

Square diffuser KD-15

Application

Square diffusers are designed for supply and extract air applications in the rooms with floor to ceiling heights from 2.4 to 4 m. They can be installed in panel ceilings why their dimensions fits the size of the ceiling panels. Inlet spigot dimensions are designed to fit standard duct sizes.



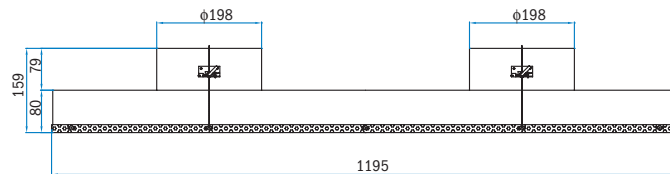
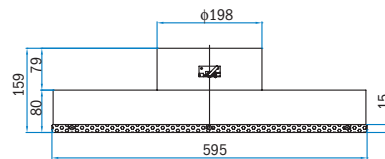
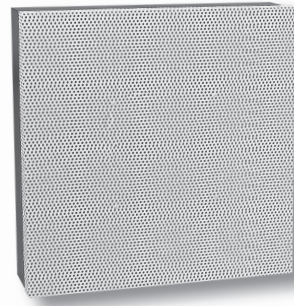
Description

Square diffuser KD-15 consists of perforated diffuser face and plenum box with inlet spigot. Dispersing sheet steel allows different discharge angles (one, two, three or four directions). KD-15/B has two inlet spigot $\phi 198$ mm. Dispersing sheet steel and housing are coloured in black and perforated diffuser face in RAL 9010, or according to customer's request.

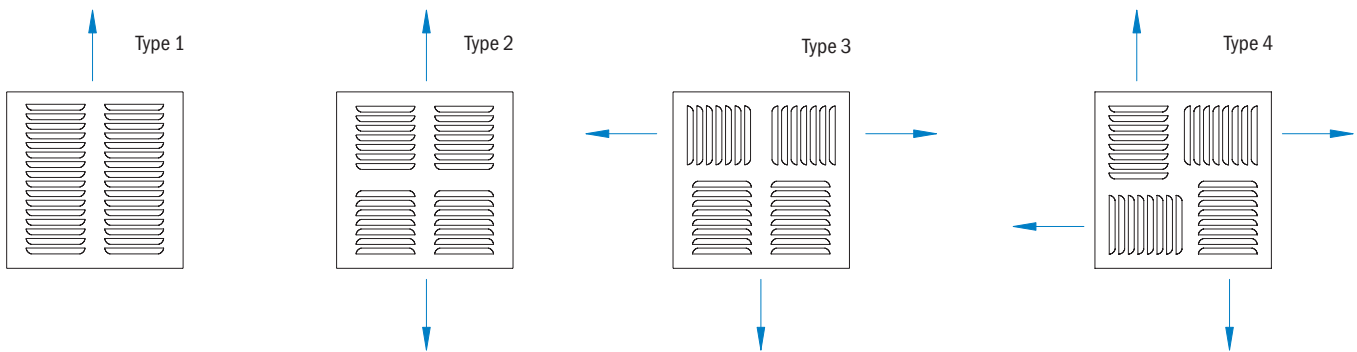
Component parts:

1. Perforated diffuser face
2. Dispersing sheet steel
3. Housing
4. Inlet spigot
5. Volume control damper

Type	A	B	$\Phi A_{ef} (m^2)$
KD-15/A	595	595	0.13099
KD-15/B	595	1195	0.26308



Dispersing sheet steel types



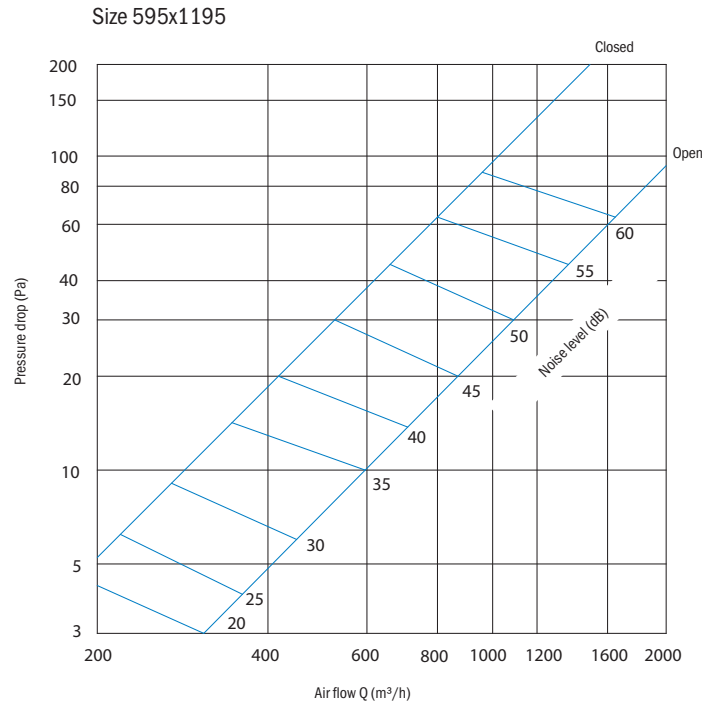
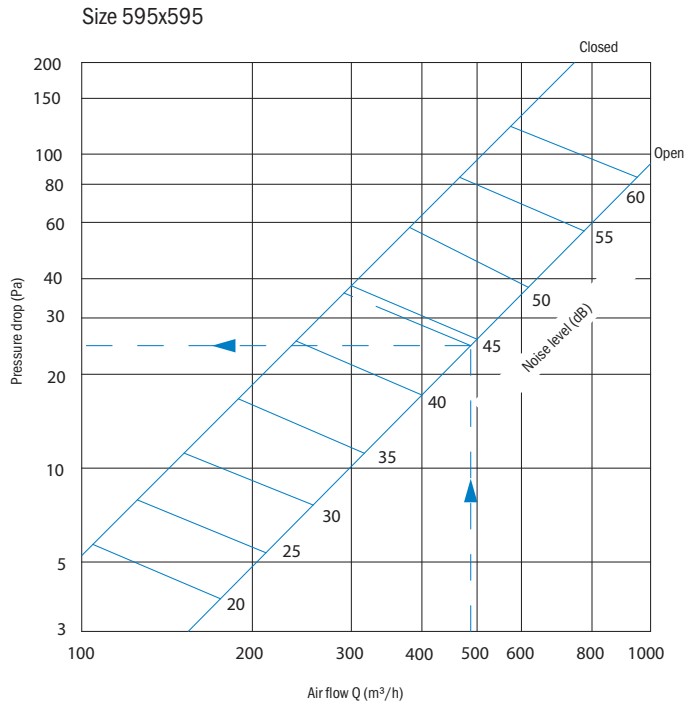
Ordering key

KD-15A/M/1/I

- 15** Thermal insulation (PE), thickness 5 mm on the outside of the plenum box
- 19** Sound and thermal insulation (from -40 °C to 105 °C) thickness 9 mm on the outside of the plenum box (the material is synthetic rubber-based)
- I19** Sound and thermal insulation (from -40 °C to 105 °C) thickness 19 mm on the outside of the plenum box (the material is synthetic rubber-based)
- 1** Dispersing sheet types
- 2**
- 3**
- 4**
- M** Volume control damper
- A** Size 595 x 595 mm
- B** Size 595 x 1195 mm
- C** Front plate 595 x 595 mm only
- D** Front plate 595 x 1195 mm only

Pressure drop and sound power level diagram
(Control flap angle: 90° - open, 0° - closed)

Diagram for determination of throw distance



Example

Given data:

Air flow volume: $Q = 490 \text{ m}^3/\text{h}$, $L = 1.4 \text{ m}$
 Max. air velocity at the throw distance L: $v_L = 0.20 \text{ m/s}$
 Sound power level: $L_{WA} = 44 \text{ dB(A)}$
 Pressure drop: $\Delta p = 24 \text{ Pa}$

Square diffusers KD-16

Application

KD-16 is a square air supply diffuser designed for installation in ceiling. Air is discharged into the room through side slots and through the diffuser perforated face panel.

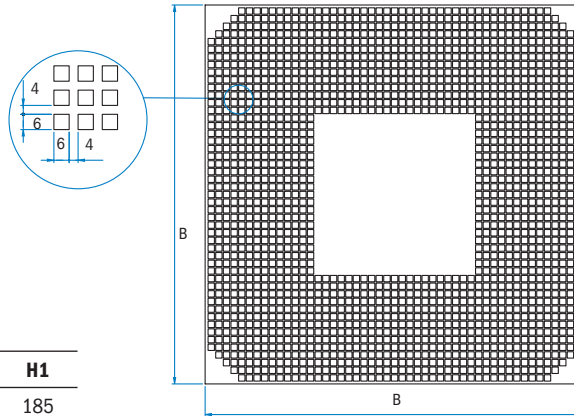
The air supplied through the face panel is mixed with room air outside the unit. The air jet discharged through side slots inducts the supplied air and room air mixture, thereby improving the spatial distribution of fresh air.

Installation

KD-16 diffuser is installed in the ceiling by simply connecting it directly to an air duct or on a plenum box.

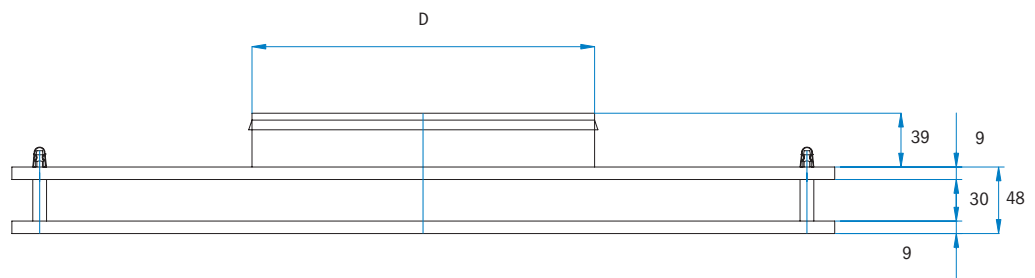
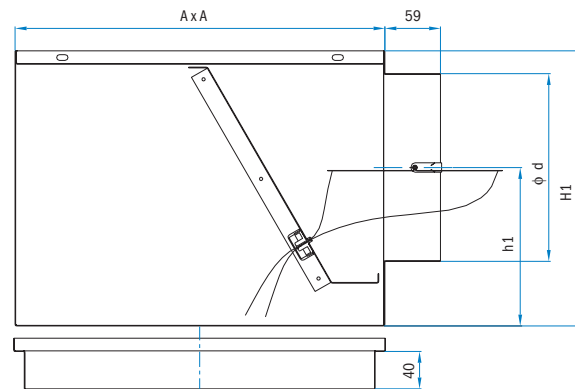
Description

KD-16 square diffuser is made of a perforated mask and a top connection. The entire diffuser is powder painted in RAL 9010 or in a customer specified colour.

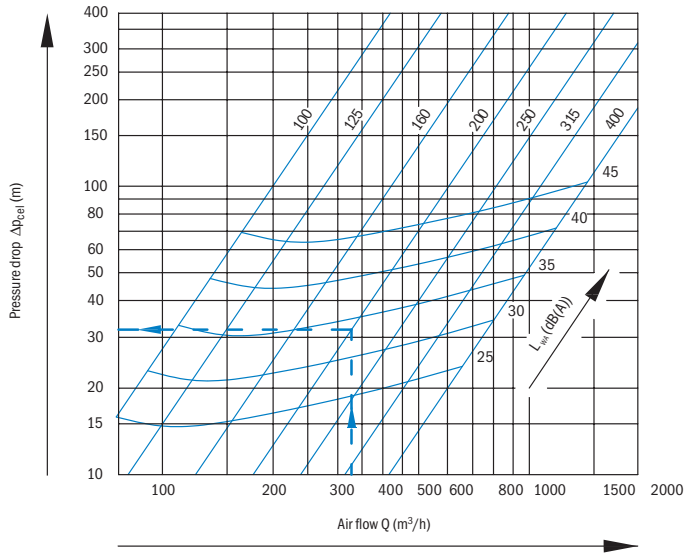


Nominal sizes and dimensions

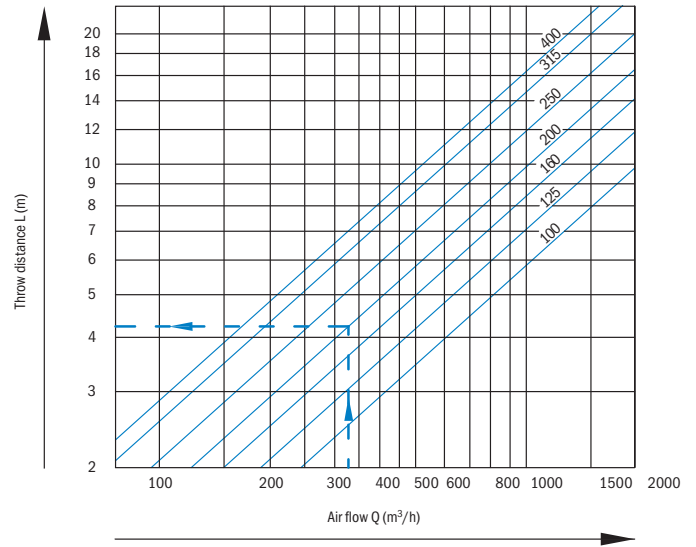
Size	ΦD	B	Φd	A	h1	H1
100	98	300	98	230	112	185
125	123	300	98	230	112	185
160	158	300	123	280	125	210
200	198	400	158	325	137	240
250	248	595	198	390	167	290
315	313	595	248	590	177	325
400	398	595	313	590	210	390



Pressure drop determination diagram



Throw distance determination diagram



The diagrams serve to determine the pressure drop Δp_{cel} , noise level LWA and distance L, at which the air jet velocity is 0.20 m/s at a specified air flow rate Q.

Example

$Q = 330 \text{ m}^3/\text{h}$

The distance to the isovel 0.20 m/s, pressure drop and noise level are required.

Size 200 is selected.

The values corresponding to the specified flow rate Q are determined from the diagrams:

$p_{cel} = 32 \text{ Pa}$

$L_{WA} = 33,5 \text{ dB(A)}$

$L = 4.2 \text{ m}$ distance, at which the air jet velocity is 0.20 m/h.

Ordering key

KD-16/K/M/I Size 100, 125, 160, 200, 250, 315, 400

- 15** Thermal insulation (PE), thickness 5 mm on the outside of the plenum box
- 19** Sound and thermal insulation (from -40 °C to 105 °C) thickness 9 mm on the outside of the plenum box (the material is synthetic rubber-based)
- 119** Sound and thermal insulation (from -40 °C to 105 °C) thickness 19 mm on the outside of the plenum box (the material is synthetic rubber-based)
- M** Volume control damper
- K** Plenum box

VENTILATING GRILLES,
VENTILATING VALVES

**CIRCULAR DIFFUSERS,
SQUARE DIFFUSERS**

SWIRL DIFFUSERS,
VARIABLE SWIRL
DIFFUSERS

SLOT DIFFUSERS,
ROUND DUCT DIFFUSERS

AIR DISPLACEMENT
UNITS

SUPPLY AIR NOZZLES

EXTERNAL ELEMENTS

AIR FLOW
CONTROL UNITS

SOUND ATTENUATORS,
SOUND ATTENUATING
LOUVRES