

02



Circular diffusers



Square diffusers

Circular diffusers, Square diffusers

Circular and square diffusers are designed for supply and extract air. Due to high induction (mixing of supply and room air) they are suitable for larger temperature differences between the supply and room air. Diffusers have high capacity and low sound power level.

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

Overview

■ Circular diffusers

Circular diffusers can be used for supply or extract air. Due to high induction (mixing of supply and room air) they are suitable for larger temperature differences between the supply and room air. Diffusers have high capacity and low sound power level.

Steel circular diffusers OD-1, OD-2

They consist of sheet steel, powder coated in RAL 9010. Upon customer's request, they can be coloured in any RAL colour.

Aluminium circular diffuser OD-3N

Diffuser rings are made of sheet aluminium and regulation mechanism consist of steel. Diffuser is powder coated in RAL 9010. Upon customer's request, they can be coloured in any RAL colour.

■ Square diffusers

Square diffusers are designed for supply and extract air. Due to high induction (mixing of supply and room air) they are suitable for larger temperature differentials between the supply and room air. Diffusers have high capacity and low sound power level.

Steel square diffusers KD-1, KD-2, KD-15, KD-16

They consist of sheet steel, powder coated in RAL 9010. Upon customer's request, they can be coloured in any RAL colour. Plenum box is made of galvanised sheet steel.

Steel circular diffusers OD-1, OD-2



OD-1

OD-2

Aluminium circular diffusers OD-3N



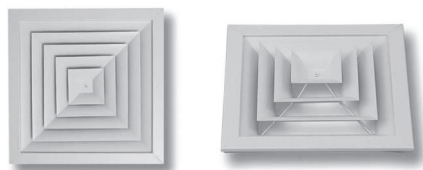
OD-3N

Circular diffuser OD-10



OD-10

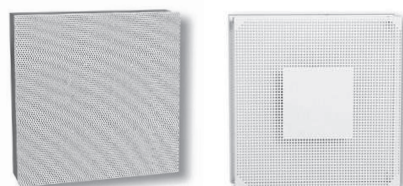
Square diffusers



KD-1

KD-2

Perforated square diffusers












KD-15

KD-16

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Legend of symbols

Al Element is made of aluminium profiles, aluminium sheet or aluminium casting.	 Element is intended to be built in the wall.	 Element is suitable for the supply of cool air (cooling).
St Element is made of steel sheet.	 Element is intended to be built in the ceiling or in the wall.	M Element allows regulation by electric motor (Belimo electric motors).
 Element is powder painted in standard RAL 9010 colour. Other desired colour is to be specified in the order.	 Element for air conditioning of rooms with floor to ceiling heights room up to 4 m.	F EU... Element is intended for air filtration. The filter of class ... is built in.
 Shady symbol means possibility of optional material, surface protection, motor version, ...	 Element for air conditioning of rooms with floor to ceiling heights from 6 to 15 m.	CD The possibility of the automatic selection and calculation of the technical characteristics of grilles and difusers in regard to the given conditions with the assistance of the Klima ADE program.
 Element is intended to be built in the floor.	 Element is suitable for the supply of warm air (heating).	INOX The element is made of stainless sheet steel AISI 304.

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.



St

RAL 9010

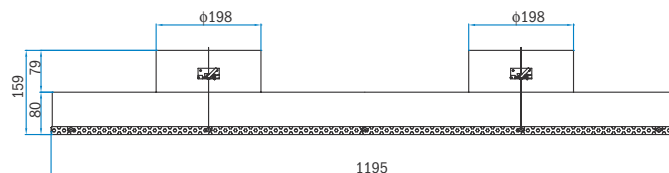
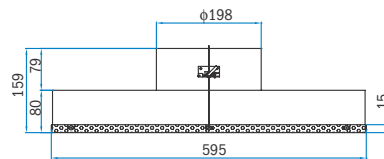
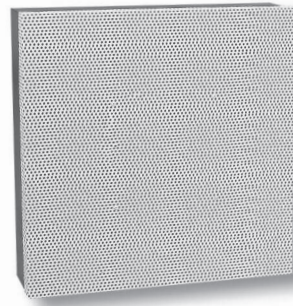
Description

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.

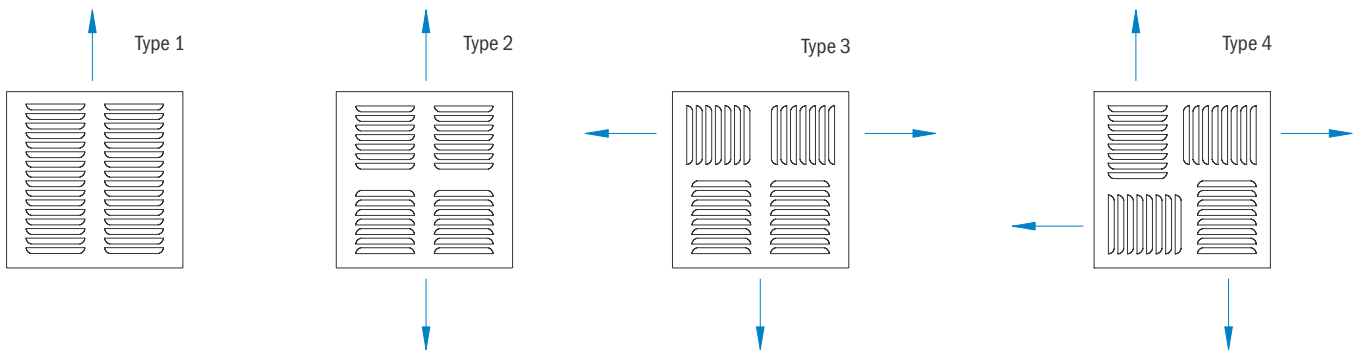
Component parts:

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

Type	A	B	ΦA_{ef} (m ²)
KD-15/A	595	595	0.13099
KD-15/B	595	1195	0.26308



Dispersing sheet steel types



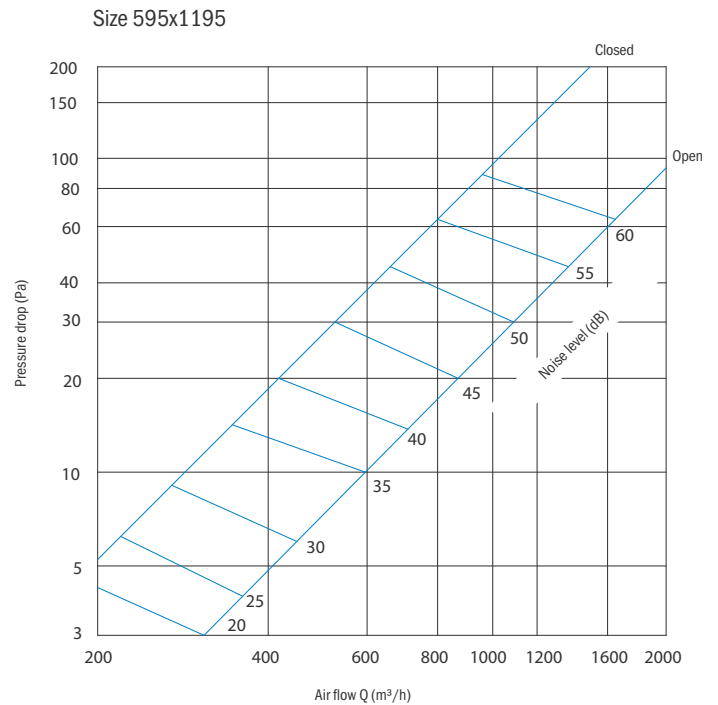
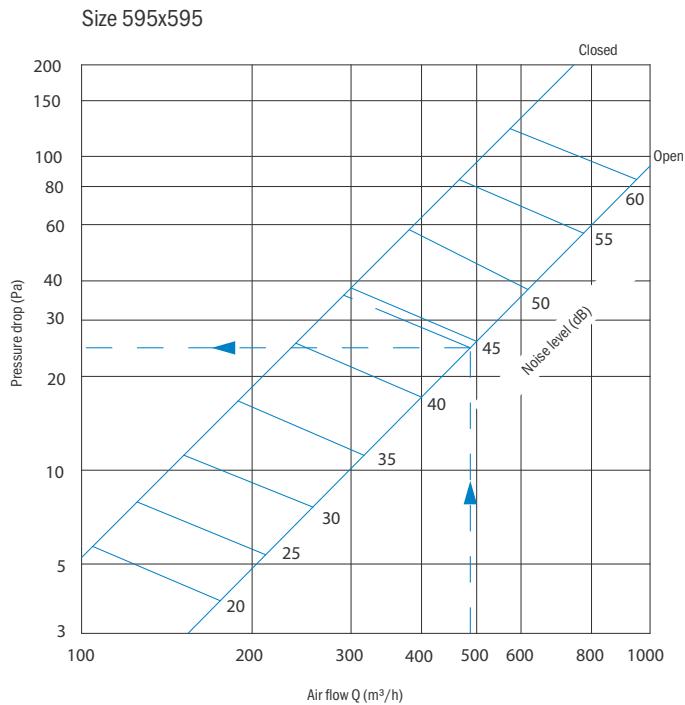
Ordering key

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.

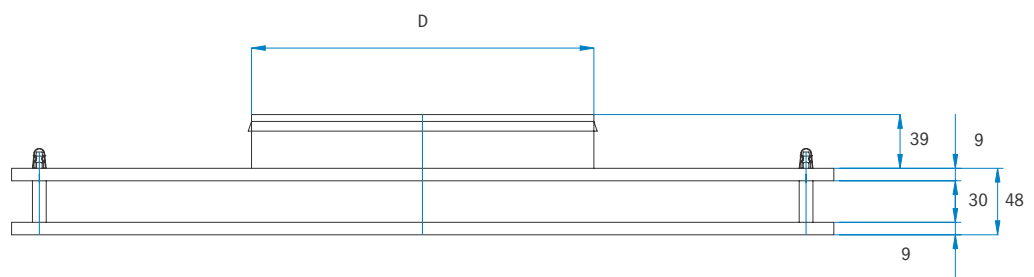
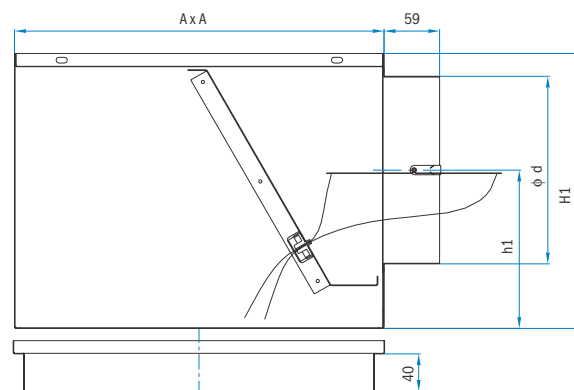
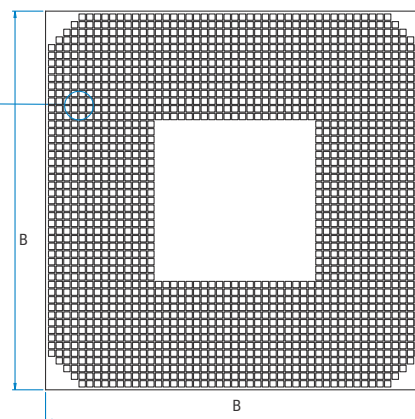
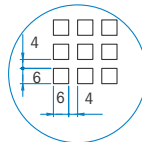
Nominal sizes and dimensions

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

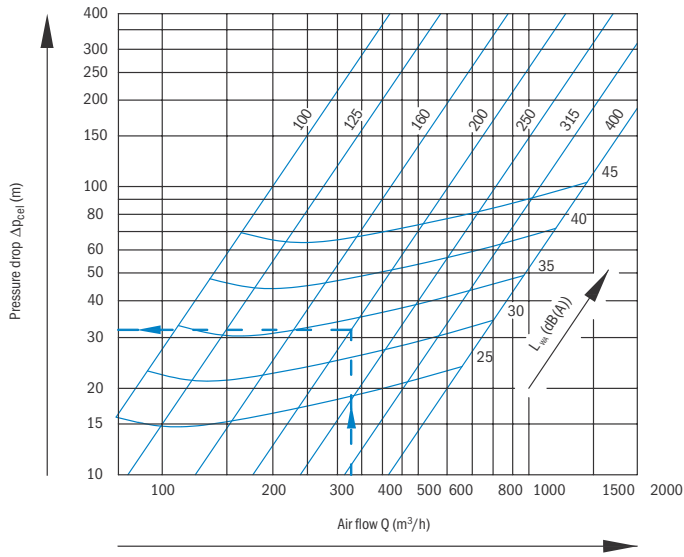


St

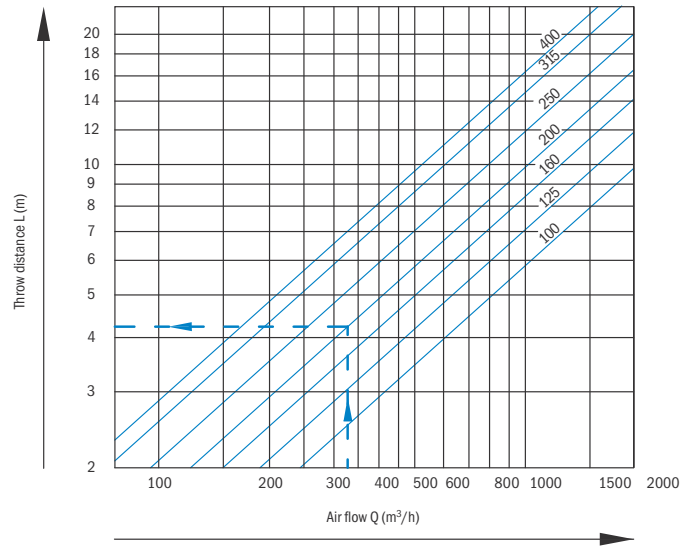
RAL 9010



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

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