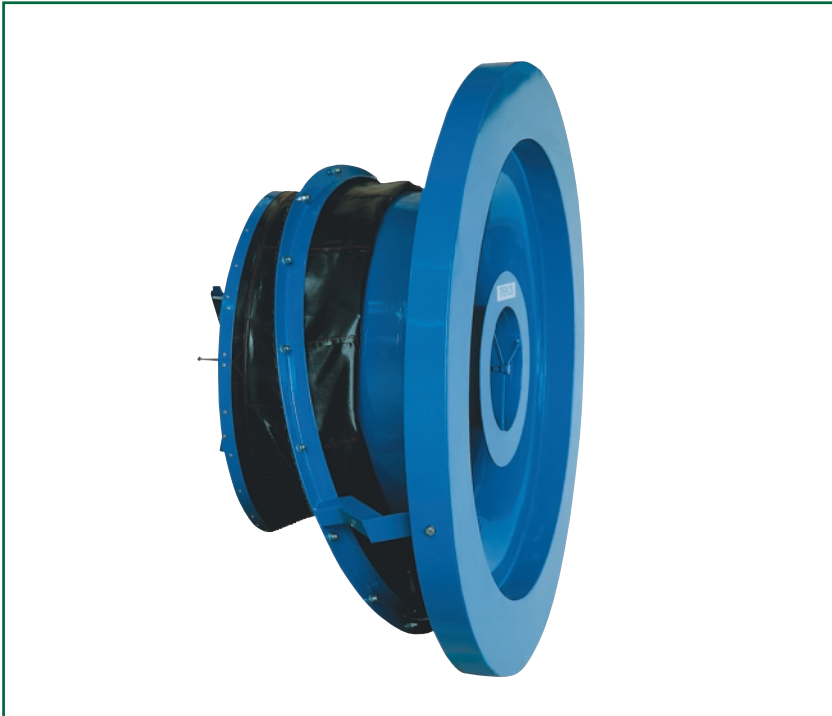


UDZ Swirl diffuser



Swirl diffuser UDZ, which is intended for installation in a ventilation duct, can be used in premises with a large volume, for example factory premises, storage areas, superstores, halls, etc. The diffuser makes it possible to vary the angle of the air outlet direction in relation to the axis. When the air flow is horizontal, the diffuser can be regulated within ± 20 degrees.

The form of the diffusion pattern and the throw can also be adjusted by opening or closing the diffuser outlet at the centre of the diffuser.

Maximum throw is achieved when the diffuser outlet is fully open, when it will reach ca 30 m.

Swirl diffuser UDZ has an air flow range between 125 - 2 916 l/s (450 - 10 500 m³/h) and has a throw of between 3 and 29 m.

The angle and throw of the air flow can be changed manually or with the help of a servomotor from Belimo or Siemens.

Quick-selection

Diffuser size	Air flow		Pressure drop, Pa	Throw, m
	l/s	m ³ /h		
UDZ - 315	125 - 500	450 - 1800	12 - 220	3 - 20
UDZ - 400	305 - 1000	1100 - 3600	20 - 300	4 - 24
UDZ - 600	777 - 2083	2800 - 7500	28 - 300	5 - 29
UDZ - 710	888 - 2917	3200 - 10500	20 - 300	5 - 29

Product facts

Swirl diffuser UDZ

Installed in a ventilation duct

Adjustable throw and diffusion direction

Broad flow range

Four sizes

Product code example:

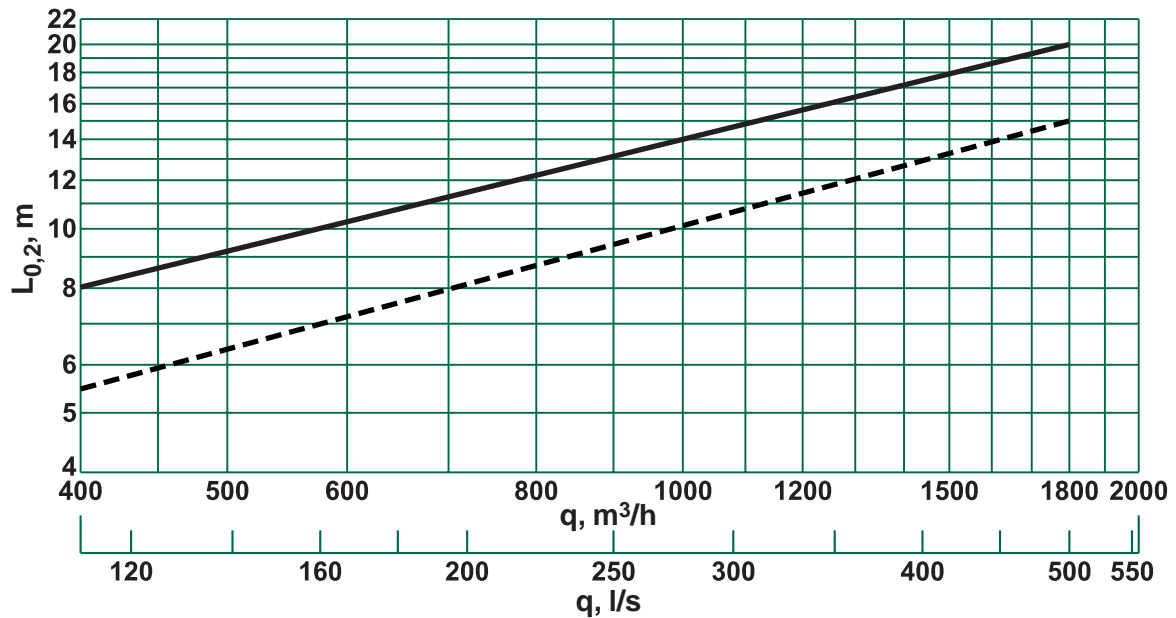
Swirl diffuser UDZ-400-1-1-1.

Size 400 for an air flow of 800 l/s with manual regulation of both the throw and diffuser outlet.

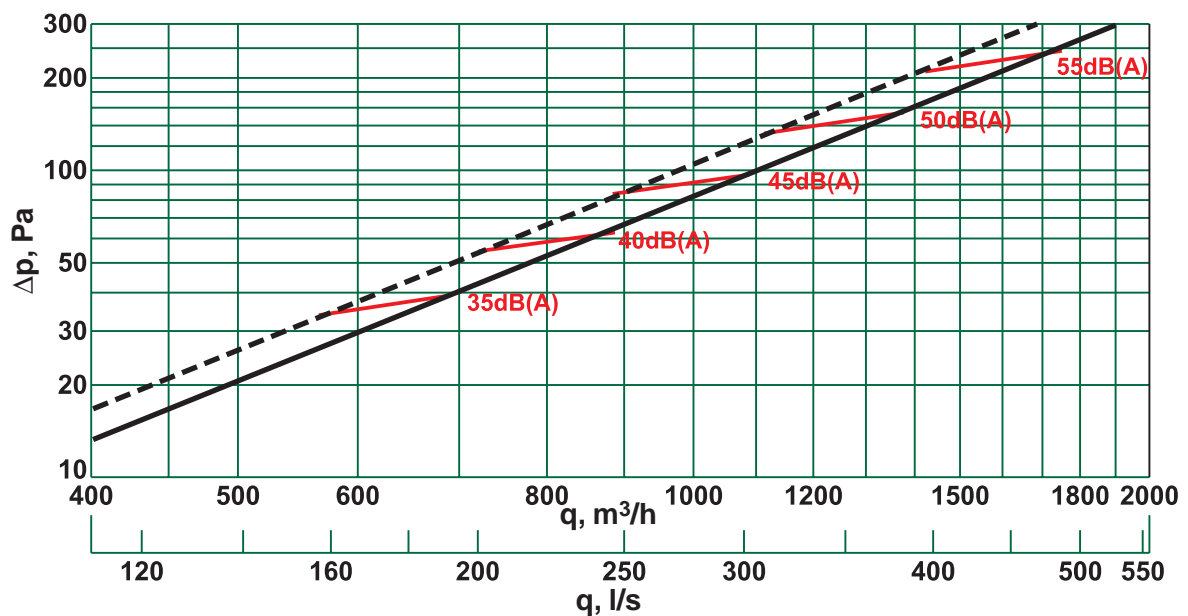
The diffuser is painted in colour RAL 9010.

Air flow, throw, pressure drop, sound level

UDZ-315 – throw



UDZ-315 – pressure drop and sound level



In the above graph, the sound levels in dB(A) are indicated for a reference room with 10 m² room absorption, equivalent to 4 dB room attenuation.

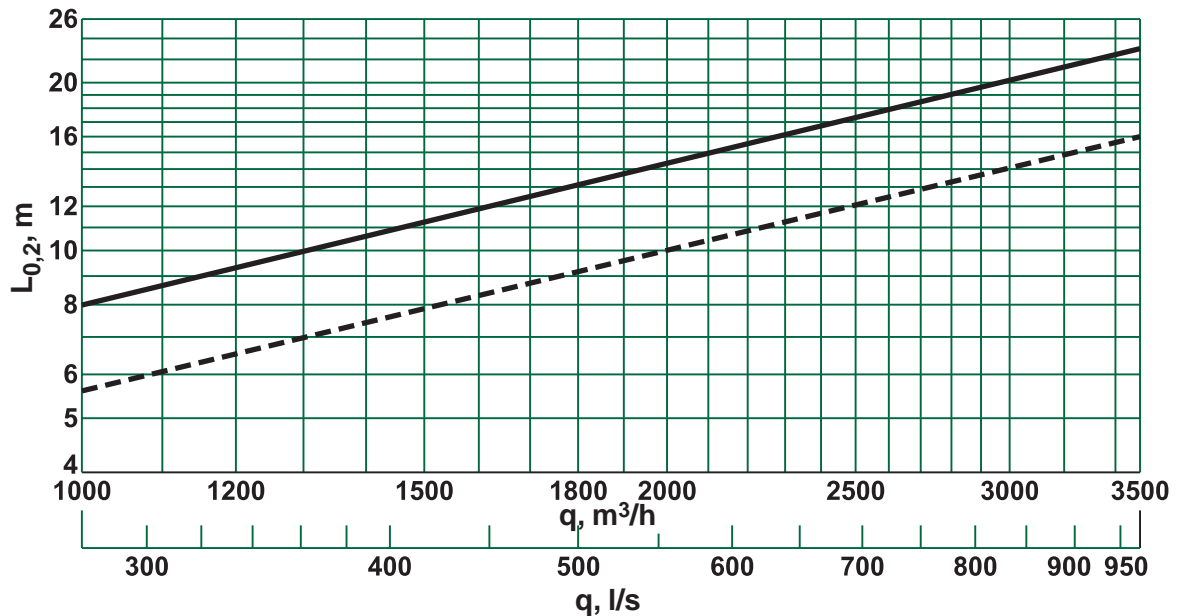
Max temperature difference for heating: Δt +8 K.

Max temperature difference for cooling: Δt -8 K.

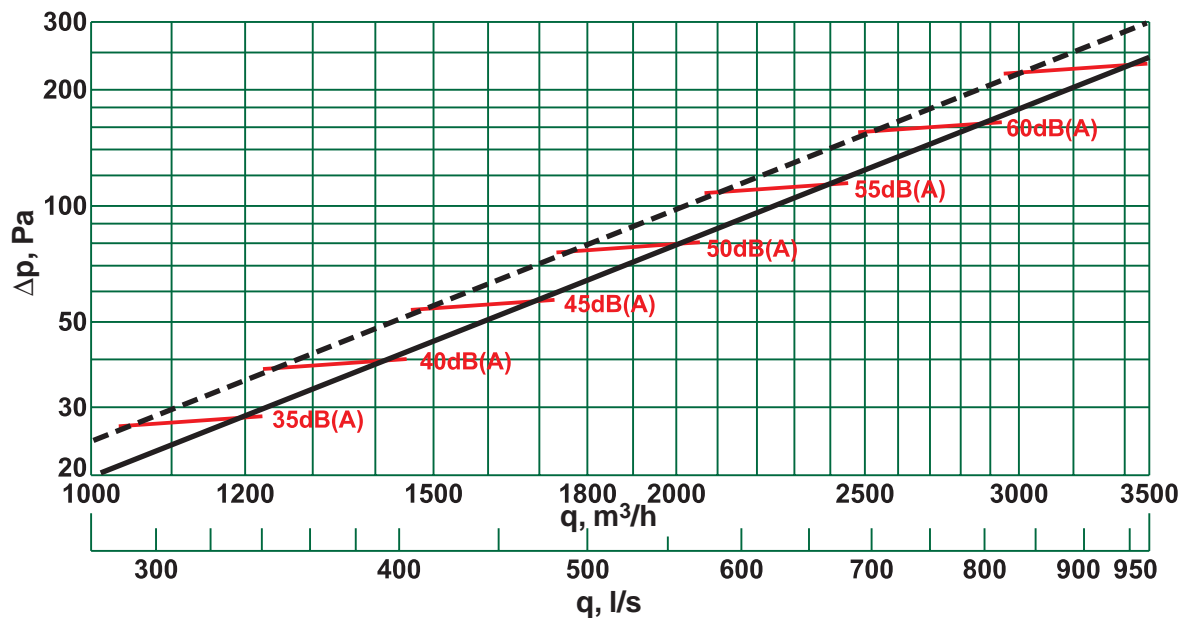
The graphs show the capacity with the diffuser outlet open ——— and closed - - -

Air flow, throw, pressure drop, sound level

UDZ-400 – throw



UDZ-400 – pressure drop and sound level



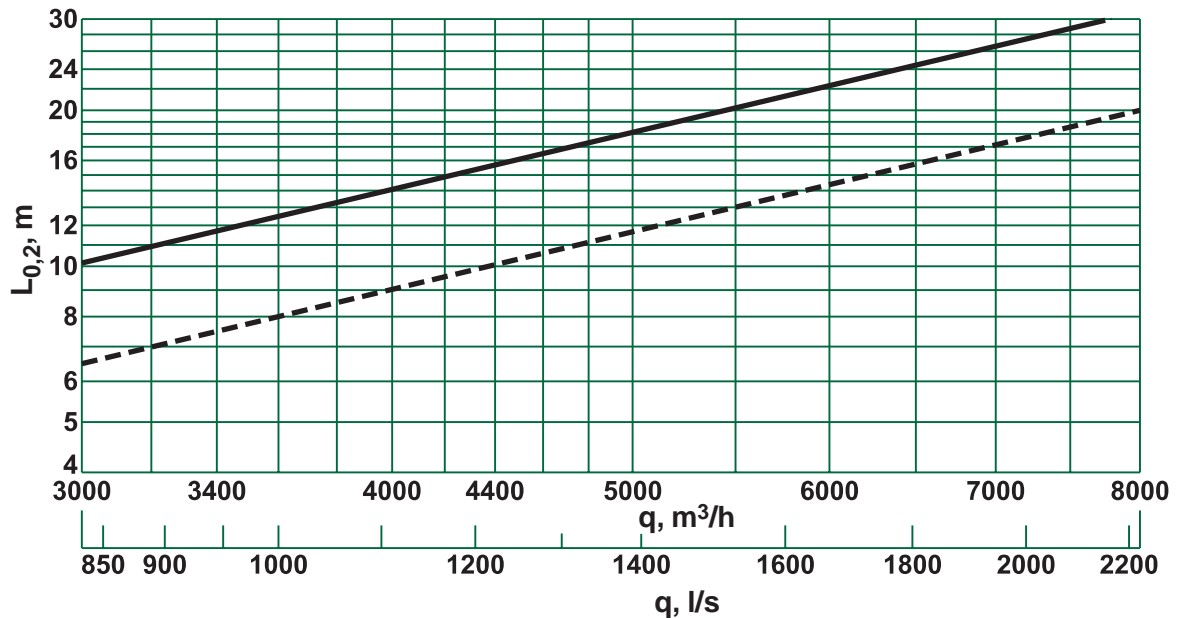
In the above graph, the sound levels in dB(A) are indicated for a reference room with 10 m² room absorption, equivalent to 4 dB room attenuation.

Max temperature difference for heating: Δt +8 K.
Max temperature difference for cooling: Δt -8 K.

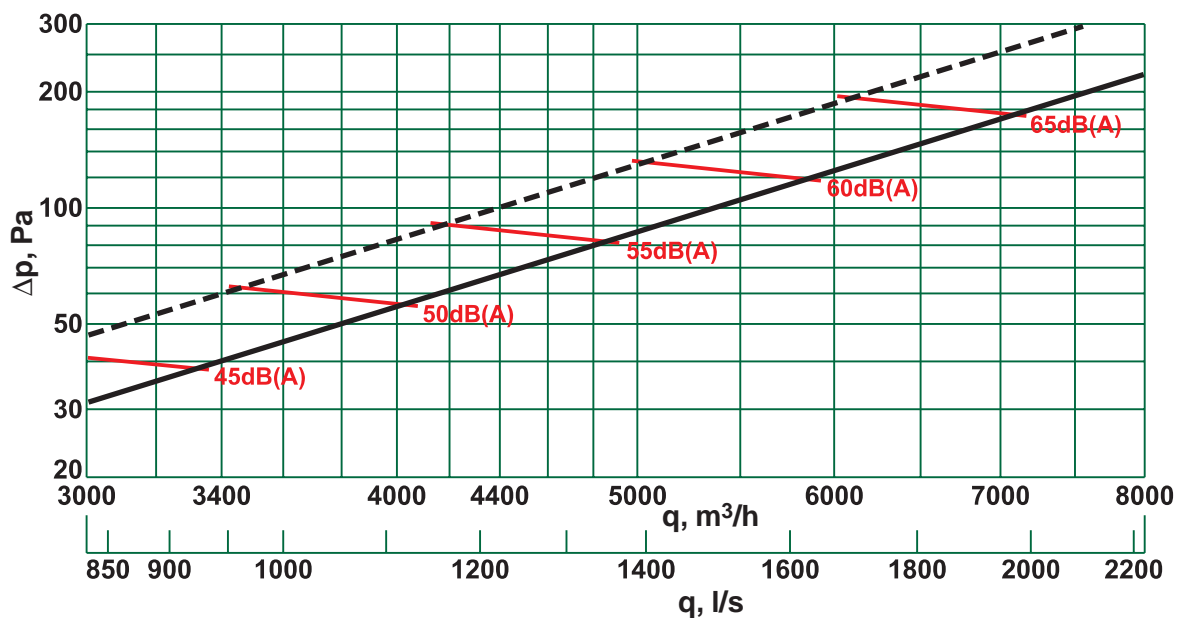
The graphs show the capacity with the diffuser outlet open ——— and closed - - -

Air flow, throw, pressure drop, sound level

UDZ-600 – throw



UDZ-600 – pressure drop and sound level



In the above graph, the sound levels in dB(A) are indicated for a reference room with 10 m² room absorption, equivalent to 4 dB room attenuation.

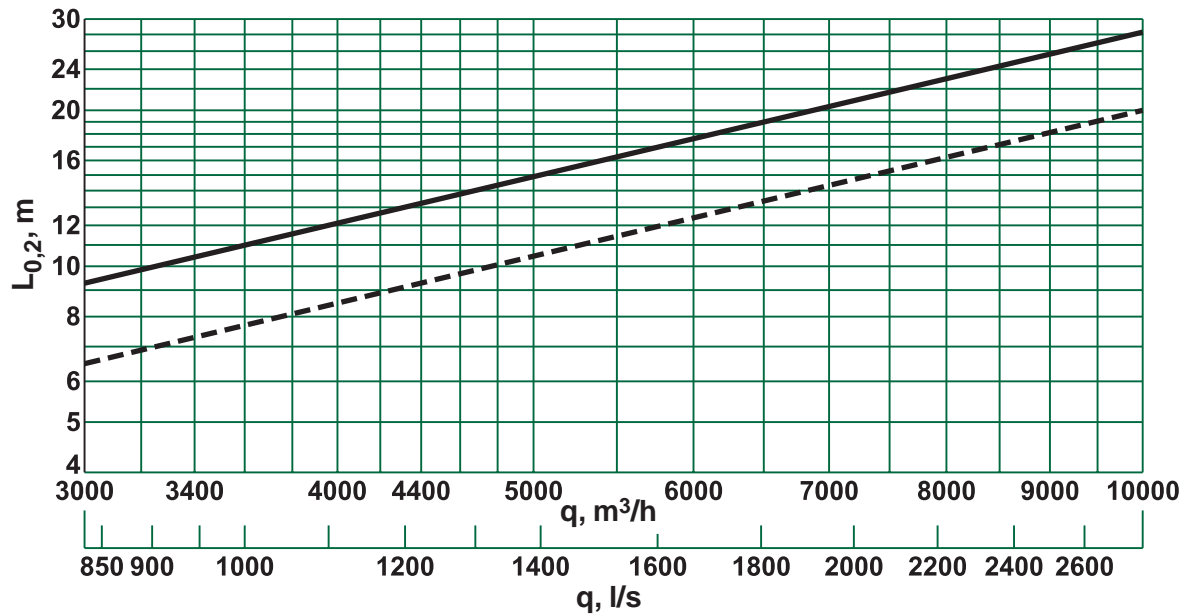
Max temperature difference for heating: Δt +8 K.

Max temperature difference for cooling: Δt -8 K.

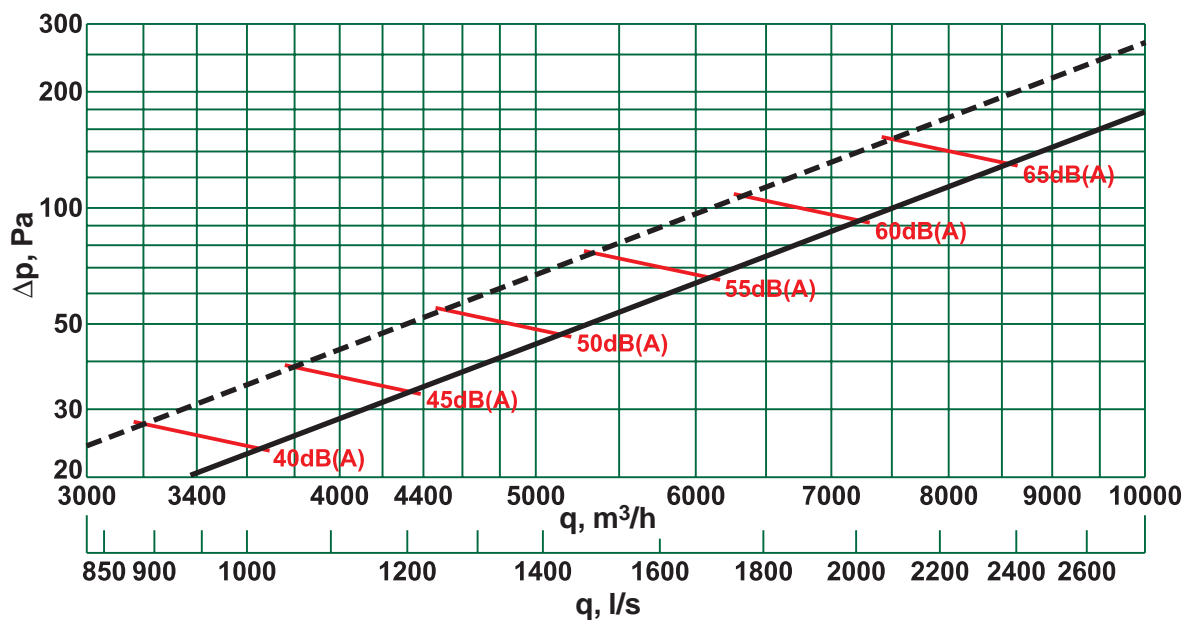
The graphs show the capacity with the diffuser outlet open ——— and closed - - -

Air flow, throw, pressure drop, sound level

UDZ-710 – throw



UDZ-710 – pressure drop and sound level



In the above graph, the sound levels in dB(A) are indicated for a reference room with 10 m² room absorption, equivalent to 4 dB room attenuation.

Max temperature difference for heating: Δt +8 K.

Max temperature difference for cooling: Δt -8 K.

The graphs show the capacity with the diffuser outlet open ——— and closed - - -

Sound data, dimensions and weights, diffusion patterns

Sound power level

UDZ	Correction of sound level K_{ok} in dB for octave bands, mean frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
315	3	2	1	4	4	-12	-18	-28
400	1	0	-1	-3	-5	-11	-17	-27
160	0	-1	-2	-3	-5	-9	-15	-25
200	2	1	0	-4	-7	-11	-17	-27

The sound power levels for different octave bands are obtained by adding together the sound pressure level L_{A10} in dB(A), and the corrections K_{ok} for the octave bands in the table with the help of the following formula:

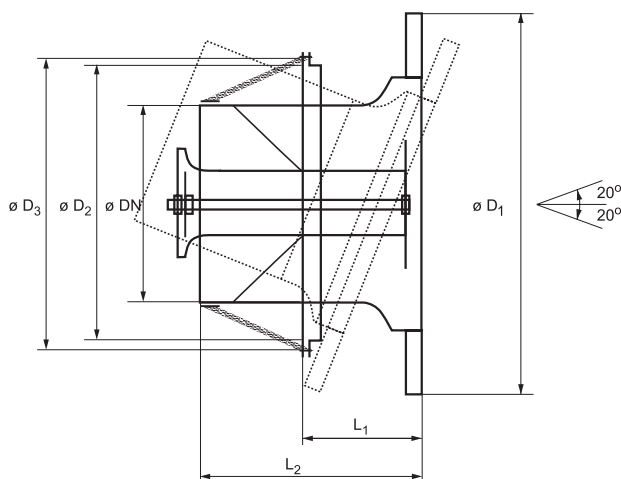
$$L_W = L_{A10} + K_{ok}$$

Correction K_{ok} is the mean value for the range of application of UDZ.

Sound attenuation

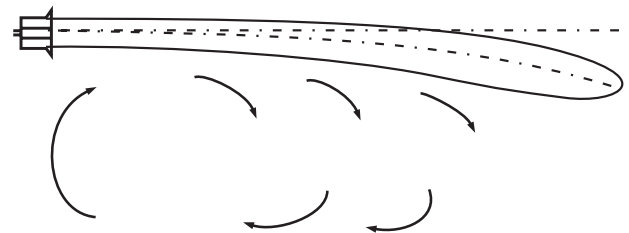
UDZ	Sound attenuation in dB for octave band, mean frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
315	3	4	4	9	7	3	3	2
400	6	3	2	5	8	4	4	3
160	6	3	4	6	8	5	5	4
200	4	2	3	5	6	7	4	4

Dimensions and weights

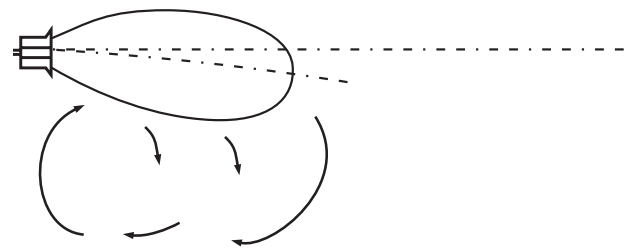


Size	D1	D2	D3	L1	L2	Weight, kg
315	560	458	502	150	350	10.0
400	710	578	622	205	410	12.5
600	998	818	902	285	620	19.5
715	1246	918	1002	310	690	27.0

Diffusion patterns



Air flow pattern with diffuser outlet fully open.



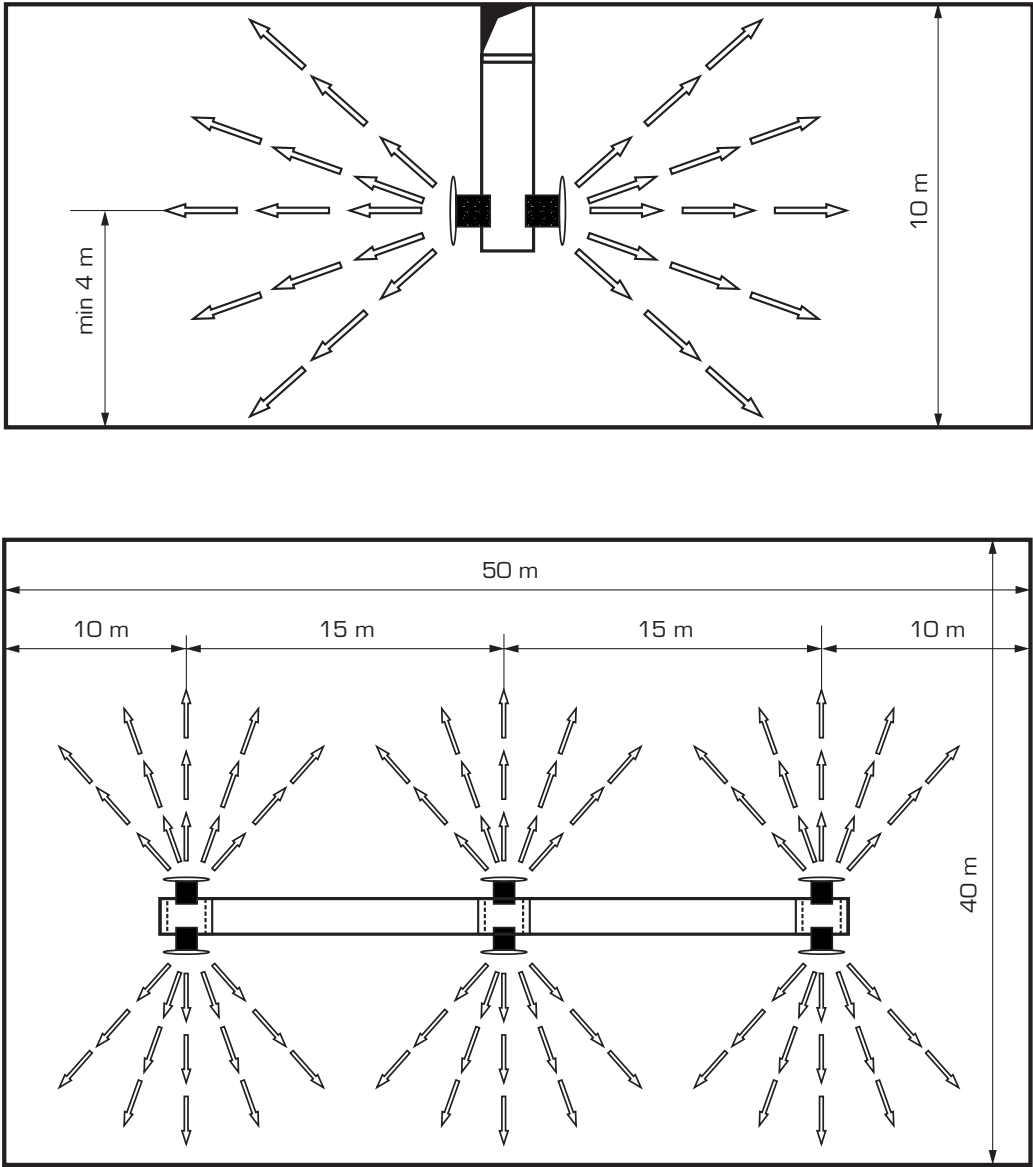
Air flow pattern with diffuser outlet fully closed.

Definitions

q	air flow	l/s
Δp_t	total pressure drop	Pa
L_{02}	throw	m
L_{A10}	sound pressure level with a room attenuation of 4 dB (10 m ² room absorption area)	dB(A)
L_W	sound power level	dB
K_{ok}	octave band correction	dB
ΔL	sound attenuation from the duct to the room	dB

Installation

Installation example



Installation dimensions

Nominal diameter, mm (size UDZ)	Max height above the floor, m	Min distance between diffusers, m
315	4	1.2
400	4	1.5
600	4	2.1
710	4	2.5

Descriptive text, product code

Descriptive text

Swirl diffuser UDZ for installation in a ventilation duct manufactured by Fläkt Woods in size, e.g. 400 with adjustable air direction and throw.

Product code

Swirl diffuser

UDZ-aaa-b-c-d

Size

315, 400, 600, 710

Regulation of throw length

1 = manual regulation
2 = motorised regulation

Regulation of outlet angle

1 = manual adjustment
2 = motorised adjustment

Colour of the diffuser (shown as a RAL colour)

1 = colour 9010 (if any other colour is wanted this is indicated with X in the code and the proper RAL-code)