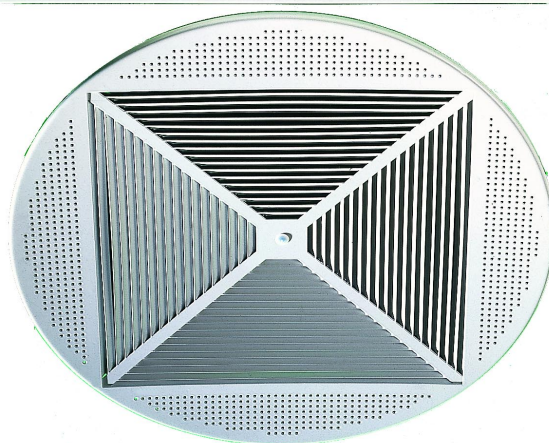
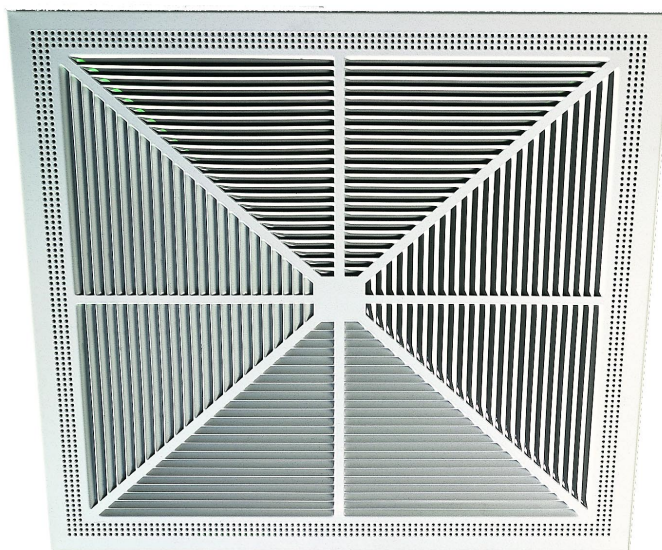


Ceiling Diffuser

DQD-L / DQD-R-L



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Ceiling Diffuser Model DQD-L / DQD-R-L

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Ceiling Diffuser Model DQD-L / DQD-R-L

Description

The ceiling diffuser type DQD-L / DQD-R-L is suitable for installation in supply or return air systems. Because of its **horizontal air throw pattern**, it can be used for isothermal and cooling applications. The air is blown horizontally into the room through fixed blades. Owing to the perforations in the edge area, part of the air flow exits as laminar flow. This laminar flow is also deflected in horizontal direction as a result of the horizontal air jet produced by the blades.

If required, each blade section can be supplied with a cover plate, so that one or more sides can be covered. This allows the air to be blown into the room in 2, 3 or 4 directions.

The plenum box allows the air to be blown uniformly over the entire diffuser area. In the connection piece of the plenum box, a volumetric flow meter can be integrated at an extra charge. The measurement error of the volumetric flow meter is $\pm 5\%$ at a connecting piece velocity of 2-5 m/s and a straight flow pattern of at least $1 \times D$. The measurement is carried out with integrated diffuser. By adjusting the throttle damper, the required air volume of each diffuser can be set quickly and correctly. For plenum boxes type SAK, the damper can be mounted on the room side with mounted diffuser. For plenum boxes type SRK, the ceiling diffuser must be removed, before the damper can be adjusted. Alternatively, a cable-operated adjustment can be ordered at an extra charge, which allows the damper to be adjusted on the room side even with mounted diffuser.

To allow duct cleaning robots to be inserted from the room side, the diffusion plate, the throttle damper (if built-in) and the volumetric flow meter can be removed in the ROB version of the plenum box SAK / SRK.

Construction

Faceplate

- Sheet steel painted to the RAL colour 9010 (white)
- Sheet steel painted to a different RAL colour (at an extra charge)
- Natural colour anodised aluminium (E6/EV1) (DD-L only) (only available with VM mounting)

Model

- | | |
|---------|--------------------|
| DQD-L | - Square faceplate |
| DQD-R-L | - Round faceplate |

Accessories

Plenum box (-SAK/-SRK)

- Galvanised sheet steel housing
- VM pole brace made of aluminium
- VM mounting made of plastic

Rubber lip seal (-GD)

- Special rubber

Throttle damper (-DK)

- Throttle damper made of galvanised sheet steel
- Damper fastening made of plastic
- with cable-operated adjustment (-SZV) (at an extra charge, for SRK only)

Volumetric flow meter (-VME)

- Mounting made of galvanised sheet steel
- Measuring sensor made of plastic
- Aluminium connections

ROB version (-ROB)

- Removable perforated diffuser plate, throttle damper and volumetric flow meter

Ball-impact guard (-BS)

- only possible for DQD-L with SM mounting
- Steel painted to RAL 9010 (white), other RAL colours possible at an extra charge.

Internal insulation (-Ii)

- Thermal insulation inside the plenum box

External insulation (-Ia)

- Thermal insulation on the outside of the plenum box

Fastening

Screw mounting (-SM)

- for type DQD-L standard (screws on site), for DQD-R-L not possible with SRK
- for model with ball-impact guard

Concealed mounting (-VM)

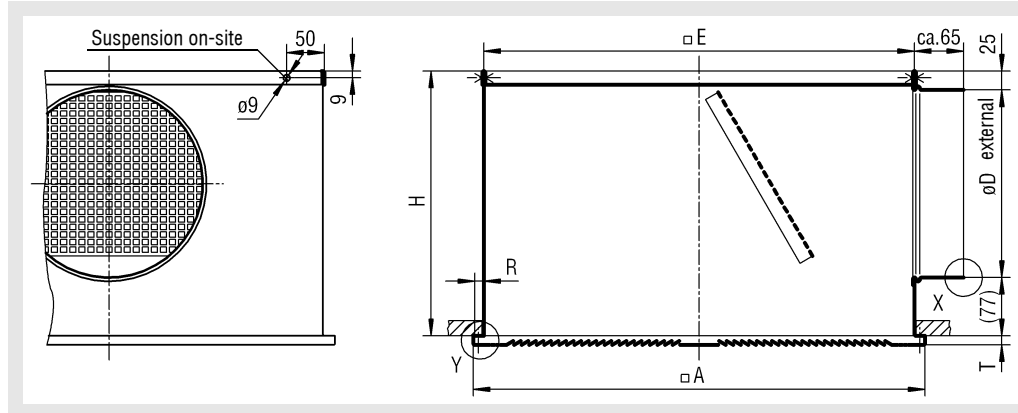
- with type DQD-R-L standard, with type DQD-L at an extra charge only possible in connection with plenum box type SAK/SRK

Ceiling Diffuser Model DQD-L / DQD-R-L

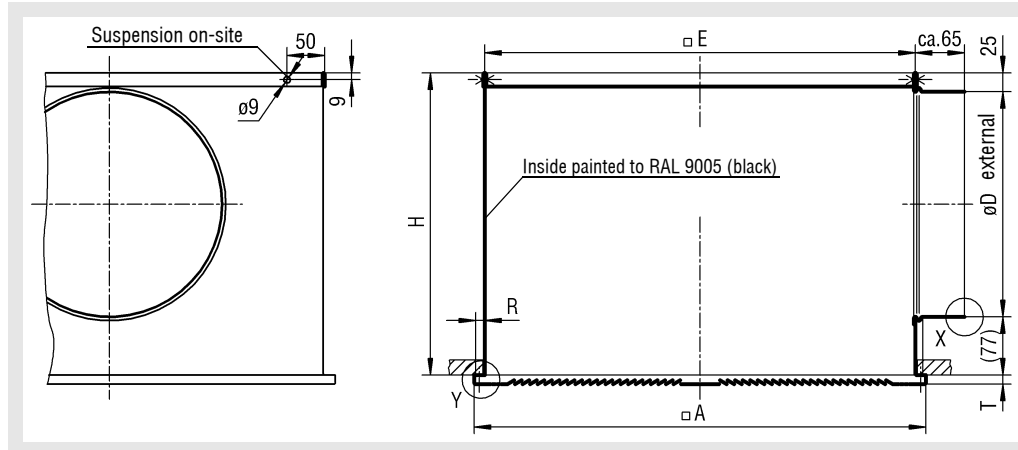
Models and dimensions

Dimensions

DQD-L with SAK-Z (for supply air)



DQD-L with SAK-A (for return air)



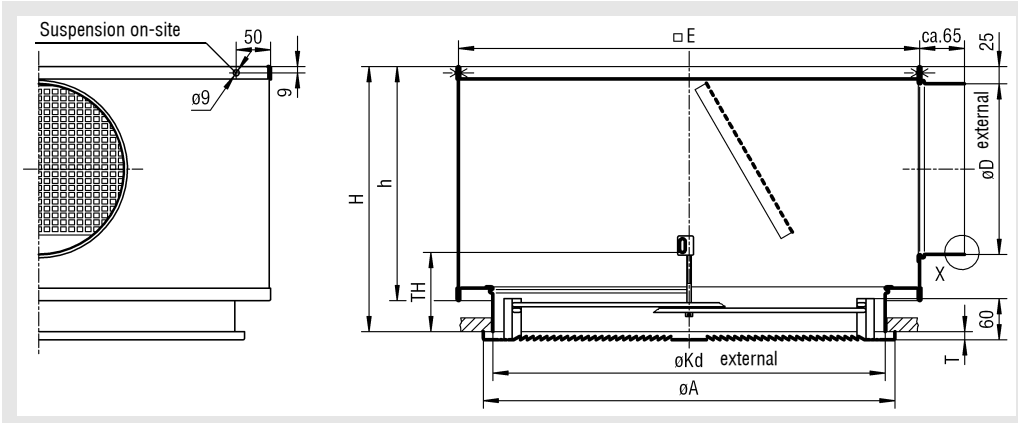
Available sizes

DQD-L with SAK-Z / -A (for supply and return air)

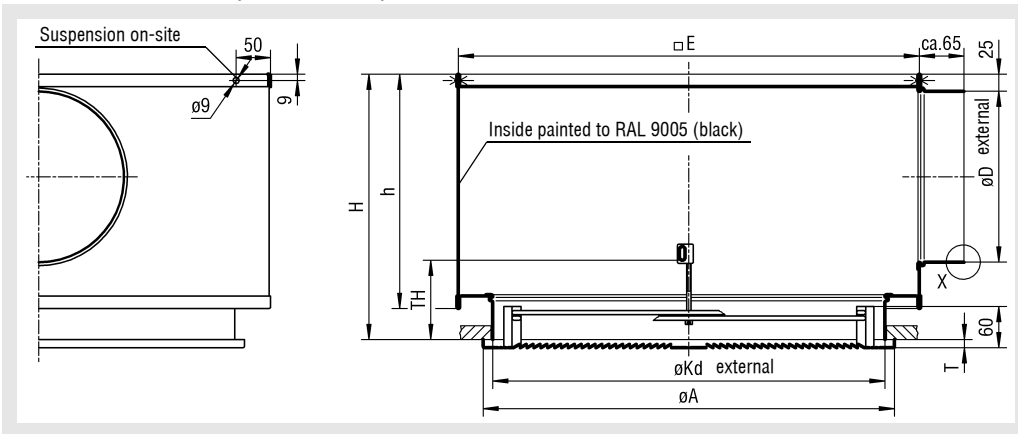
NW	□A	□E	R	T	SAK-Z		SAK-A	
					H	øD	H	øD
310	308	290	8	7	260	158	300	198
400	398	370	12	12	260	158	300	198
500	498	470			300	198	350	248
600	598	570			350	248	400	298
625	623	570	24		350	248	400	298

Ceiling Diffuser Model DQD-L / DQD-R-L

DQD-R-L with SRK-Z (for supply air)



DQD-R-L with SRK-A (for return air)



Available sizes

DQD-R-L with SRK-Z / -A (for supply and return air)

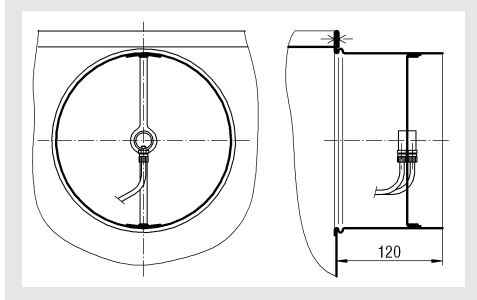
NW	ϕA	$\square E$	ϕKd	H	h	ϕD	T	TH
310	308	405	298	295	250	158	7	115
400	398	445	370	295	250	158	12	
500	498	545	470	335	290	198		
600	598	670	570	385	340	248		
625	623	670	570	385	340	248		

Ceiling Diffuser Model DQD-L / DQD-R-L

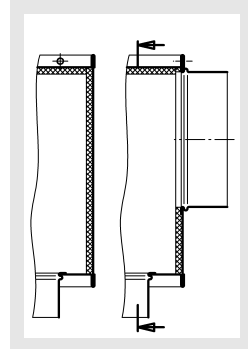
Dimensions of accessories

(at an extra charge):

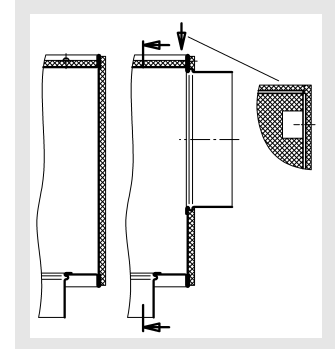
Volumetric flow meter (-VME)



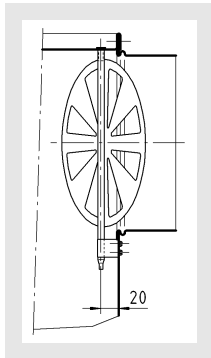
Insulation for SRK inside(-li)



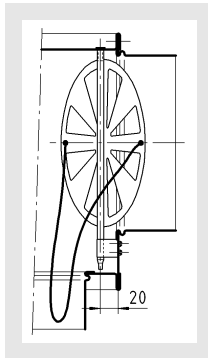
outside(-la)



Damper (-DK) for SAK

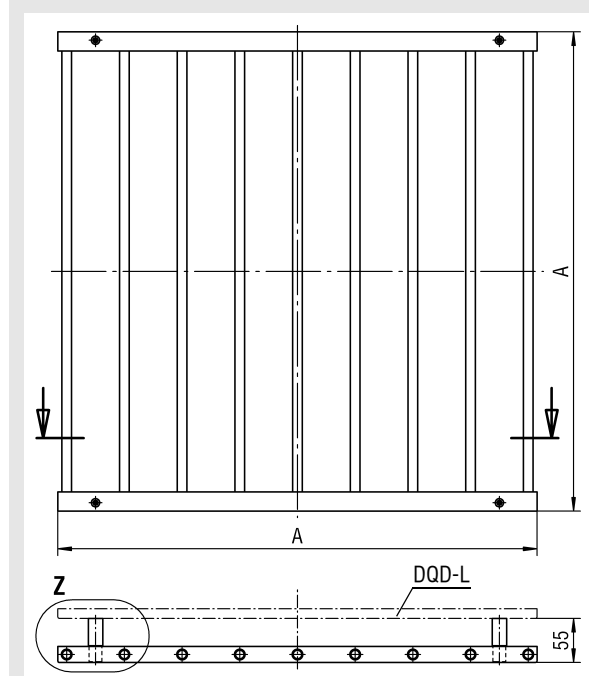


Throttle damper (-DK) with Cable-operated adjustment (-SZV) for SRK

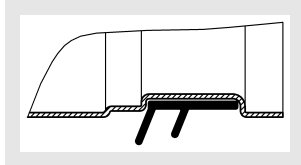


Ball-impact guard (-BS)

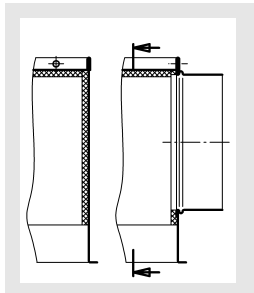
(only possible for DQD-L with SM mounting)



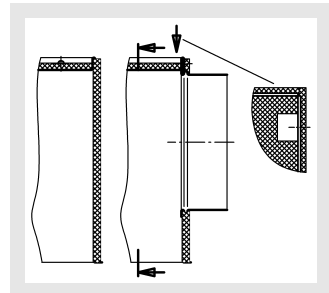
Rubber lip seal (-GD) Detail X



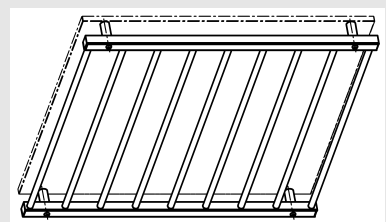
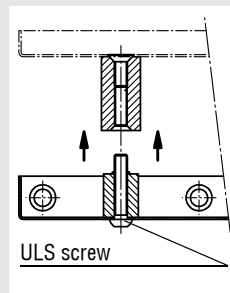
Insulation for SAK inside(-li)



outside(-la)



Detail Z



Available sizes

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

Ceiling Diffuser Model DQD-L / DQD-R-L

Fastening methods

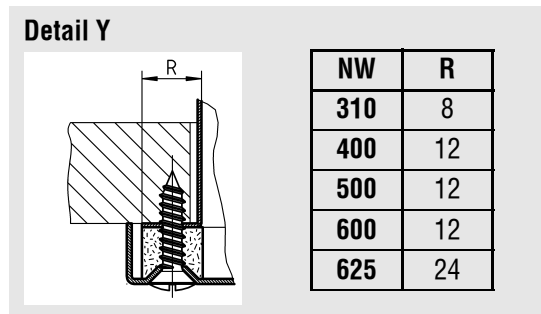
Screw mounting (-SM)

DQD-L with plenum box SRK-Z/-A

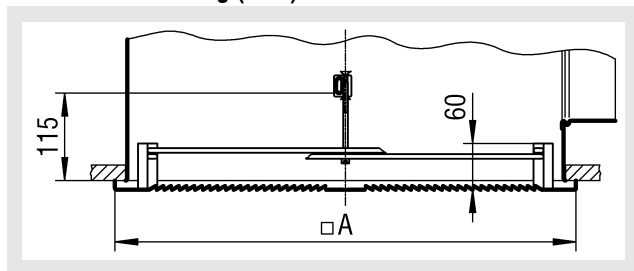
- For screw mounting, the ceiling diffuser is fixed to the plenum box with 4 on-site countersunk screws.

DQD-R-L with plenum box SRK-Z/-A

- not possible



Concealed mounting (-VM)

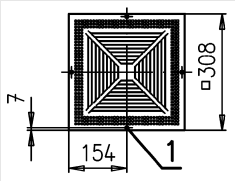


In concealed mounting (-VM), the ceiling diffuser is fixed to the plenum box with a pole brace and an M6 screw to DIN EN ISO 4762.

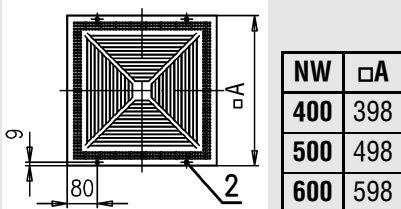
Ceiling Diffuser Model DQD-L / DQD-R-L

DQD-L

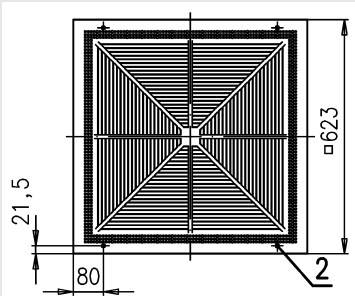
NW 310



NW 400-600

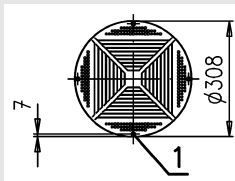


NW 625

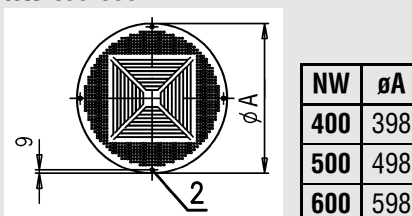


DQD-R-L

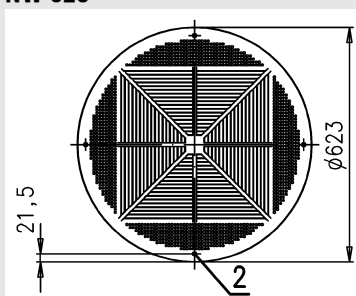
NW 310



NW 400-600



NW 625



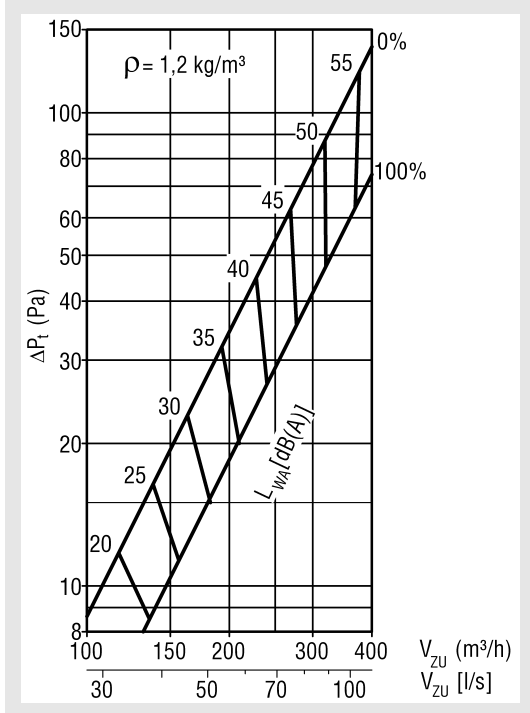
- 1.) Indentation for slotted shallow-raised countersunk-head tapping screw
DIN ISO 7051 pitch 3.9 (on-site)
- 2.) Indentation for slotted shallow-raised countersunk-head tapping screw
DIN ISO 7051 pitch 4.8 (on-site)

Ceiling Diffuser Model DQD-L / DQD-R-L

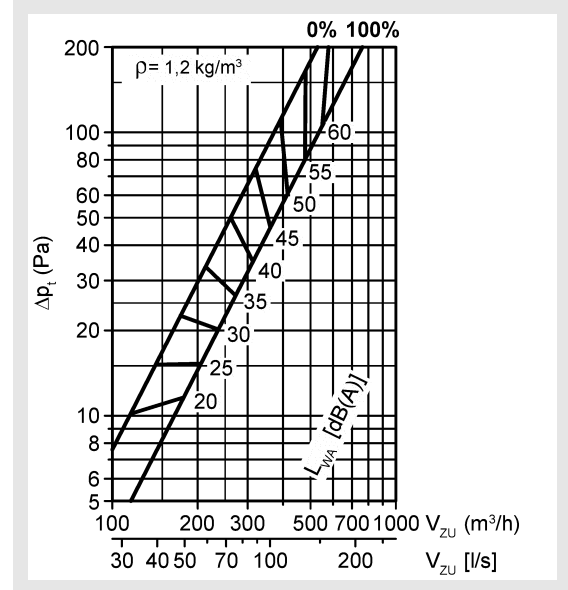
Technical Data

Pressure loss and noise level

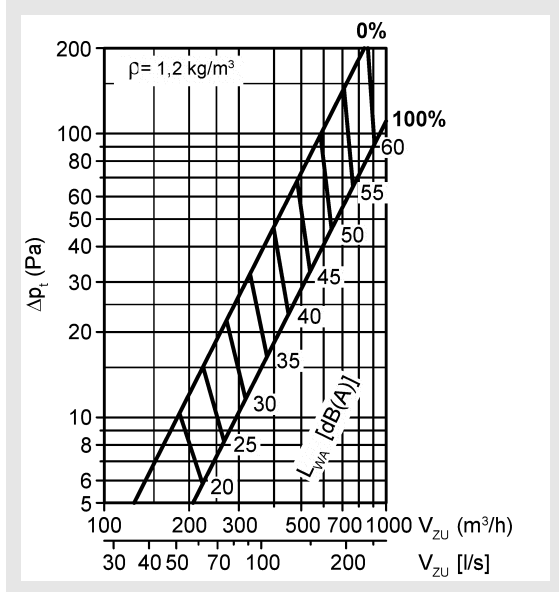
DQD-L / DQD-R-L 310 supply air



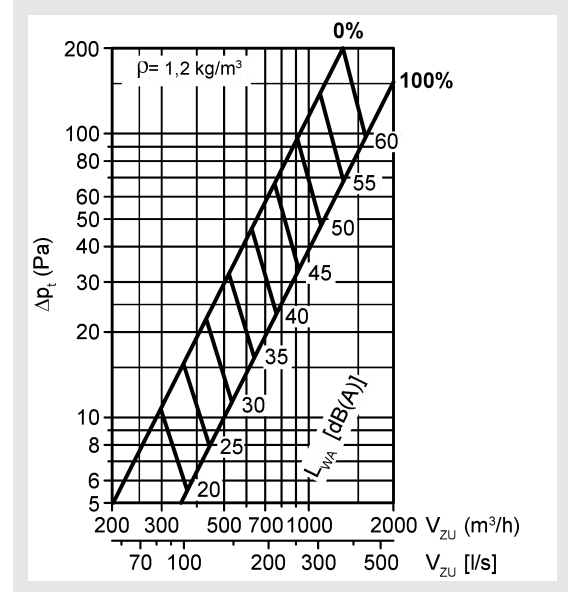
DQD-L / DQD-R-L 400 supply air



DQD-L / DQD-R-L 500 supply air



DQD-L / DQD-R-L 600 / 625 supply air

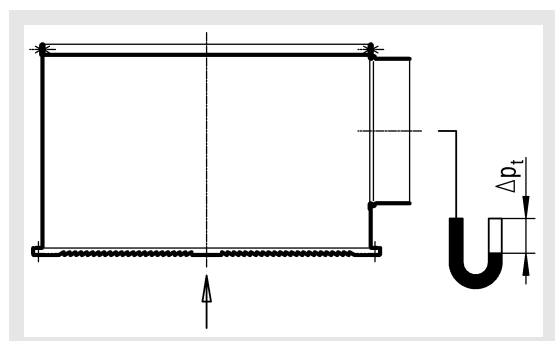
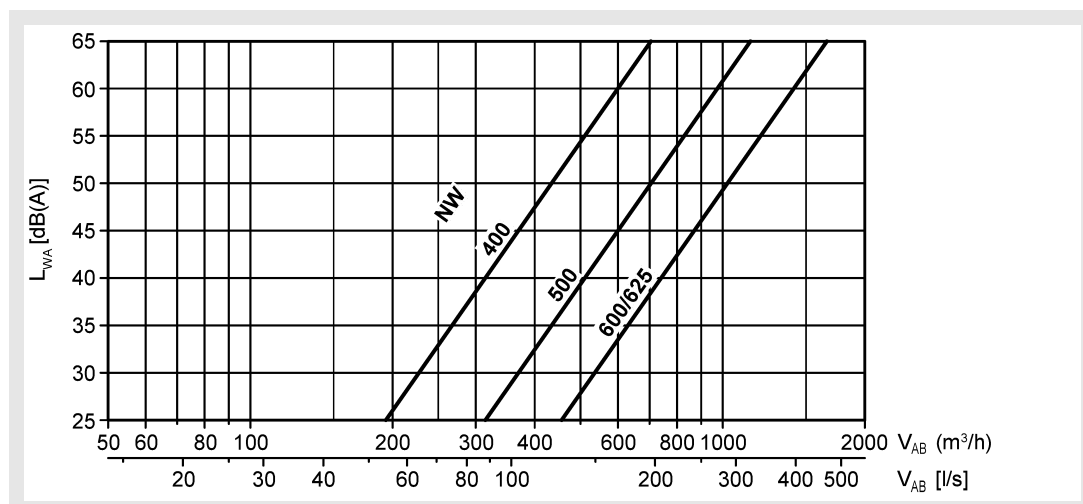
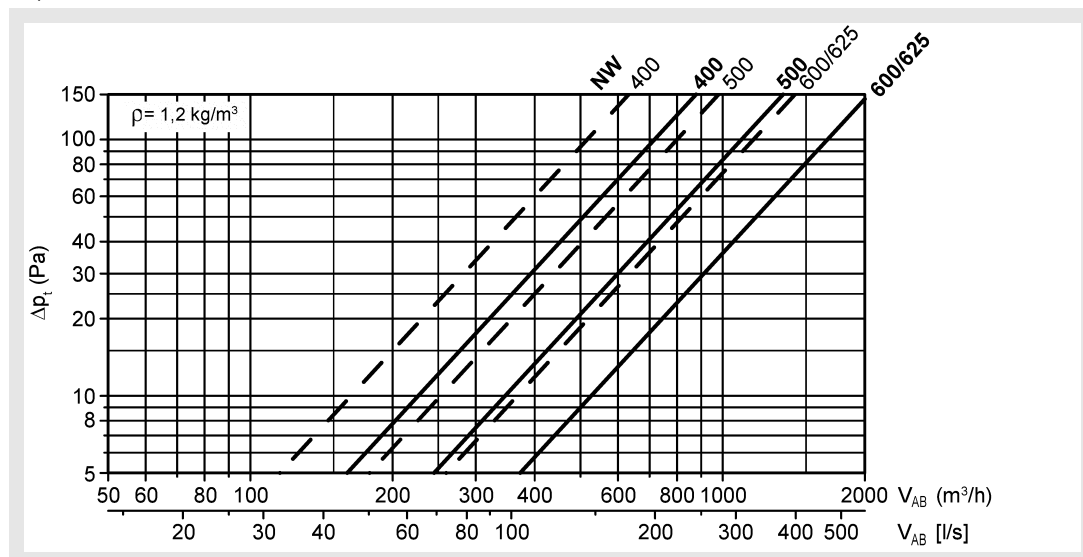


0% = Damper CLOSED

100% = Damper OPEN

Ceiling Diffuser Model DQD-L / DQD-R-L

DQD-L return air



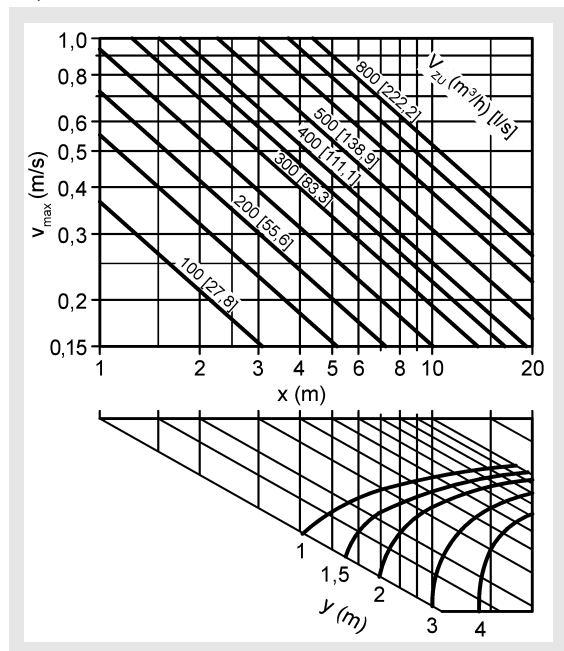
Damper adjustment does not increase the noise level.

Damper OPEN ———
Damper CLOSED - - - -

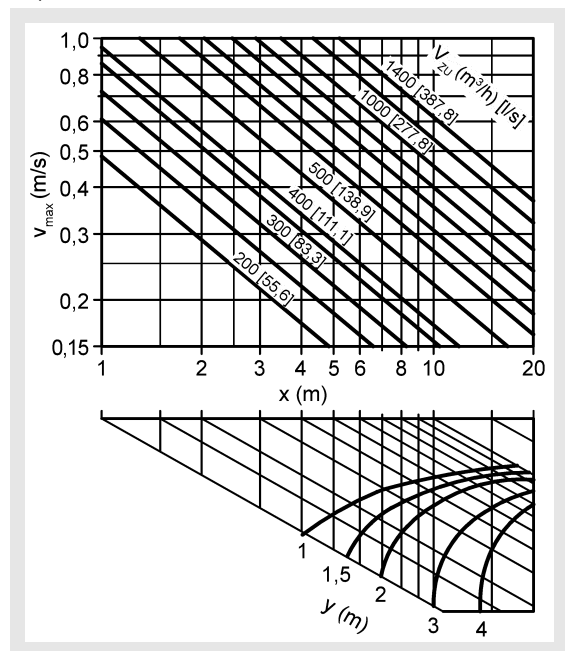
Ceiling Diffuser Model DQD-L / DQD-R-L

Maximum end velocity of jet

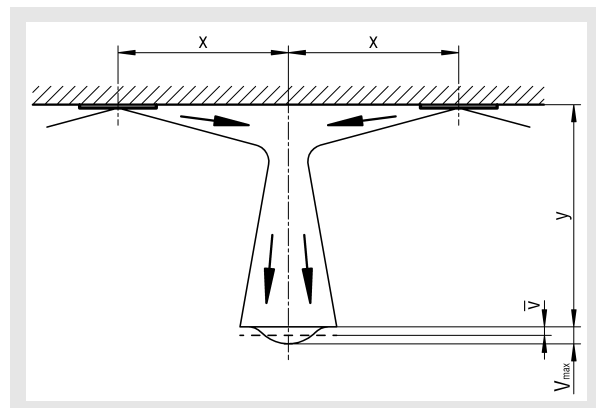
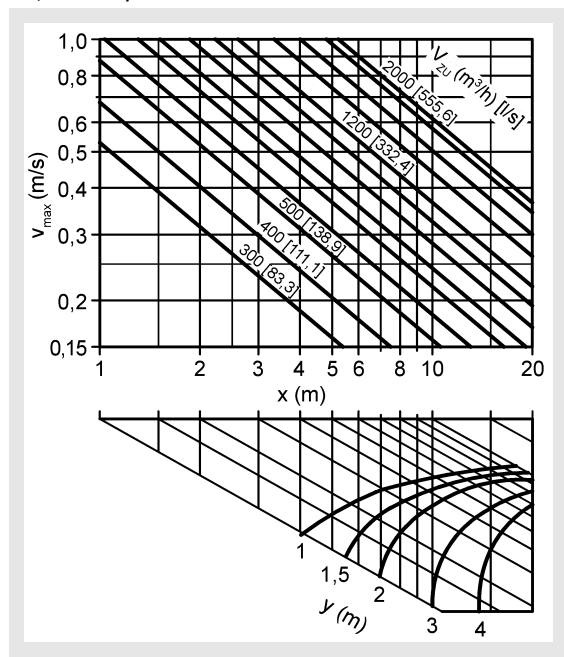
DQD-L 400



DQD-L 500

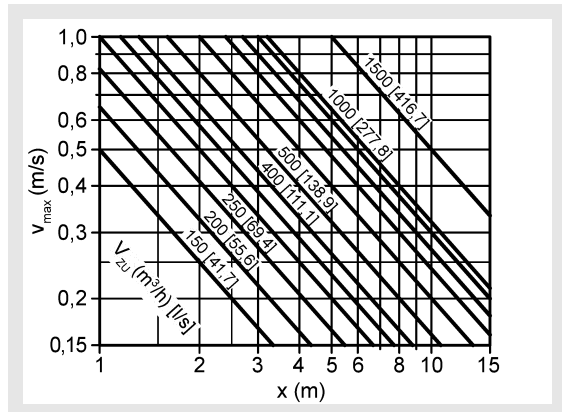


DQD-L 600/625

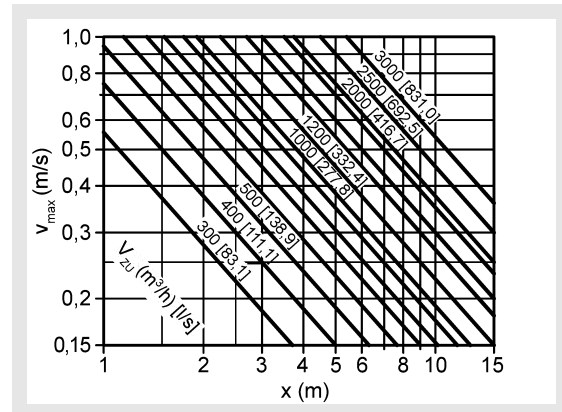


Ceiling Diffuser Model DQD-L / DQD-R-L

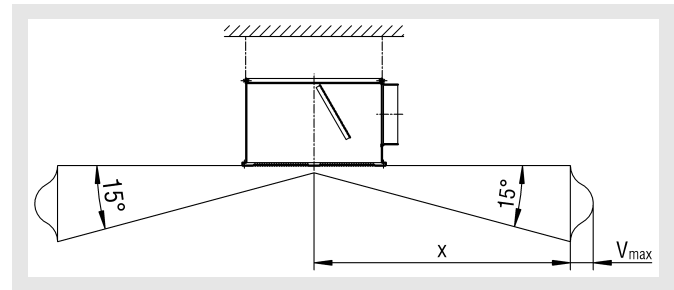
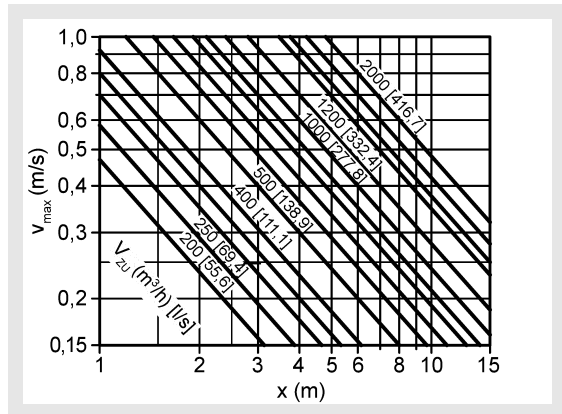
(suspended)
DQD-L 400



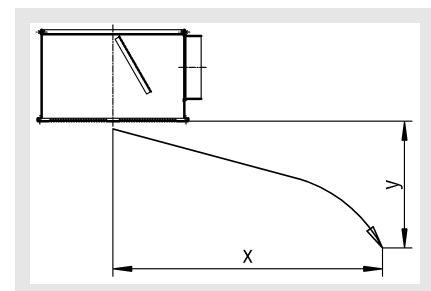
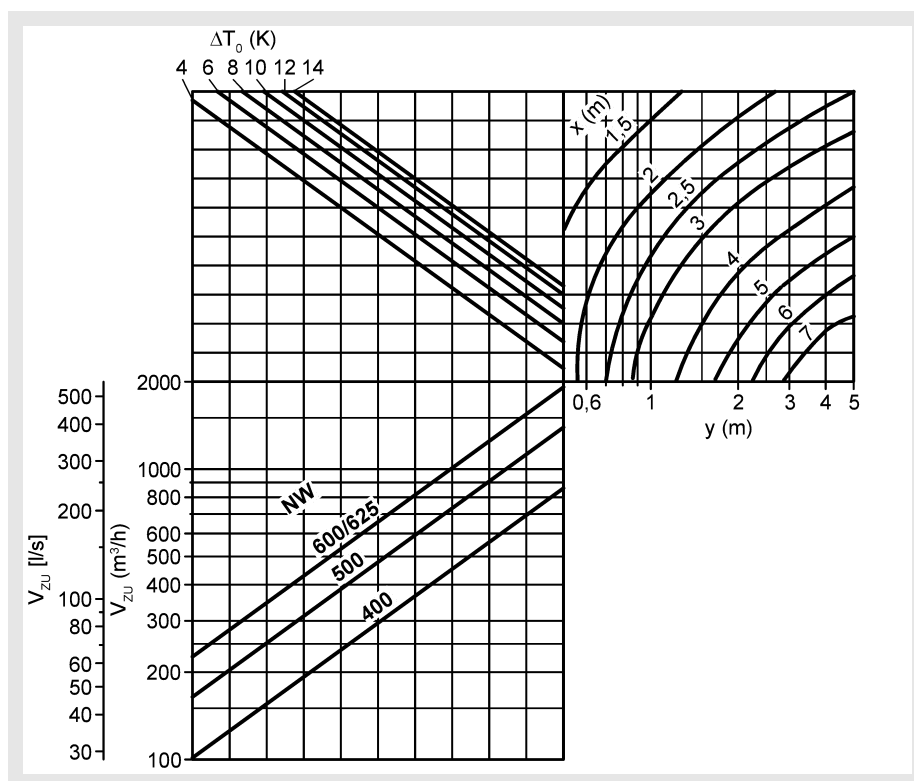
DQD-L 600/625



DQD-L 500

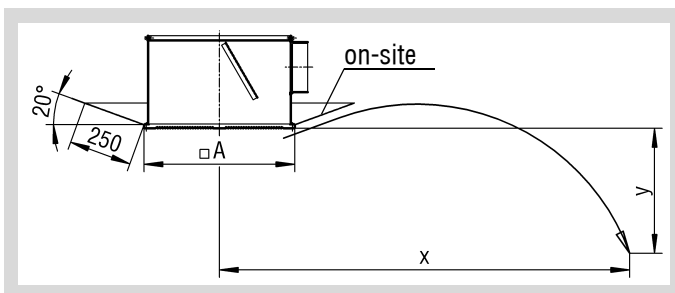
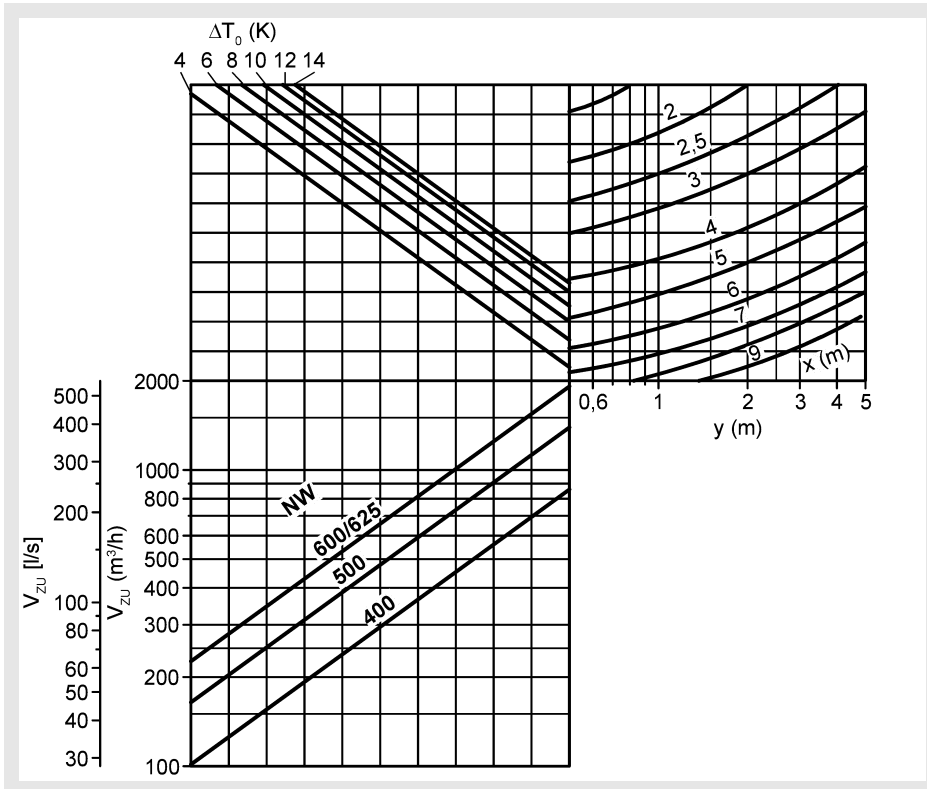


Jet path
DQD-L



Ceiling Diffuser Model DQD-L / DQD-R-L

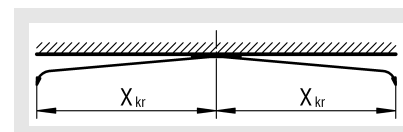
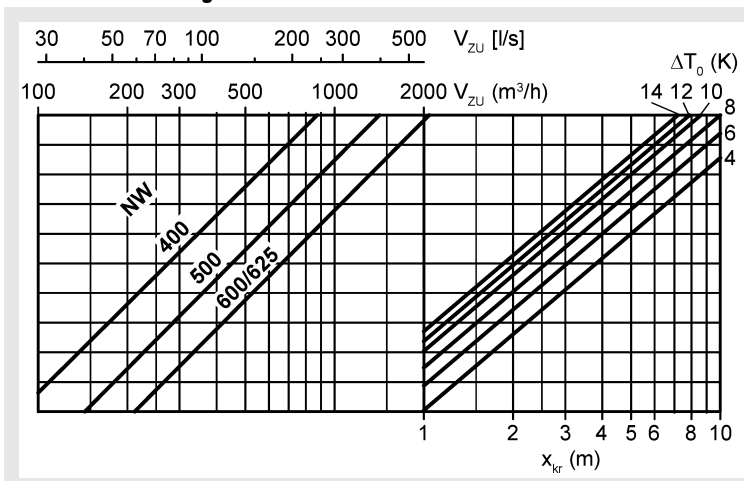
DQD-L with deflection sheets



When the ceiling diffuser is suspended, a deflector sheet additionally fitted on-site can prevent the jet from dropping prematurely.

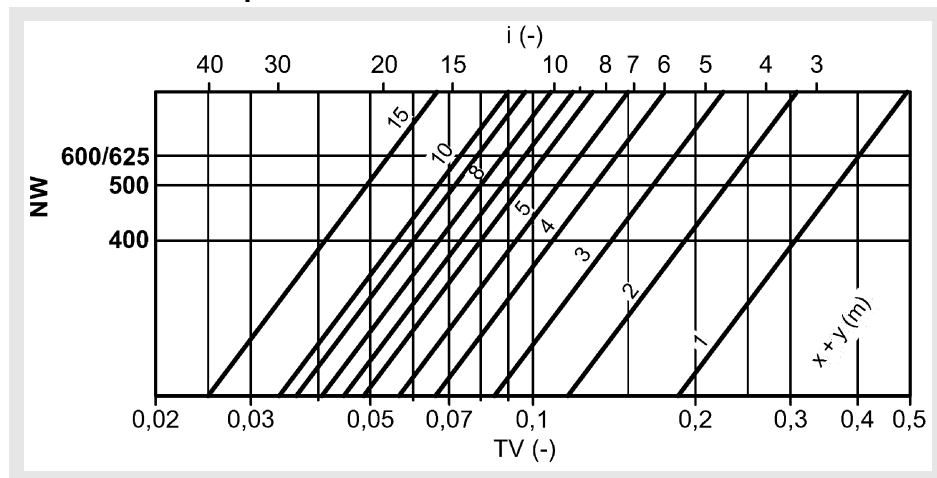
Critical throw

DQD-L with cooling

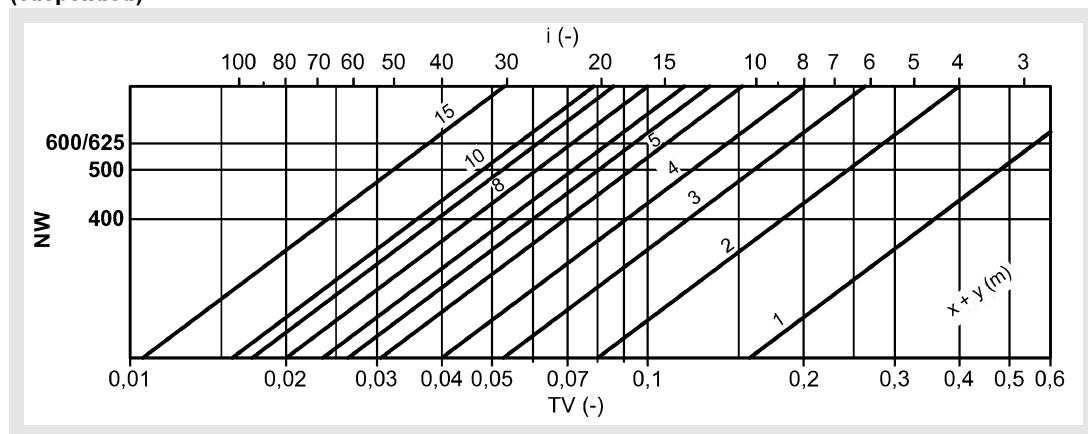


Ceiling Diffuser Model DQD-L / DQD-R-L

Induction and temperature ratios



(suspended)

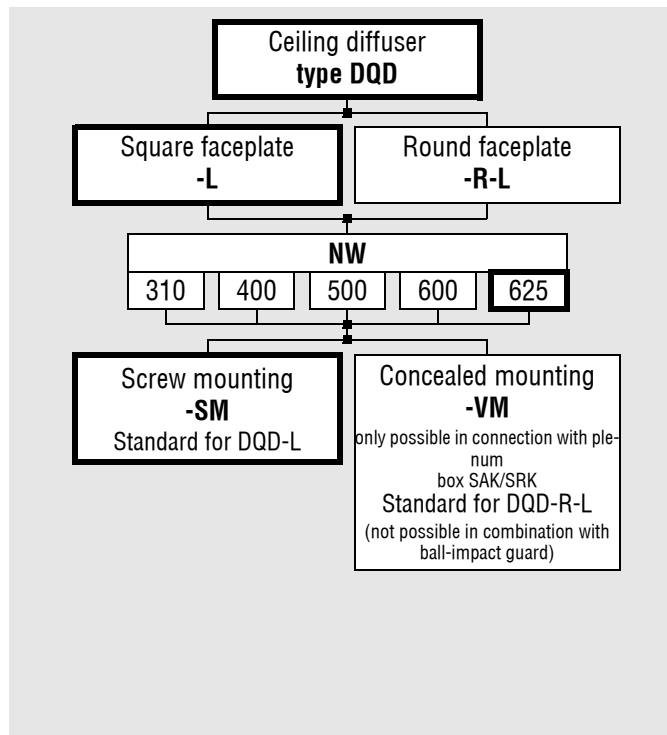


Legend

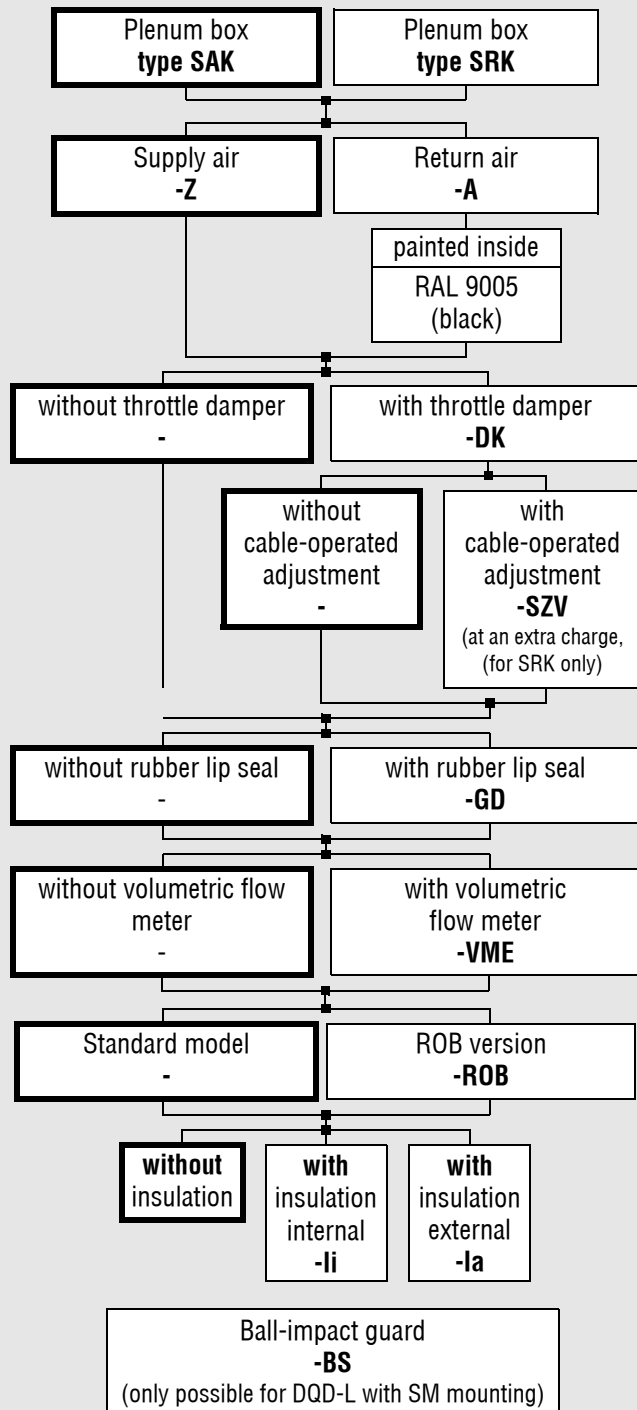
V_{ZU} (m ³ /h) = Supply air volume	TV (-) = Temperature ratio ($TV = \Delta T_x / \Delta T_0$)
V_{ZU} [l/s] = Supply air volume	NW (mm) = Nominal width
V_{AB} (m ³ /h) = Return air volume	ΔT_x (K) = Temperature difference at point x
V_{AB} [l/s] = Return air volume	V_x (m ³ /h) = total air jet volume at point x
v_{max} (m/s) = Maximum end velocity of jet	V_x [l/s] = total air jet volume at point x
v (m/s) = Average end velocity of jet	
x (m) = horizontal throw	
y (m) = vertical throw	
$x+y$ (m) = horizontal and vertical throw	
x_{kr} (m) = Critical throw	
ρ (kg/m ³) = Density	
Δp_t (Pa) = Pressure loss	
L_{WA} [dB(A)] = A-weighted sound power level	
ΔT_0 (K) = Temperature difference between supply air temperature and room temperature ($\Delta T_0 = t_{ZU} - t_R$)	
t_{ZU} (°C) = Supply air temperature	
t_R (°C) = Room temperature	
i (-) = Induction ratio ($i = V_x / V_{ZU}$)	

Ceiling Diffuser Model DQD-L / DQD-R-L

Order details



Accessories:



Order example:

DQD-L-625-SM-SAK-Z-DK

Unless stated otherwise, the thick-frame model will be delivered!

Ceiling Diffuser Model DQD-L / DQD-R-L

Specification texts

Ceiling diffuser type DQD-L for supply or exhaust air with square faceplate. Suitable for isothermal and cooling applications. Especially for the installation in comfort rooms and clean rooms (in connection with particle filter unit). Consisting of sheet steel faceplate with fixed blades for horizontal air throw and perforated edges, with a high-quality powder coating in a RAL colour (RAL 9010, white, standard). Fixing with screw mounting (-SM).
Product: SCHAKO **type DQD-L**

Ceiling diffuser type DQD-L for supply or exhaust air with square faceplate. Suitable for isothermal and cooling applications. Especially for use in comfort rooms and clean rooms (in connection with particle filter unit). Consisting of faceplate made of anodised aluminium in natural colour E6/EV1 with fixed blades for a horizontal air throw and perforated edges. Fixing with concealed mounting (VM).

Product: SCHAKO **type DQD-L-ALU**

Accessories:

- Plenum box (-SAK) made of galvanised sheet steel, with fixing lugs.
 - Supply air version with integrated perforated straightener
 - Return air model inside painted to RAL 9005 (black)
 - with throttle damper (-DK) in plenum box, adjustable from below, for simple air volume regulation without dismantling the faceplate.
 - with volumetric flow meter (-VME)
 - with ROB version (-ROB), removable diffuser plate, throttle damper and volumetric flow meter.
 - with rubber lip seal (-GD), made of special rubber, at the connection pipe.
 - with thermal insulation
 - internal (-li)
 - external (-la)
- Cover plates for covering blades to achieve a selective air throw pattern.
- Ball-impact guard (-BS), made of steel with high-quality powder coating in RAL 9010 (white), other RAL colours possible at an extra charge (only possible for DQD-L with screw mounting).

Ceiling diffuser type DQD-R-L for supply or exhaust air with round faceplate. Suitable for isothermal and cooling applications. Especially for use in comfort rooms and clean rooms (in connection with particle filter unit). Consisting of sheet steel faceplate with fixed blades for horizontal air throw and perforated edges, with a high-quality powder coating in a RAL colour (RAL 9010, white, standard). Fixing with concealed mounting (VM).

Product: SCHAKO **type DQD-R-L**

Accessories:

- Plenum box (-SRK) made of galvanised sheet steel, with fixing lugs.
 - Supply air version with integrated perforated straightener
 - Return air model inside painted to RAL 9005 (black)
 - with a throttle damper (-DK) adjustable at the front side in the plenum box for air volume regulation
 - with cable-operated adjustment (-SZV)
 - with volumetric flow meter (-VME)
 - with ROB version (-ROB), removable diffuser plate, throttle damper and volumetric flow meter.
 - with rubber lip seal (-GD), made of special rubber, at the connection pipe.
 - with thermal insulation
 - internal (-li)
 - external (-la)
- Cover plates for covering blades to achieve a selective air throw pattern.