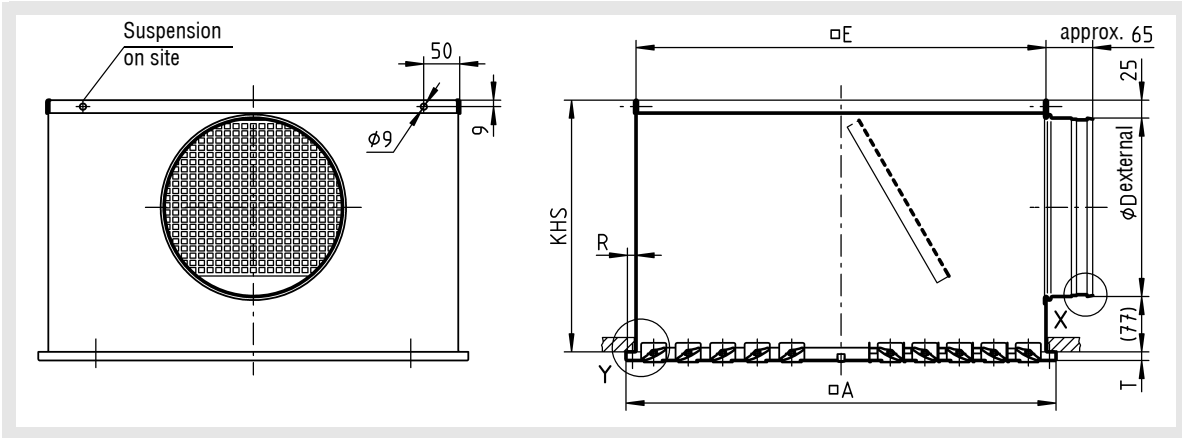
4DE-...-800-... with concealed mounting (VM)



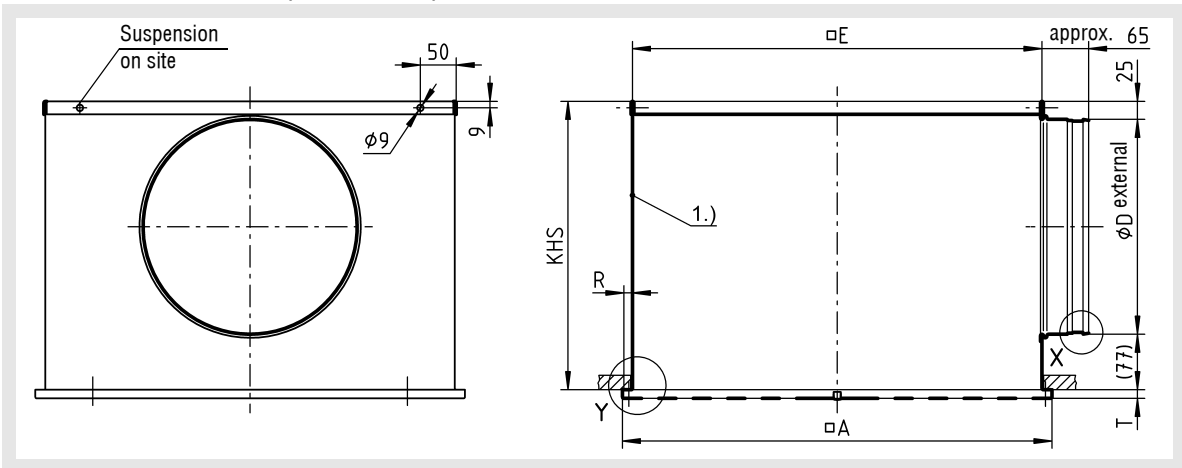
Ceiling diffuser 4DE

Dimensions

4DE-Z with SK-Q-06-Z-... (for supply air)



4DE-A with SK-Q-06-A-... (for return air)



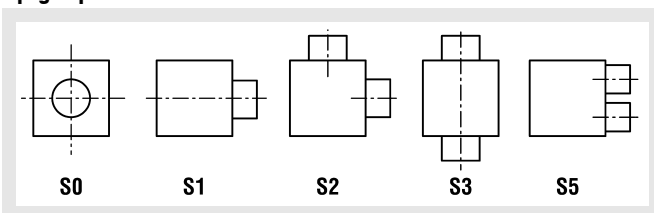
1) Inside painted to RAL 9005 (black)

Available sizes

NW	$\square A$	$\square E$	R	T	SK-Q-06-Z-...		SK-Q-06-A-...		ϕD_{max} for ...-S5
					KHS	ϕD	KHS	ϕD	
310	308	290	8	7	260	158	300	198	98
400	398	370	12	12	260	158	300	198	138
500	498	470	12	12	300	198	350	248	198
600	598	570	12	12	350	248	400	298	248
625	623	570	24	12	350	248	400	298	248
800	798	770	12	12	455	353	455	353	353

KHS= standard height of plenum box
 Special height of plenum box = $\phi D + 102\text{mm}$, but at least 200mm
 Note: For SK-Q-06-Z-...-DK1/-DK2-...-S0, the height of the box changes to KHS = 280 mm for NW 310 and NW 400 (see p. 8)

Spigot position



Ceiling diffuser 4DE

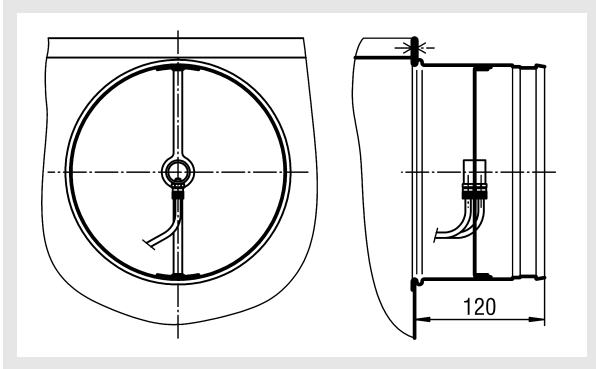
Accessories - dimensions

Volumetric flow meter (-VME0/-VME1),

for SK-Q-06-...

- Without volumetric flow meter (-VME0) (standard)
- with volumetric flow meter (-VME1)

Volumetric flow meter (-VME1)

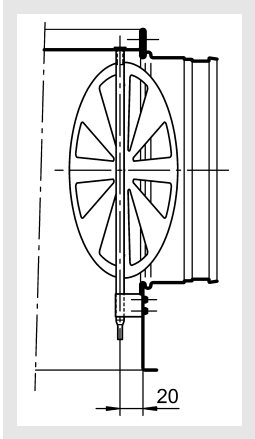


Damper (-DK0/-DK1/-DK2), for SK-Q-06-...

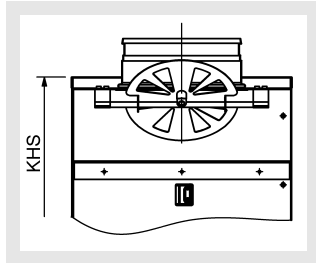
- Without damper (-DK0) (standard)
- with damper in plenum box
 - without cable-operated adjustment (-DK1)
 - with cable-operated adjustment (-DK2)

Damper (-DK1/DK2)

Spigot position (-S1/-S2/-S3/-S5)



Spigot position (-S0)



Height of box:

For the model with spigot from above (-S0) in combination with damper (-DK1/-DK2), the height of the box KHS changes for NW 310 & NW 400 (see table below).

SK-Q-06-Z-...-DK1/DK2-...-S0

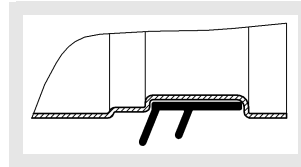
NW	KHS	øD
310	280	158
400	280	158

Rubber lip seal (-GD0/-GD1), for SK-Q-06-...

- without rubber lip seal (-GD0) (standard)
- with rubber lip seal (-GD1), made of special rubber, at the connection spigot

Rubber lip seal (-GD1)

Detail X



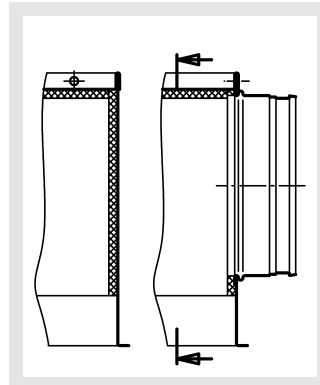
ROB version (-ROB0/-ROB1), for SK-Q-06-...

- without ROB version (-ROB0) (standard)
- with ROB version (-ROB1), removable diffuser plate, damper and volumetric flow meter

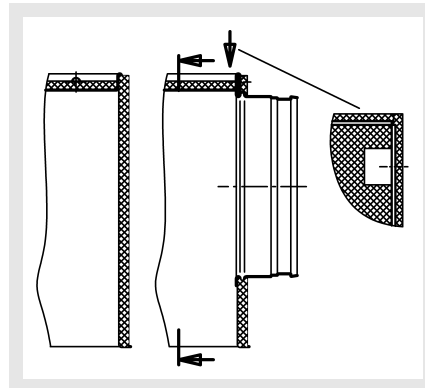
Insulation (-I0/-I1/-Ia), for SK-Q-06-...

- without insulation (-I0) (standard)
- with internal insulation (-I1)
- with external insulation (-Ia)

Internal insulation (-I1)



External insulation (-Ia)



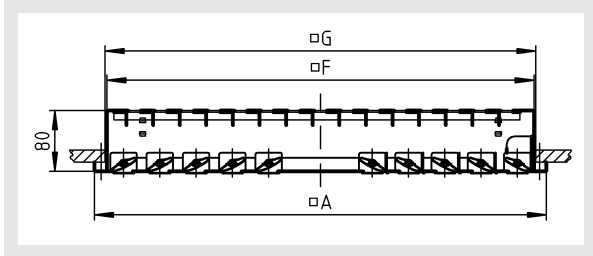
Ceiling diffuser 4DE

Hit-and-miss damper (-SN/-SS)

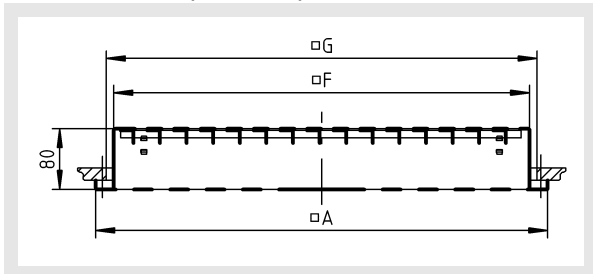
- without hit-and-miss damper (-SN) (standard)
- with hit-and-miss damper (-SS) for air volume regulation (only possible without plenum box)

Hit-and-miss damper (-SS)

4DE-Z-...-SS-... (supply air)



4DE-A-...-SS-... (return air)



A hit-and-miss damper is only available for an aluminium faceplate together with SM mounting.

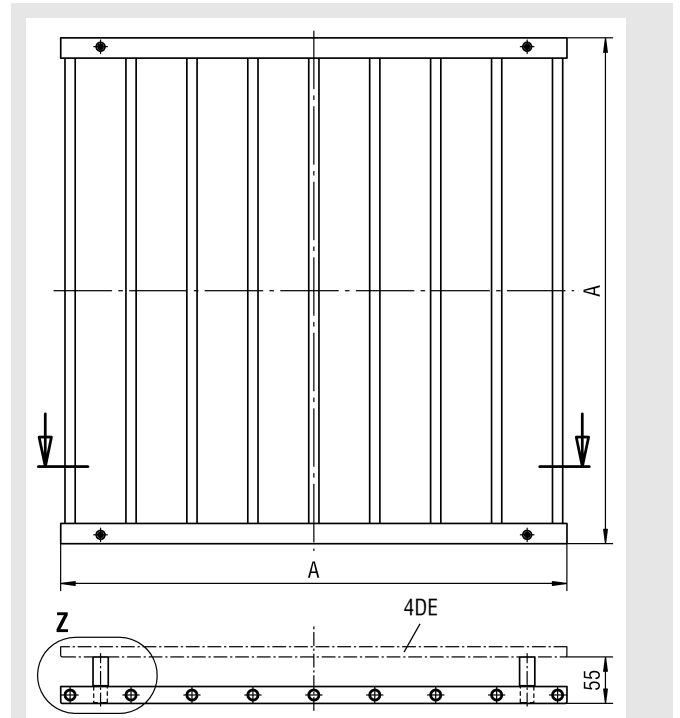
Available sizes

NW	□A	□F		□G
		-Z-...-SS-...	-A-...-SS-...	
310	308	280	280	295
400	398	360	350	370
500	498	460	450	470
600	598	560	550	570
625	623	560	550	570
800	798	755	750	770

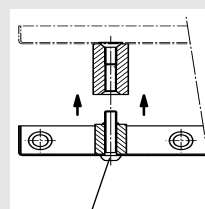
Ball-impact guard (-B0/-BS)

- without ball-impact guard (-B0) (standard)
- with ball-impact guard (-BS)
 - only possible with SM mounting and for NW 800 only with VS mounting
 - made of steel painted in RAL colour of the faceplate (RAL colour 9010 [white, standard]) or painted in a freely selectable RAL colour different from the faceplate (possible at an extra charge)

Ball-impact guard (-BS)



Detail Z

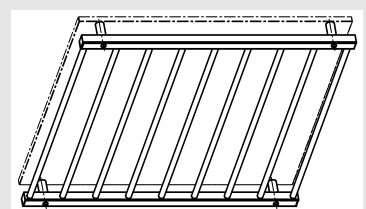


ULS screw DIN EN ISO 7380
M6x30

Available sizes

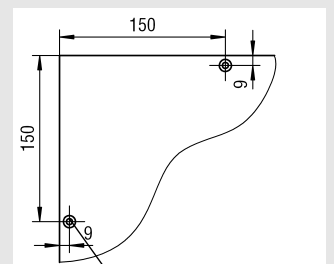
NW	□A
310	308
400	398
500	498
600	598
625	623
800*	798

*NW 800: with concealed mounting



Dimensions VS mounting (for NW 800 only)

SM mounting for NW 310-625, see p. 5.



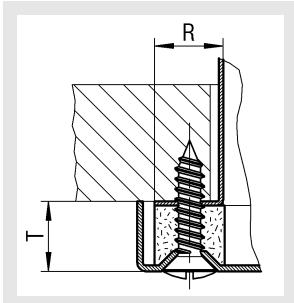
Indentation for slotted shallow-raised countersunk-head tapping screw DIN ISO 7051 pitch 4.8 (on site)

Ceiling diffuser 4DE

Fastening methods

Screw mounting (-SM)

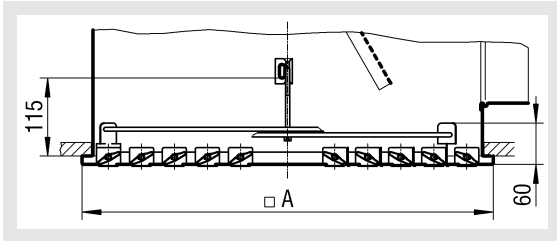
Detail Y



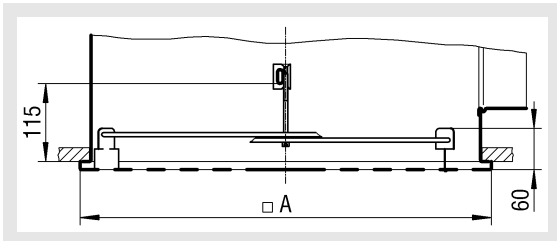
For screw mounting, the ceiling diffuser is fastened to the plenum box with 4 countersunk screws provided on site (not possible for NW 800).

concealed mounting (-VM, at extra cost)

4DE-Z...



4DE-A...



For concealed mounting, the ceiling diffuser is fastened to the plenum box with a pole brace and a hexagon socket head screw of type DIN EN ISO 4762 M6.

Attention:

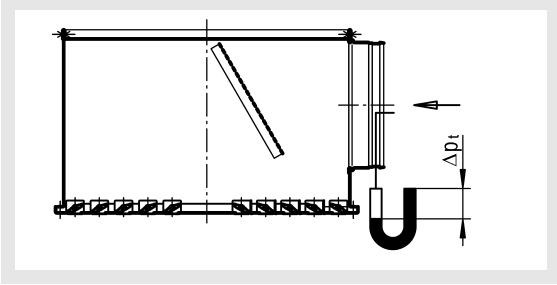
The max. torque of the fastening screw is 0.4 Nm.

Ceiling diffuser 4DE

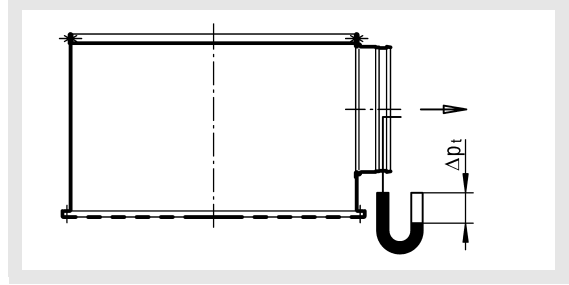
Technical data

Pressure loss and noise level

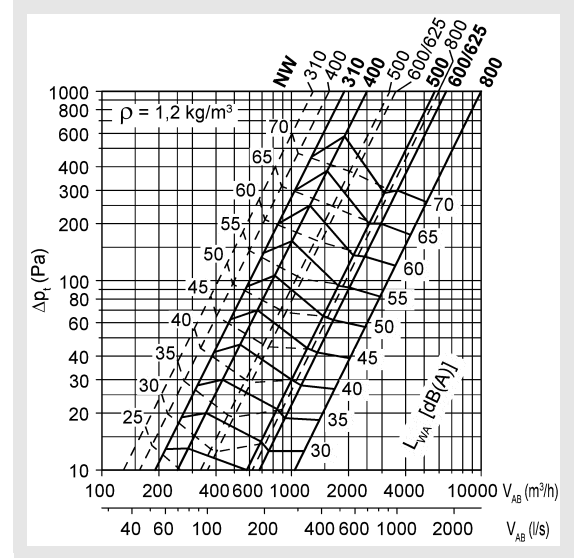
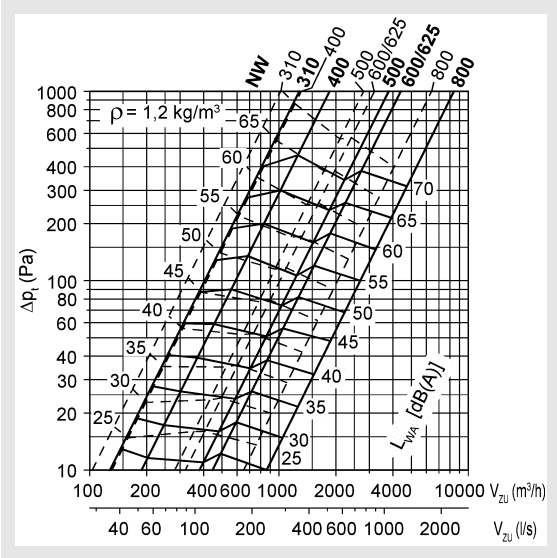
4DE-Z-... (supply air), with plenum box



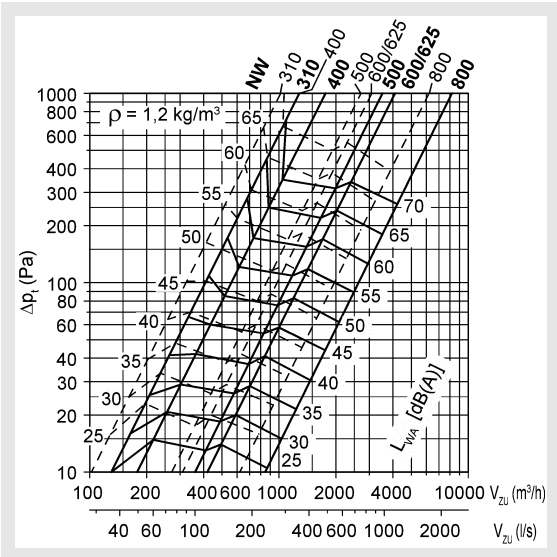
4DE-A-... (return air), with plenum box



Air throw "H" (horizontal)



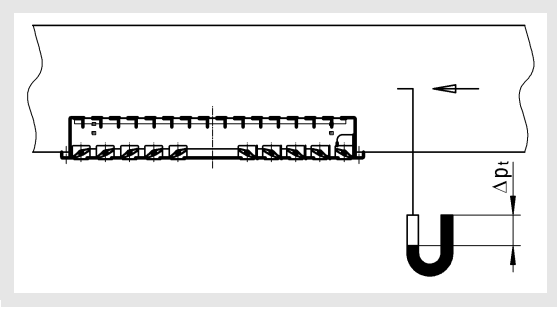
Air throw pattern "V" (vertical)



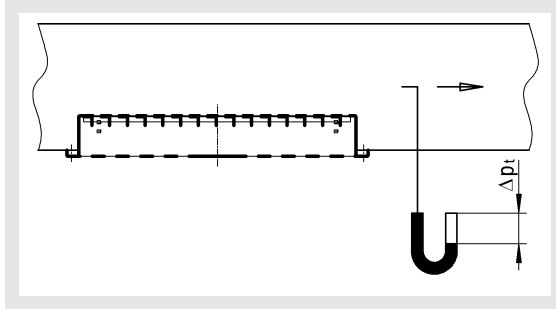
Damper position OPEN ———
 Damper position CLOSED - - - - -

Ceiling diffuser 4DE

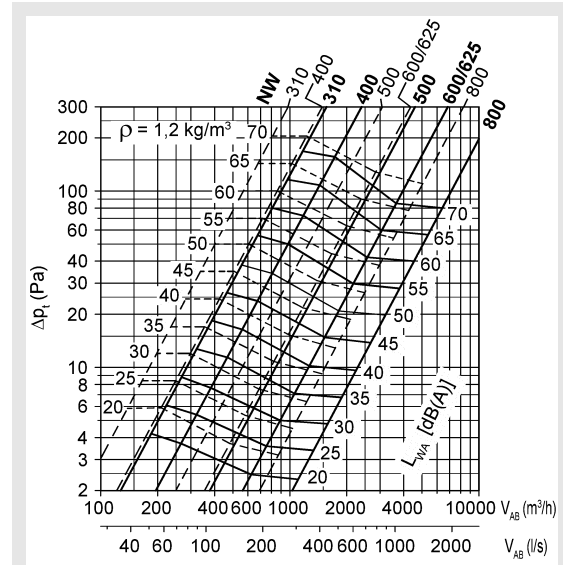
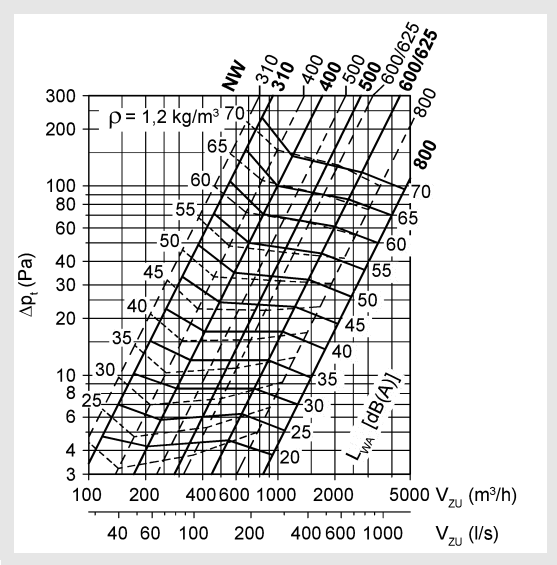
4DE-Z-...-SS-... with hit-and-miss damper



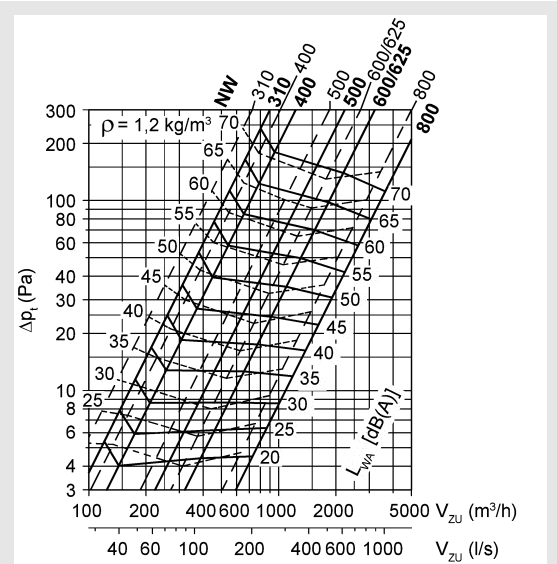
4DE-A-...-SS-... with hit-and-miss damper



Air throw "H" (horizontal)



Air throw pattern "V" (vertical)

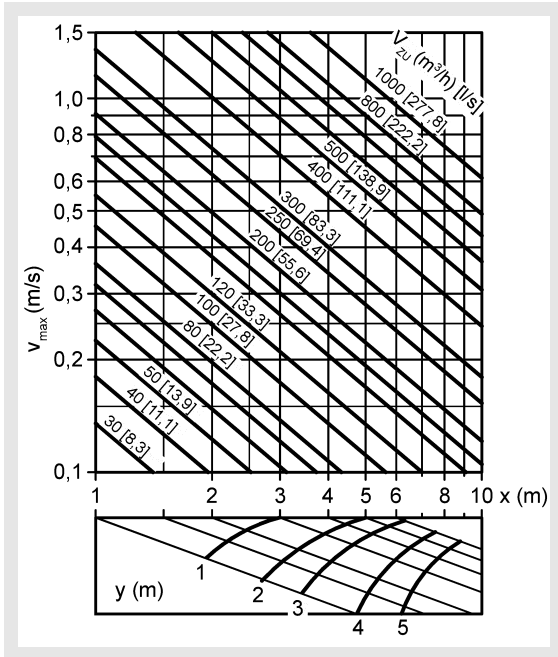


Hit-and-miss damper 100% OPEN ———
Hit-and-miss damper 50% OPEN - - - - -

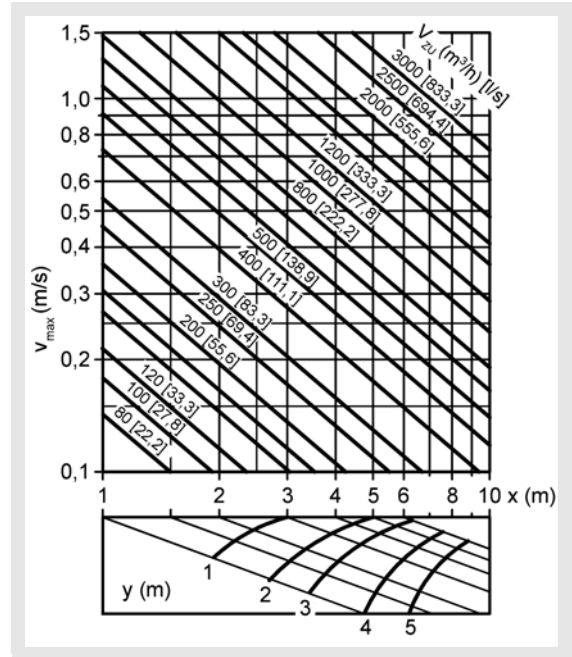
Ceiling diffuser 4DE

Maximum end velocity of jet

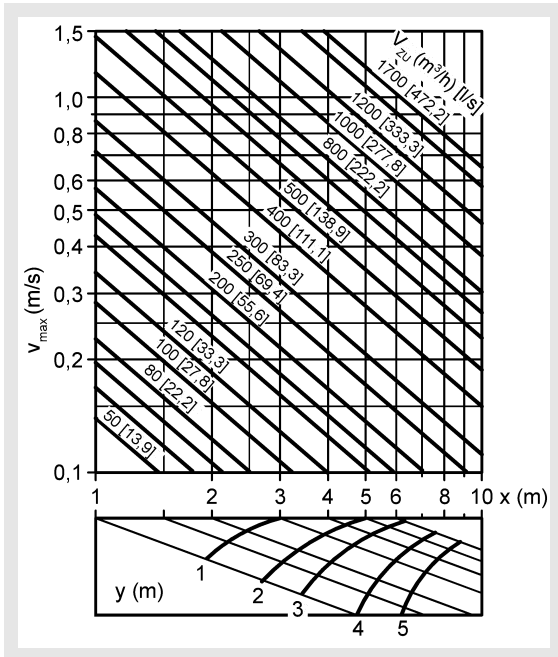
4DE-Z-310-...



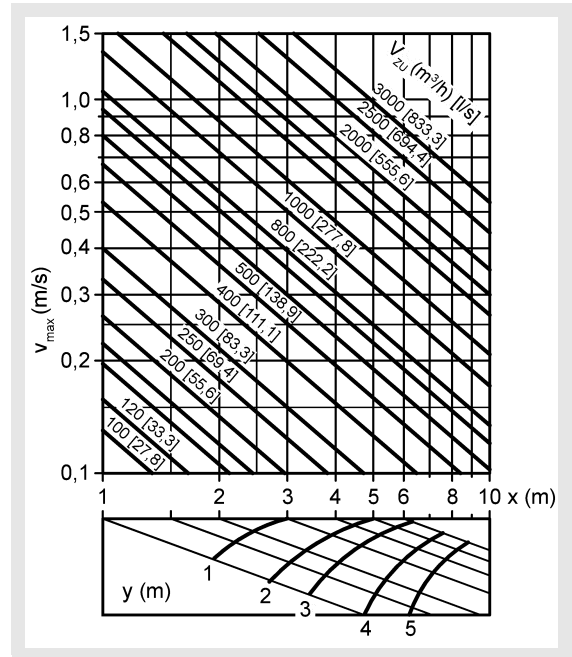
4DE-Z-500-...



4DE-Z-400-...

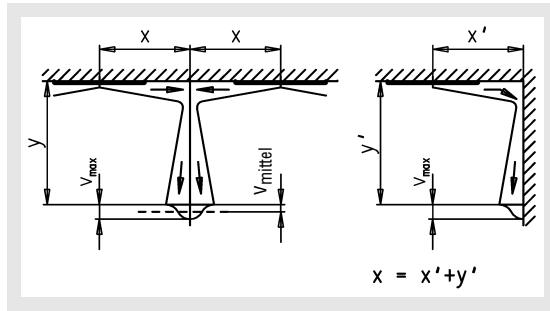
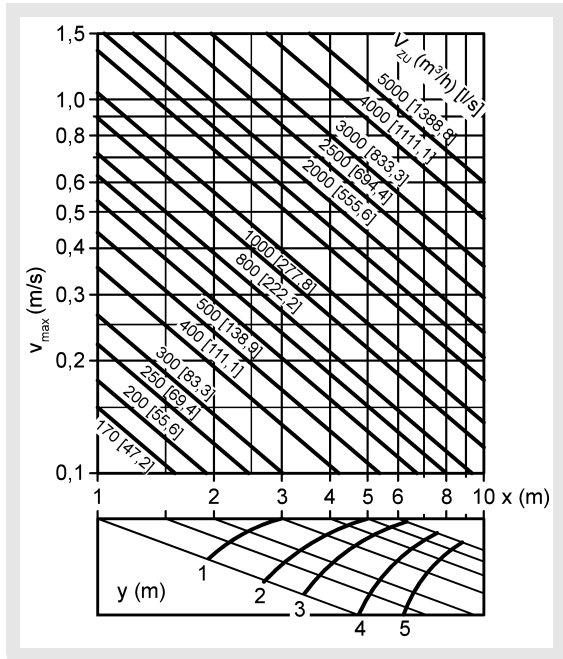


4DE-Z-600-...

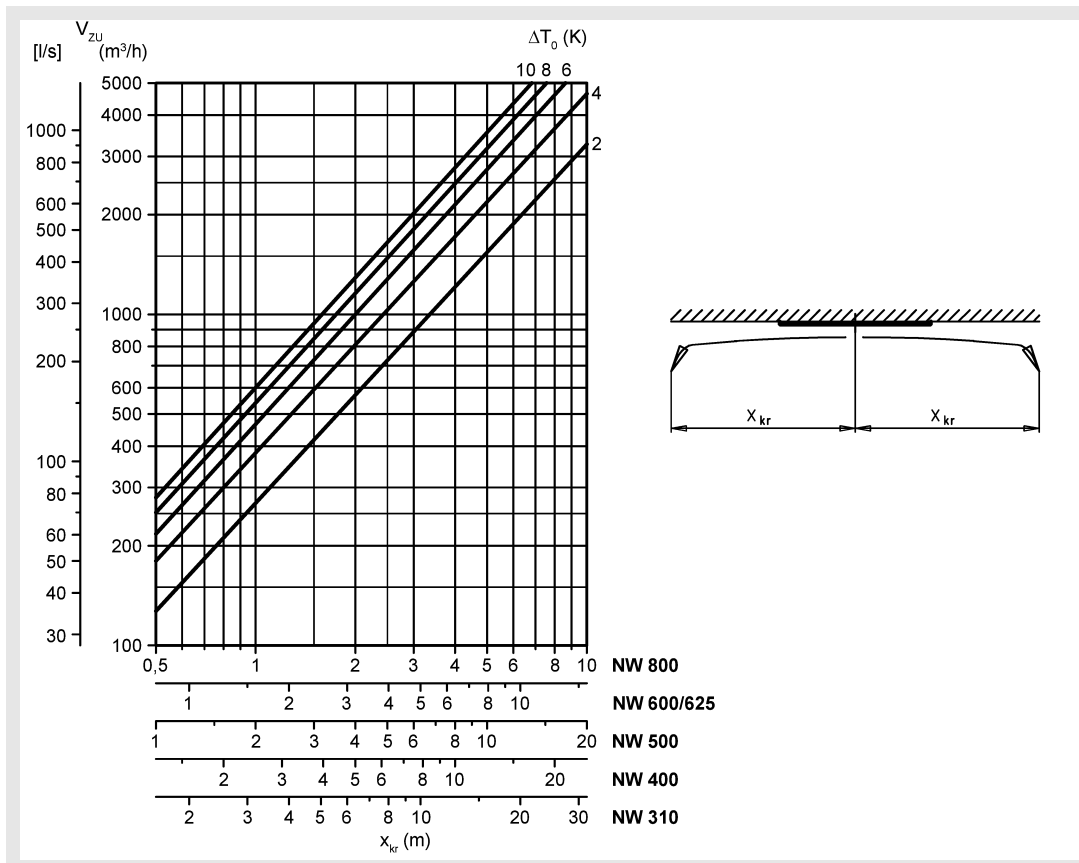


Ceiling diffuser 4DE

4DE-Z-800-...



Critical throw

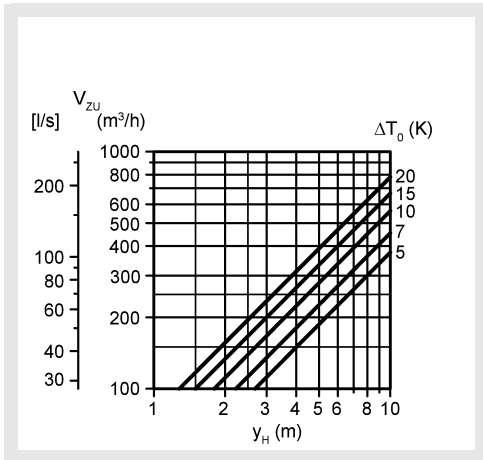


Ceiling diffuser 4DE

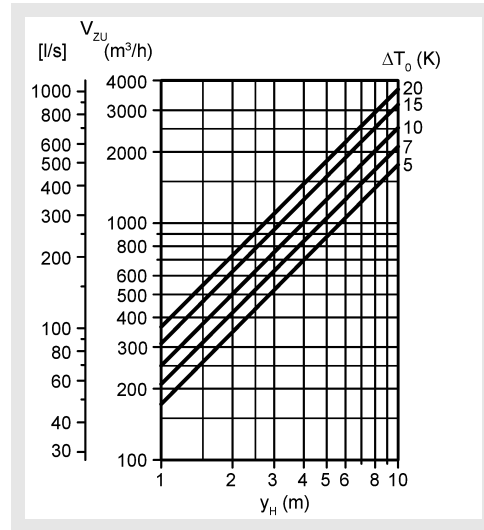
Maximum penetration

In heating mode

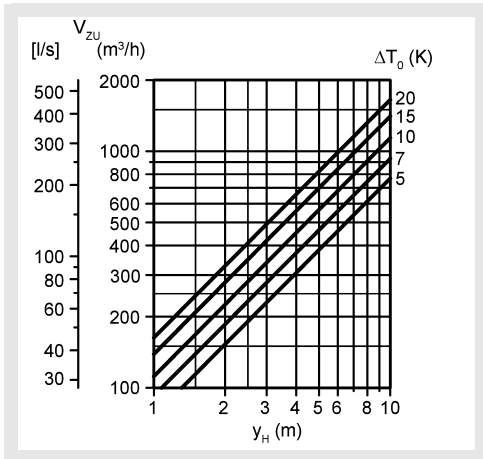
4DE-Z-310-...



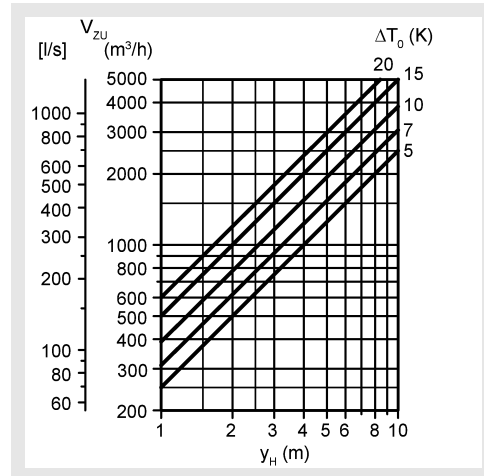
4DE-Z-600-...



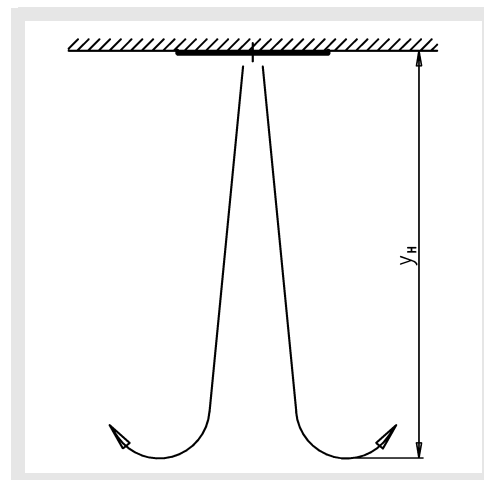
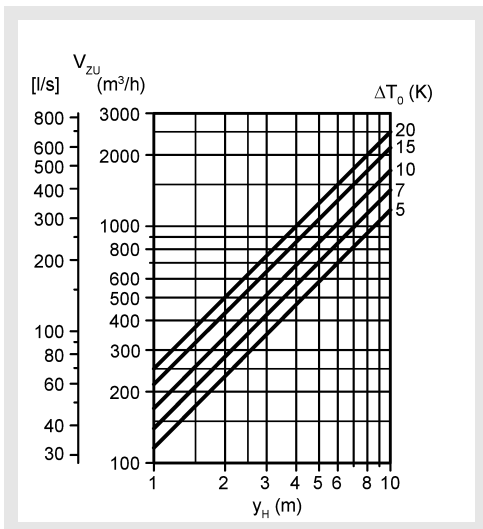
4DE-Z-400-...



4DE-Z-800-...

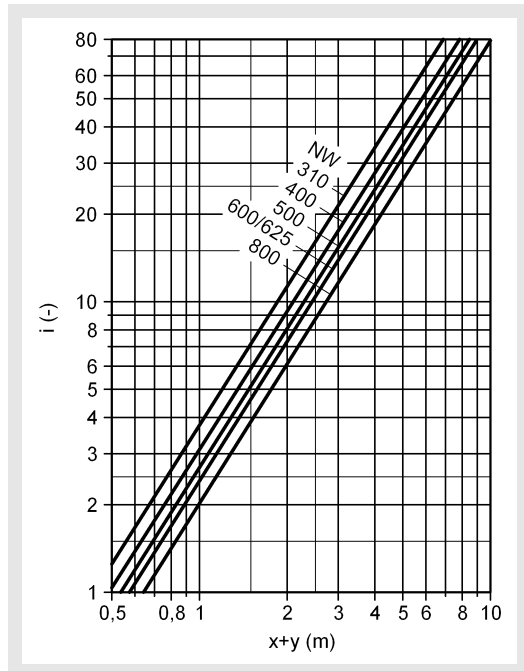


4DE-Z-500-...

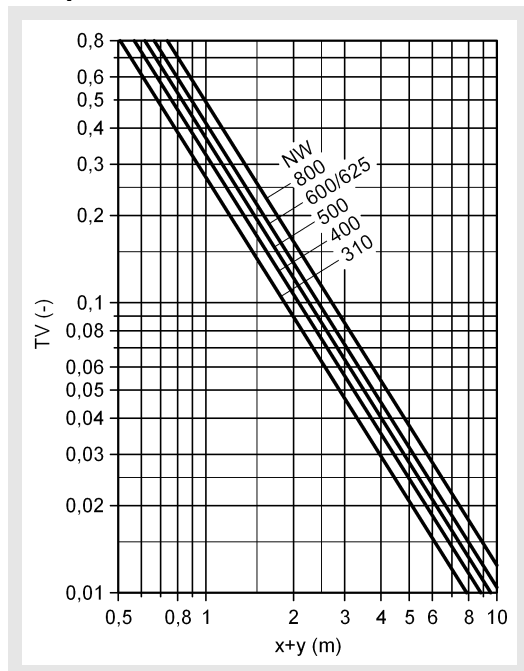


Ceiling diffuser 4DE

Induction ratios



Temperature ratios



Legend

V_{ZU} (m ³ /h)	= Supply air volume
V_{ZU} [l/s]	= Supply air volume
V_{AB} (m ³ /h)	= Return air volume
V_{AB} [l/s]	= Return air volume
Δp_t (Pa)	= Pressure loss
L_{WA} [dB(A)]	= A-weighted sound power level
ρ (kg/m ³)	= Density
v_{max} (m/s)	= Maximum end velocity of jet
v_{mittel} (m/s)	= Average end velocity of jet ($v_{mittel} = v_{max} \times 0,5$)
x (m)	= Horizontal throw
y (m)	= Vertical throw
$x+y$ (m)	= Horizontal + vertical throw
x_{kr} (m)	= Critical throw
ΔT_0 (K)	= Temperature difference between supply air temperature and room temperature ($\Delta T_0 = t_{ZU} - t_R$)
t_{ZU} (K)	= Supply air temperature
t_R (K)	= Room temperature
y_H (m)	= Maximum penetration depth in heating mode
i (-)	= Induction ratio ($i = V_X / V_{ZU}$)
TV (-)	= Temperature ratio ($TV = \Delta T_X / \Delta T_0$)
NW (mm)	= Nominal width
ΔT_X (K)	= Temperature difference at point x
V_X (m ³ /h)	= Total air jet volume at point x
V_X [l/s]	= Total air jet volume at point x

Ceiling diffuser 4DE

Order code 4DE

01	02	03	04	05
Type	Air throw	Nominal size	Material	Paint
Example				
4DE	-Z	-500	-SB	-9010

06	07	08	09	10
Blade colour	Air throw pattern	Mounting	Hit-and-miss damper	Ball-impact guard
-L9005	-H	-VM	-SN	-BO

Sample

4DE-Z-500-SB-9010-L9005-H-VM-SN-BO

Ceiling diffuser 4DE | supply air | NW 500 | sheet steel | painted in RAL 9010 (white) | blades of plastic material (hard PVC) similar to RAL 9005 (black) | all blades in position 2 | concealed mounting | without hit-and-miss damper | without ball-impact guard

Order details

01 - Type

4DE = Ceiling diffuser 4DE

02 - Air throw

Z = Supply air

A = Return air (without blades)

03 - Nominal size

310 = NW310

400 = NW400

500 = NW500

600 = NW600

625 = NW625

800 = NW800

04 - Material (faceplate)

SB = Sheet steel (standard)

AL = Aluminium (only possible with concealed mounting, only possible with ELOX paint)

05 - Paint

9010 = painted in the RAL colour 9010 (white) (standard) (only possible for -SB)

xxxx = painted in a different RAL colour, freely selectable (only possible for -SB) (always 4 digits)

ELOX = natural colour anodised (E6/EV1, only -AL possible)

06 - Bladescolour

L9005 = blades made of plastic material similar to RAL colour 9005 (black)

L9006 = blades made of plastic material similar to RAL colour 9006 (grey)

L9010 = blades made of plastic material similar to RAL colour 9010 (white)

Axxxx = blades made of aluminium, RAL colour can be freely selected (always 5 digits)

00000 = without blades (standard for return air)

07 - Air throw pattern

H = all blades in position 2 (standard)

V = Blades in position 1, set ex works

C = without blades

08 - Mounting

VM = concealed mounting (standard for NW 800) (only possible with plenum box -SK-Q-06-...)

SM = screw mounting (standard, not possible for NW 800)

VS = screw mounting with concealed mounting (only for NW 800 in connection with ball-impact guard -BS)

09 - Hit-and-miss damper

SN = Without hit-and-miss damper (standard)

SS = With hit-and-miss damper (only possible without a plenum box)

10 - Ball-impact guard

BO = without ball-impact guard (standard)

BS = with ball-impact guard, made of steel painted in the same RAL colour as the faceplate

Ceiling diffuser 4DE

Order code SK

01	02	03	04	05	06	07	08
Plenum box	Model	Air diffuser	Type of air	Nominal size	Fastening	Material	Damper
Example							
SK	-Q	-06	-Z	-500	-VM	-SV	-DK1

09	10	11	12	13	14	15
Rubber lip seal	Volumetric flow meter	ROB version	Insulation	Height of box	Spigot diameter	Spigot position
-GD1	-VME1	-ROB0	-I0	-KHS	-SDS	-S1

Sample

SK-Q-06-Z-500-VM-SV-DK1-GD1-VME1-ROB0-I0-KHS-SDS-S1

Plenum box, square design I for square air diffusers I suitable for 4DE-... I supply air I NW 500 I concealed mounting I galvanised sheet steel I with damper I with rubber lip seal I with volumetric flow meter I without ROB version I without insulation I standard height of plenum box I standard spigot diameter I 1 lateral spigot

Order details

01 - Plenum box

SK = Plenum box, square design

02 - Model

Q = for square air diffusers

03 - Air diffuser (must be ordered separately)

06 = suitable for 4DE-...

04 - Type of air

Z = supply air (with integrated perforated straightener)

A = return air (painted inside in RAL colour 9005 (black))

05 - Nominal size

310 = NW310

400 = NW400

500 = NW500

600 = NW600

625 = NW625

800 = NW800

06 - Fastening

VM = Concealed mounting

SM = screw mounting

VS = screw mounting with concealed mounting (only model with ball-impact guard)

07 - Material

SV = galvanised sheet steel

08 - Damper

DK0 = without damper (standard)

DK1 = With damper

DK2 = with damper and cable-operated adjustment

09 - Rubber lip seal

GD0 = without rubber lip seal (standard)

GD1 = with rubber lip seal

10 - Volumetric flow meter

VME0 = without volumetric flow meter (standard)

VME1 = With volumetric flow meter

11 - ROB version

ROB0 = Without ROB version (standard)

ROB1 = With ROB version

12 - Insulation

I0 = without insulation (standard)

Ii = with internal insulation

Ia = with external insulation

13 - Height of box

KHS = Height of plenum box standard

xxx = height of box in mm, freely selectable (always 3 digits) (min. box height [KHS] = spigot diameter D + 102 mm, but at least 200 mm) (for SK-Q-06-Z-310/-400-...-DK1/-DK2-...-S0 models, observe special box height)

14 - Spigot diameter

SDS = Spigot diameter standard

xxx = spigot diameter (D) in m, freely selectable (always 3 digits)

15 - Spigot position

S0 = Spigot from above

S1 = 1 lateral spigot on the box (standard)

S2 = 2 spigots offset by 90°

S3 = 2 spigots offset by 180°

S5 = 2 spigots arranged next to each other

Ceiling diffuser 4DE

Specification text

Ceiling diffuser **4DE** for supply air. Particularly suitable for installation in comfort rooms with high number of air changes, for clean rooms (in connection with particle filter boxes) and for VAV installations with variable volumetric flows (between 40-100%). Cooling and heating modes are possible (from -14 K to +14 K). Faceplate with square design with high-quality powder coating.

- for supply air, with centrally pivoting, aerodynamic and radially fitted air deflection blades which are individually adjustable without any tools from the diffuser front without dismantling the diffuser, in aerofoil wing profile. Free cross-section, resistance and sound power level constant in all blade positions

Product: SCHAKO type **4DE-A-...**

- for return air, without air deflection blades

Product: SCHAKO type **4DE-A-...**

Nominal size:

- NW 310 (**-310**)
- NW 400 (**-400**)
- NW 500 (**-500**)
- NW 600 (**-600**)
- NW 625 (**-625**)
- NW 800 (**-800**)

Material (faceplate):

- made of sheet steel (**-SB**) (standard)
- made of aluminium (**-AL**) (only possible with concealed mounting, only possible with ELOX paint)

Paint:

- faceplate painted in RAL colour 9010 (white) (standard) (only possible for -SB) (**-9010**)
- faceplate painted in a different RAL colour, freely selectable (only possible for -SB) (**-xxxx**, always 4 digits)
- faceplate natural colour anodised (E6/EV1) (only -AL possible) (**-ELOX**)

Blade colour:

- Blades of plastic material, similar to RAL colour 9005 (black) (**-L9005**)
- Blades made of plastic material, similar to RAL colour 9006 (grey) (**-L9006**)
- Blades made of plastic material, similar to RAL colour 9010 (white) (**-L9010**)
- blades made of aluminium painted in the RAL colour of the faceplate (subsequent adjustment of blades not possible) or in another freely selectable RAL colour (subsequent adjustment of blades is possible) (**-Axxxx**, always 5 digits)
- without blades (standard for return air) (**-00000**)

Air throw pattern:

- all blades in position 2 (**-H**, standard)
- blades in position 1, set ex works (**-V**)
- without blades (**-C**)

Mounting:

- screw mounting (**-SM**, standard) (fastening with 4 slotted shallow-raised, countersunk-head tapping screws provided on site, not possible for NW 800)
- concealed mounting (pole brace fastening with aerodynamic aluminium profile (up to NW 400 with 4-point suspension/ NW 500 and higher with 6-point suspension), only possible in connection with plenum box SK-Q-..., fastening with one hexagon socket head screw of type DIN EN ISO 4762 M6 at plenum box) (**-VM**, standard for NW 800)
- screw mounting with concealed mounting (**-VS**) (only in connection with concealed mounting -VM, only for NW 800 in connection with ball-impact guard)

Accessories:

- Hit-and-miss damper (**-SN/-SS**)
 - without hit-and-miss damper (**-SN**) (standard)
 - with hit-and-miss damper (**-SS**), for air volume regulation, made of galvanised sheet steel (only possible without plenum box)
- Ball-impact guard (**-BO/-BS**)
 - without ball-impact guard (**-BO**) (standard)
 - with ball-impact guard (**-BS**):
 - only possible with SM mounting and for NW 800 only with VS mounting
 - made of steel painted in RAL colour of the faceplate (RAL colour 9010 [white, standard]) or painted in a freely selectable RAL colour different from the faceplate (possible at an extra charge)
- plenum box (SK-Q-06-...) with square design suitable for air diffuser 4DE, made of galvanised sheet steel (**-SV**), with fixing lugs
 - Type of air:
 - supply air (**-Z**), with integrated perforated straightener
 - return air (**-A**), painted inside in RAL colour 9005 (black)
 - Nominal size:
 - NW 310 (-310)
 - NW 400 (-400)
 - NW 500 (-500)
 - NW 600 (-600)
 - NW 625 (-625)
 - NW 800 (-800)

Ceiling diffuser 4DE

- Fastening:
 - Concealed mounting (-VM)
 - Screw mounting (SM)
 - screw mounting with concealed mounting (only model with ball-impact guard (-VS))
- Damper:
 - Without damper (-DK0) (standard)
 - with damper in plenum box, adjustable from below, for easy air volume regulation without dismounting the faceplate
 - with damper without cable-operated adjustment (-DK1)
 - with damper with cable-operated adjustment (-DK2)
- Rubber lip seal:
 - without rubber lip seal (-GD0) (standard)
 - with rubber lip seal (-GD1), made of special rubber, at the connection spigot
- Volumetric flow meter:
 - Without volumetric flow meter (-VME0) (standard)
 - with volumetric flow meter (-VME1)
- ROB version:
 - without ROB version (-ROB0) (standard)
 - with ROB version (-ROB1), removable diffuser plate, damper and volumetric flow meter
- Insulation:
 - without insulation (-I0) (standard)
 - with internal insulation (-li), thermal insulation inside the plenum box
 - with external insulation (-la), thermal insulation on the outside of the plenum box
- Height of box:
 - Standard height of plenum box (-KHS)
 - height of box in mm, freely selectable (-xxx, always 3 digits) (min. box height [KHS] = spigot diameter D + 102 mm, but at least 200 mm) (for SK-Q-06-Z-310/-400-...-DK1/-DK2-...- S0 models, observe special height of box)
- Spigot diameter:
 - Standard spigot diameter (-SDS)
 - spigot diameter (D) in mm, freely selectable (-xxx, always 3 digits)
- Spigot position:
 - Spigot from above (-S0)
 - 1 lateral spigot on the plenum box (-S1) (standard)
 - 2 lateral spigots, offset by 90° (-S2)
 - 2 lateral spigots, offset by 180° (-S3)
 - 2 spigots arranged next to each other (-S5)