

Hidden Linear Diffuser  
**LDK/G**

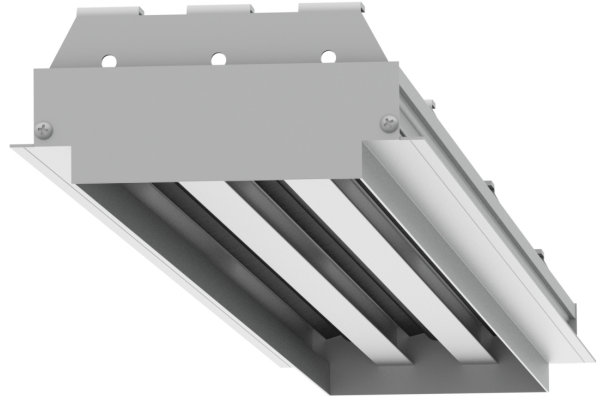
# LDK/G | Hidden Linear Diffuser

## Description

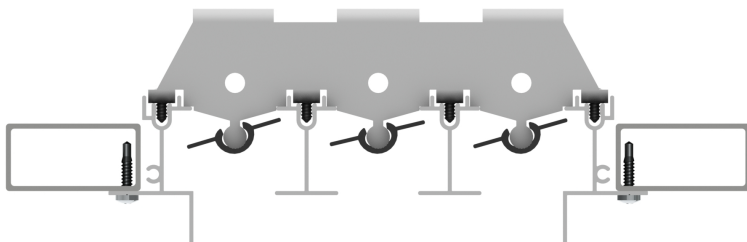
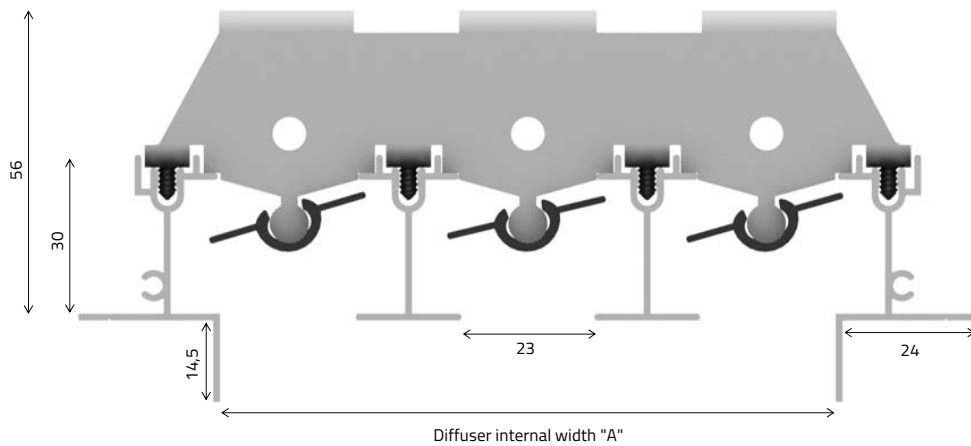
LDK/G slot diffuser is designed for applications in which the border profiles of slot diffusers are asked to be invisible.

They are suitable for single or multi part installations and can be produced as 1,2,3 or 4 slot rows.

After the installation, the frame lays in the space left in the suspended ceiling and only a black narrow line can be seen from the bottom.



## Size and Installation Methods



Slot Num.	A [mm]
1	23
2	65
3	107
4	149

## Material

Slot diffuser body are made by aluminum and adjustable wings are made by plastic.

Depending on the project requirements, they can be produced in the desired RAL code.

## Application

LDK/G concealed ceiling slot diffusers are suitable for the installation of suspended ceilings and they are used to supply or exhaust air from the environment. It is suitable to use in places with ceiling height of 2,5 - 4 meters. They should be selected with 1,2,3,4 slots according to the air flow rate and noise criteria. Plenum box installation should be done with hanger brackets to the ceiling or should be located on the box profile. Adjustable blades depending on the heating and cooling season should be placed in position. In concealed ceiling slot diffusers, an angle of more than +/- 30° should not be expected, since the air direction blades are further behind the ceiling level.

The most accurate selections for noise and pressure value should be made by looking at the graphics at the end of the catalog.

Recommendation for air flow rates:

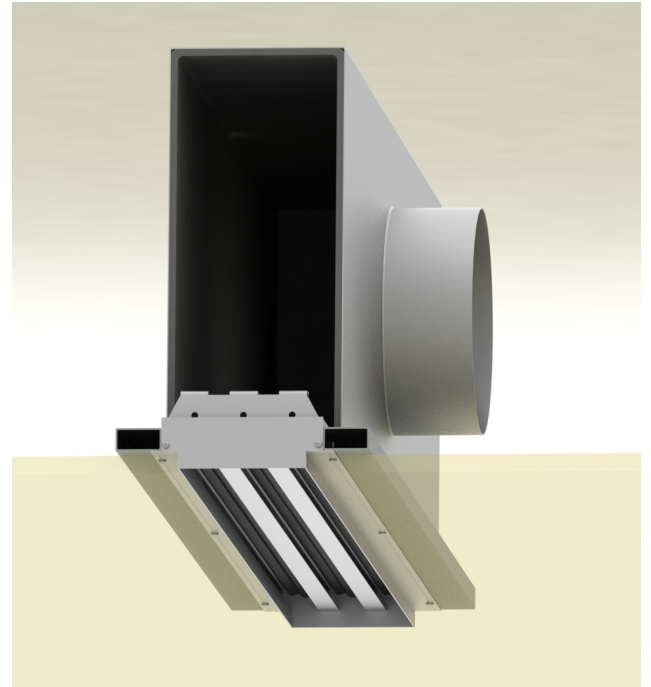
1 slot diffuser : 100-150m<sup>3</sup>/h /m (per meter)

2 slot diffuser : 200-260m<sup>3</sup>/h /m (per meter)

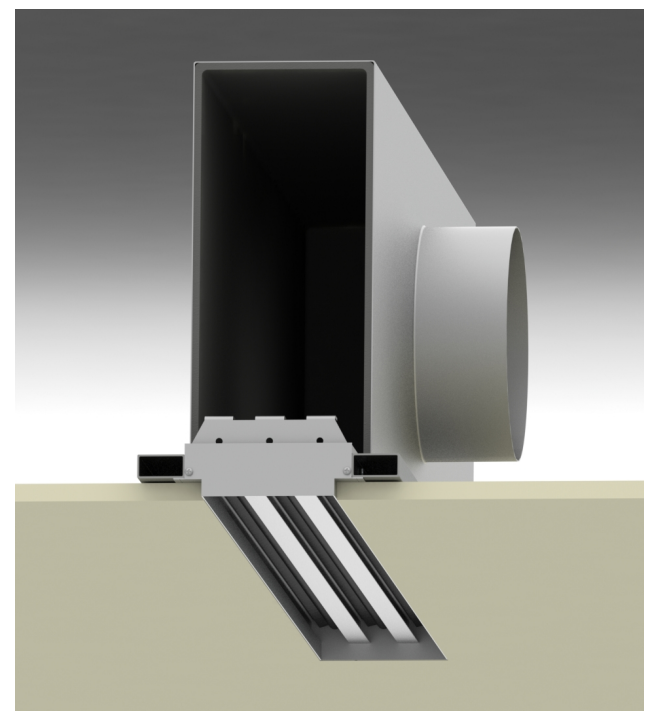
3 slot diffuser : 400-440m<sup>3</sup>/h /m (per meter)

4 slot diffuser : 450-500m<sup>3</sup>/h /m (per meter)

## After Application



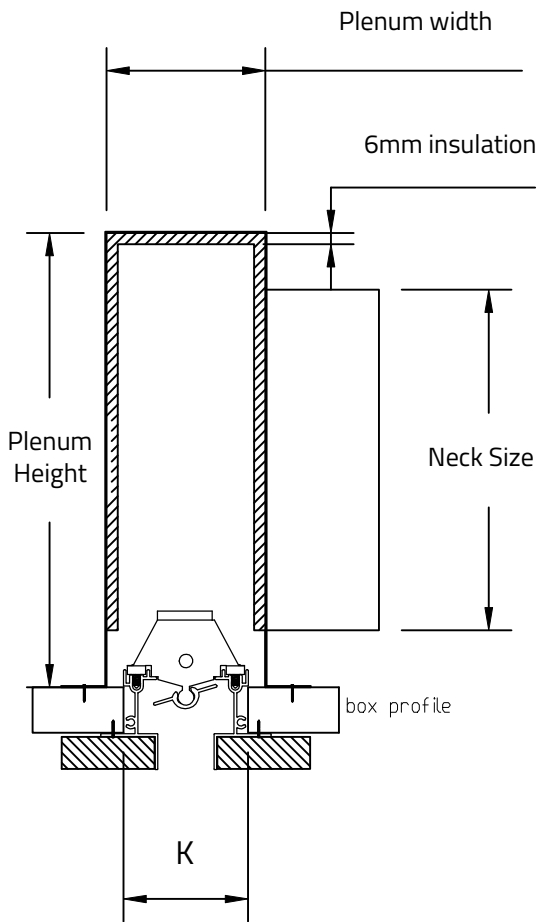
The plenum box is fixed to the box profile from the top, the hidden slot diffuser is fixed from the bottom.



When the ceiling is completed, the diffuser frames will remain under the plaster ceiling.

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## Diffuser Details



Structure profile distances to be adjusted before assembly

Type	Slot Numb.	Distance [K]
LDK/G	1	60 mm
LDK/G	2	102,5 mm
LDK/G	3	145 mm
LDK/G	4	187,5 mm

## Post Assembly Views



## Selection Procedure

1. In order to provide the best air distribution in the air conditioned zone, decide the distribution position of the diffusers.
2. Determine the maximum advised noise level of the room from table 1.
3. Divide the total air volume ( $m^3/h$ ) by the active diffuser length and determine the unit air volume amount per meter.
4. Determine the throw distance from the performance specifications.
5. Determine the number of slot rows by using the scale table.

## Selection Example

A 5 m slot diffuser is existing in an office area and the total air volume is asked to be  $1250 m^3/h$ .

Office ceiling height is specified as 3m.

The maximum NC value level in the above table is 30-40. Desired air flow per meter :  $1250/5 = 250 m^3/h$

For concealed ceiling slot diffusers, vertical throw graph should always be checked.

The ideal number of slots for  $250 m^3/h / m$  is 2 slots. The pressure drop is 22Pa. Since the sound value is NC21 but 5m is used, when the correction factor +4NC is added, it becomes NC25 sound level. This is a very ideal choice value for an office design.

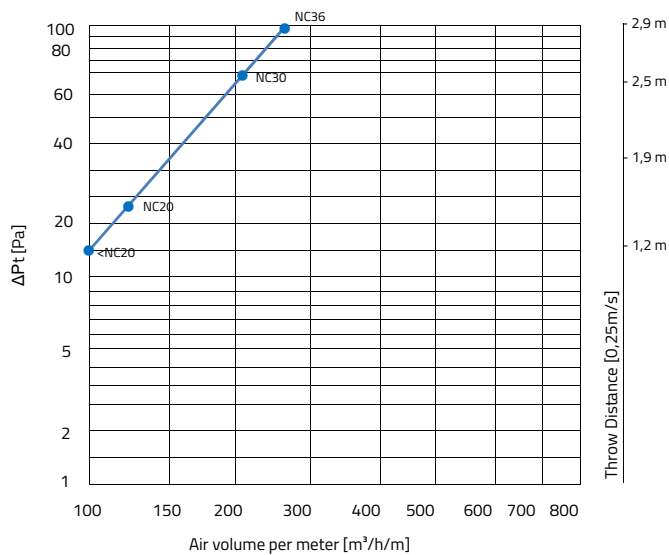
Area to be served	Recommended Maximum NC Levels
Sound Broadcasting Recording Studios, TV (Audience Studios)	15 - 20 20 - 25
Lecture Theatres, Cinemas, Concert Halls, Boardroom/ExOffices Lounge, Conference Room, Court Room, Churches, Private Bedrooms	25 - 30
Operating Theatres, Hospital Wards, Staff Room, Class Rooms, Ballroom, Banquet Room, Library, Bank, Museum, Offices	30 - 40
Restaurants, Department Stores, Computer Suite, Washroom Toilet	35 - 40
Laundries, Kitchens, Swimming Pools, Sports Arena	40 - 45
Garage, Light Engineering Workshop	45 - 50
Heavy Engineering Workshop	50 - 65

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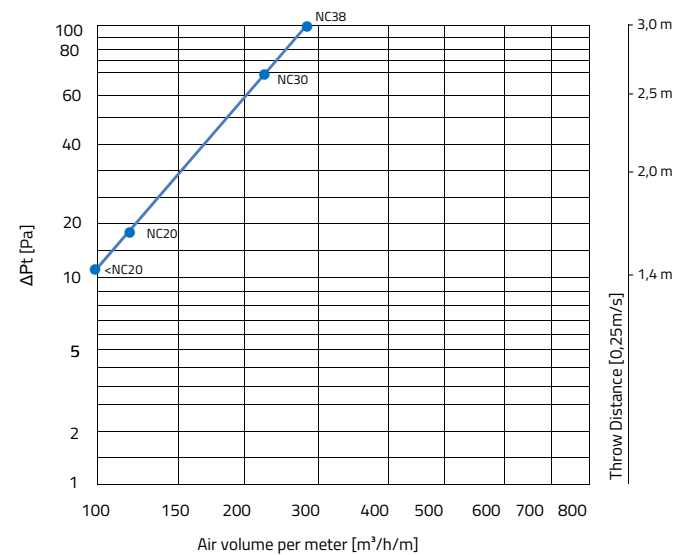
## Air Volume – Noise Level – Pressure Loss Graphics

### 1 Slot

#### Horizontal Throw

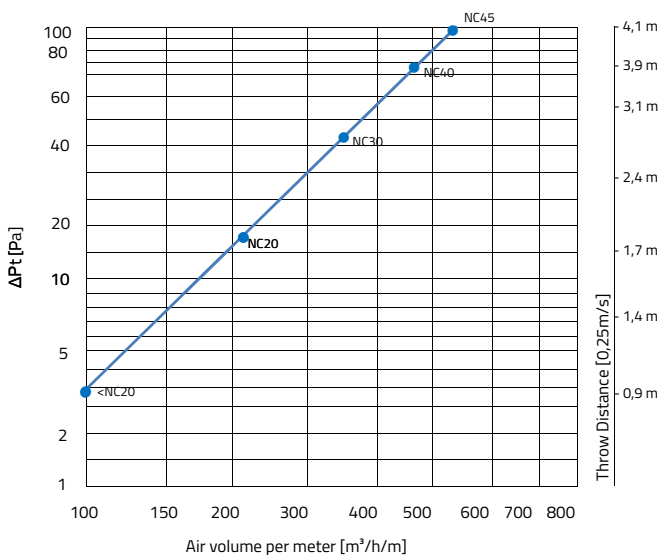


#### Vertical Throw

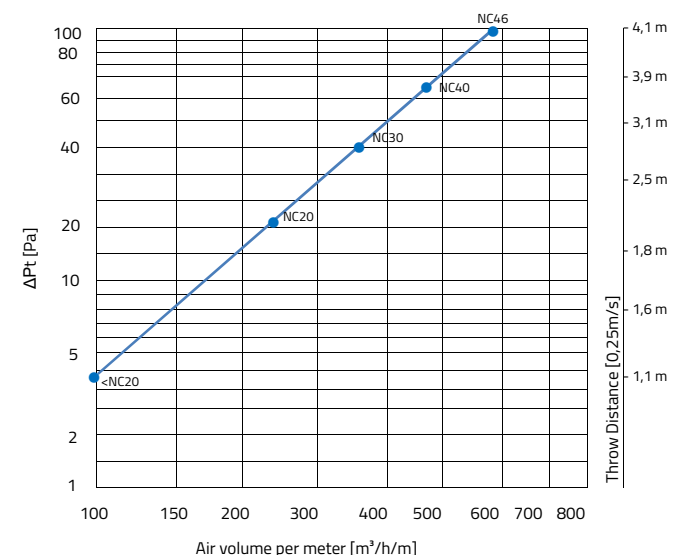


### 2 Slot

#### Horizontal Throw



#### Vertical Throw

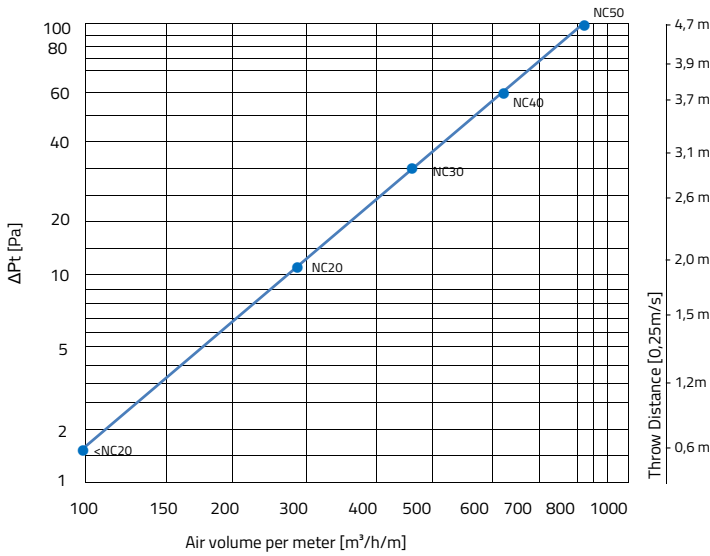


Length	0,9	1,0	1,2	1,5	2,0	3+
Additional NC Value	-1	0	+1	+2	+3	+4

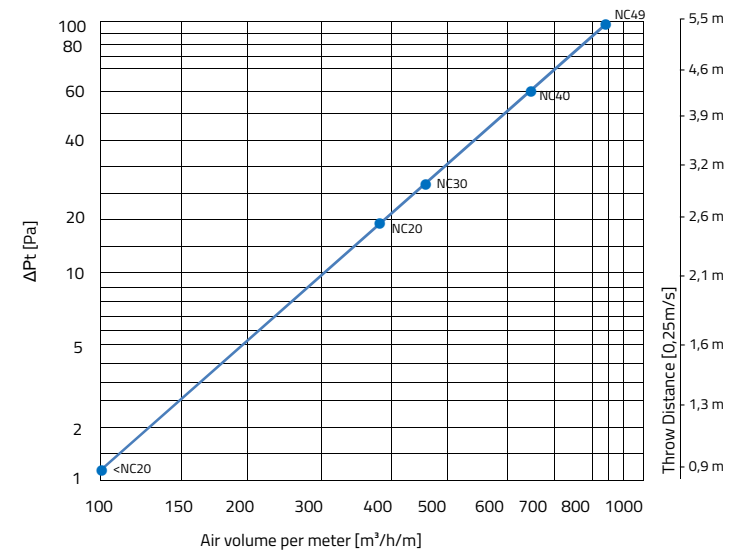
## Air Volume – Noise Level – Pressure Loss Graphics

### 3 Slot

#### Horizontal Throw

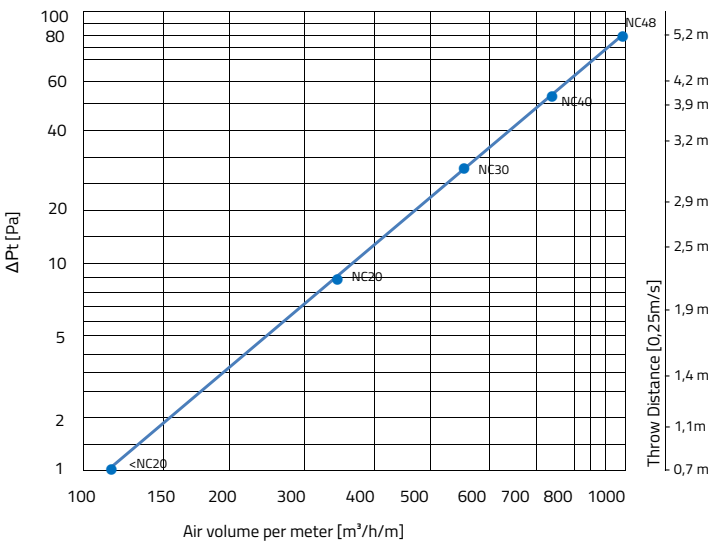


#### Vertical Throw

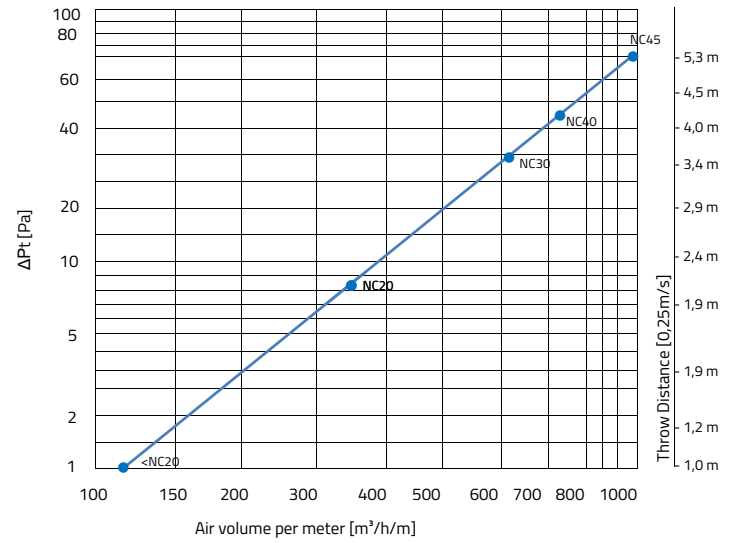


### 4 Slot

#### Horizontal Throw



#### Vertical Throw



Length	0,9	1,0	1,2	1,5	2,0	3+
Additional NC Value	-1	0	+1	+2	+3	+4

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## Ordering Code

**LDK 1 / P / D / RAL..**

(1) (2) (3) (4) (5)

- |     |            |              |                               |
|-----|------------|--------------|-------------------------------|
| (1) | Model      | LDK          | = Slot Diffuser               |
|     |            | LDK/G        | = Hidden Flange Slot Diffuser |
| (2) | Slot Numb. | 1            | = 1 Slot                      |
|     |            | 2            | = 2 Slot                      |
|     |            | 3            | = 3 Slot                      |
|     |            | 4            | = 4 Slot                      |
|     |            | up to 8 slot |                               |
| (3) | Plenum     | P            | = With Plenum                 |
|     |            | -            | = Without Plenum              |
| (4) | Version    | D            | = Supply                      |
|     |            | T            | = Return                      |
| (5) | RAL Code   | RAL          | = Color Code                  |



