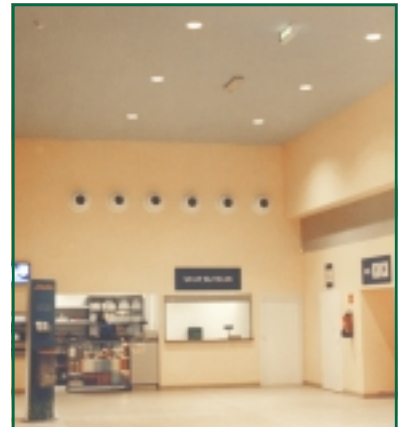
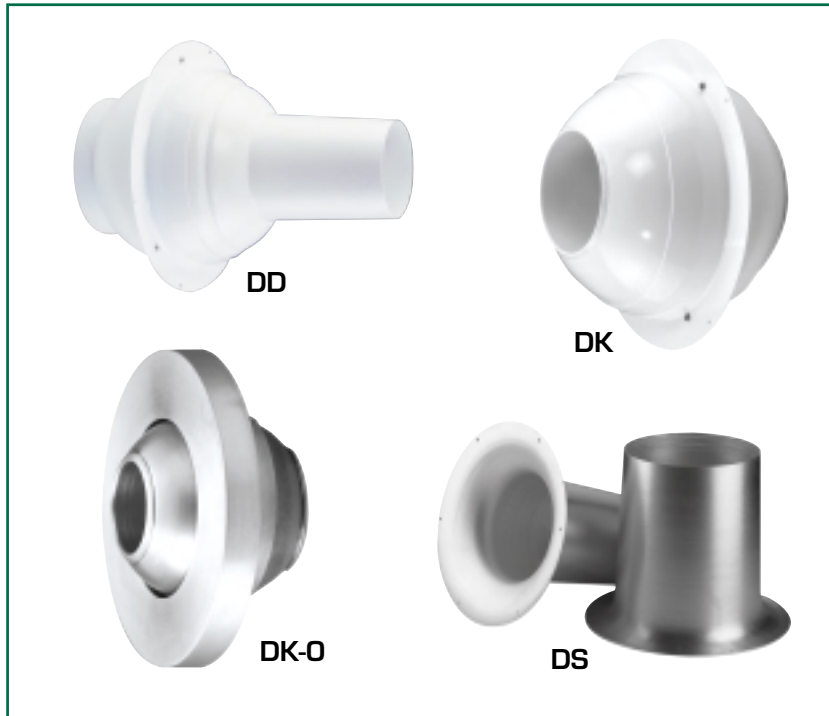


DD, DK, DK-O, DS Nozzle devices



DD, DK, DK-O and DS nozzle devices are intended for public premises with a large room volume. The long throw gives very effective air diffusion. The devices, which are made of aluminium, have an adjustable diffusion angle of ± 30 degrees.

The nozzles can be used individually or in series for an extra high overall efficiency.

The devices are suitable for premises such as entertainment premises, market halls, sports halls, lecture halls, industrial buildings, etc. The low overall sound level also means that the devices can be used in concert halls, conference premises, television and/or radio studios.

Devices with a short nozzle (DK, DK-O) can be supplied with and without a painted finish.

Devices with a long nozzle (DD, DS) can be supplied in three different surface finishings, unpainted, painted or anodized aluminium. All devices can be supplied painted in an optional RAL colour.

Quick-selection

Size	Air flow		Throw.	Installation height		Sound level
	l/s	m ³ /h	m	above the floor: m		L _{A10} : dB(A)
040	5 - 16	20 - 55	5 - 12	2.8 - 3.1		18 - 28
050	8 - 25	30 - 90	5 - 12	2.4 - 3.2		15 - 30
080	19 - 61	70 - 220	6 - 20	2.9 - 4.2		16 - 28
120	55 - 133	200 - 480	8 - 24	3.1 - 6.5		18 - 40
150	111 - 217	400 - 780	9 - 30	3.3 - 8.5		23 - 45
200	194 - 389	700 - 1400	14 - 36	3.7 - 10.5		27 - 47

Product facts

Nozzle devices DD, DK, DK-O, DS

Intended for installation in a connection box, in a duct or behind a wall

Adjustable diffusion pattern

Suitable for public premises

Broad flow range and low sound level

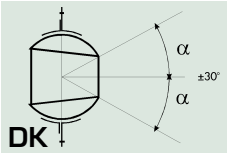
Product code example:

Nozzle device DD-080-3.

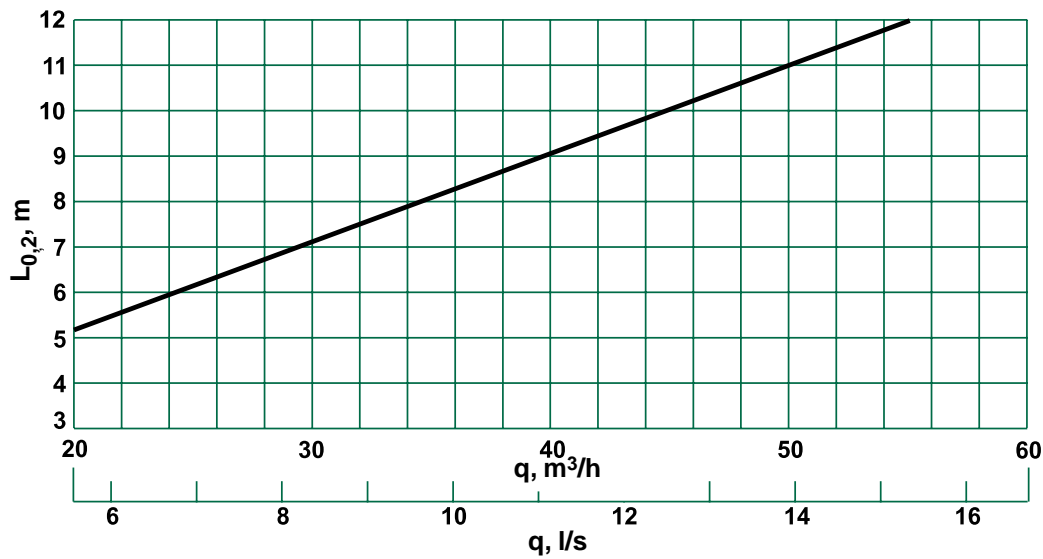
Device size 080 with adjustable diffusion pattern painted in colour RAL 9010.

Air flow, throw, pressure drop, sound level

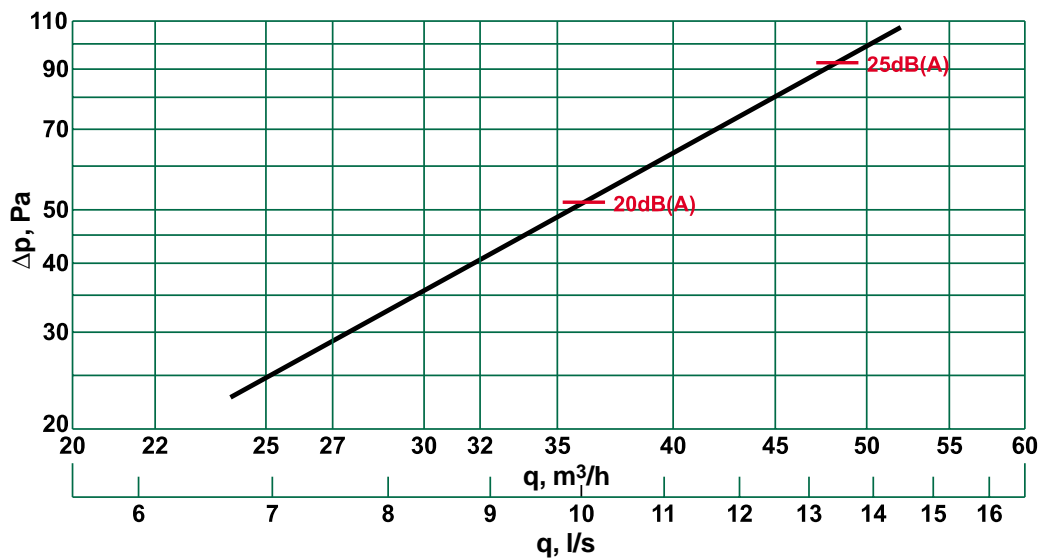
Nozzle device DK



Size O40 – throw



Size O40 – pressure drop and sound level

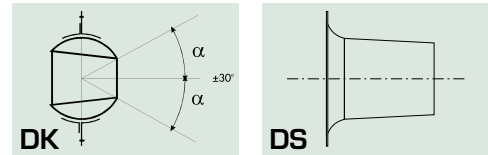


In the above graph, the sound levels in dB(A) are indicated for a reference room med 10 m² room absorption, equivalent to 4 dB room attenuation.

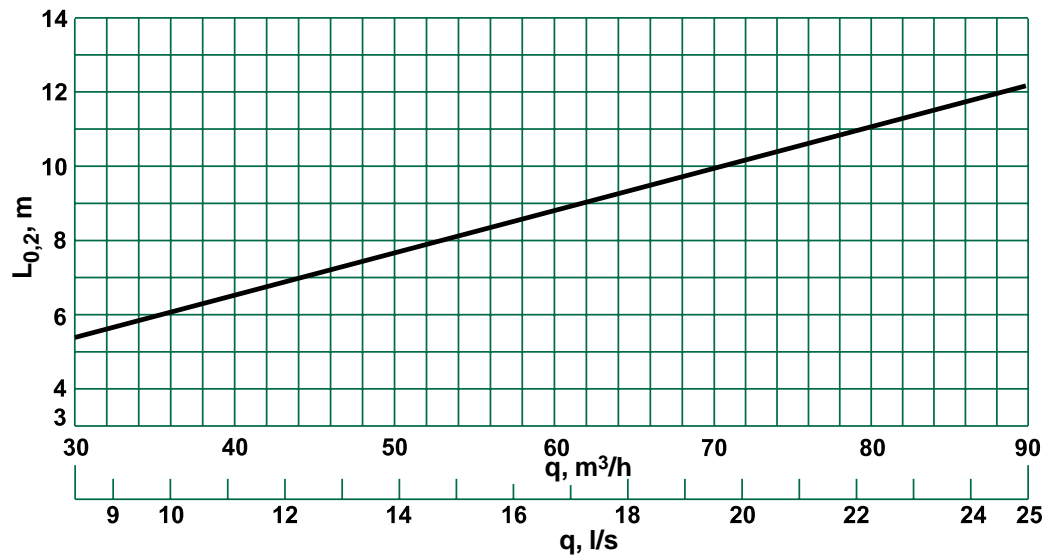
Diffusion angle for the nozzle = ±30°
Installation height, min - max = 2.4 - 3.1 m
Min distance between devices = 120 mm

Air flow, throw, pressure drop, sound level

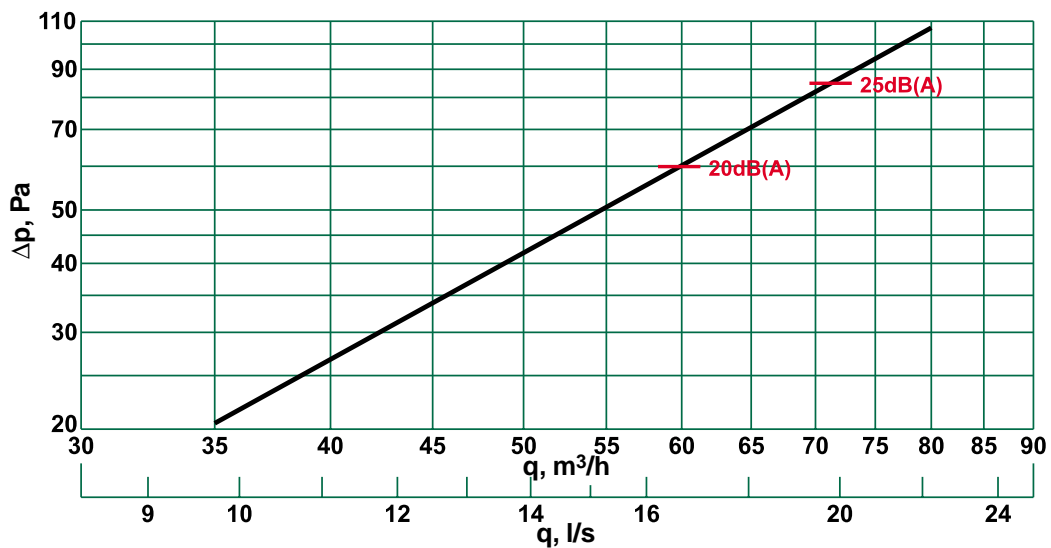
Nozzle devices DK och DS



Size O50 – throw



Size O50 – pressure drop and sound level

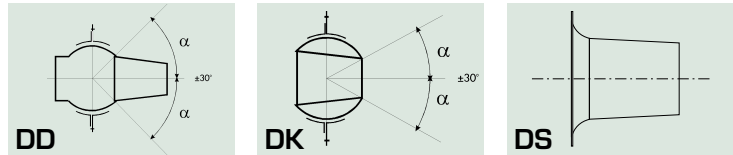


In the above graph, the sound levels in dB(A) are indicated for a reference room med 10 m² room absorption, equivalent to 4 dB room attenuation.

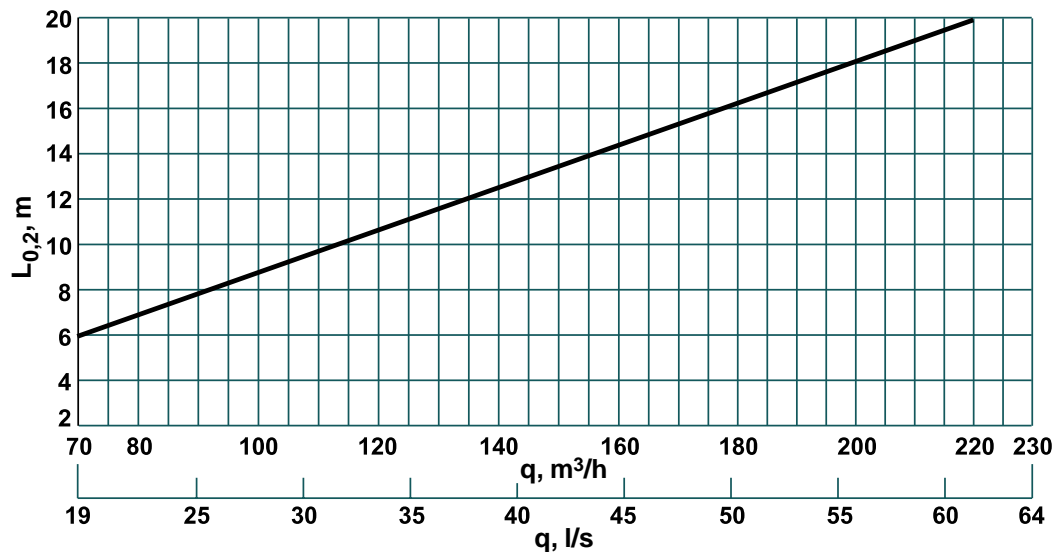
Diffusion angle for the nozzle = ±30°
 Installation height, min - max = 2.4 - 3.2 m
 Min distance between devices = 150 mm

Air flow, throw, pressure drop, sound level

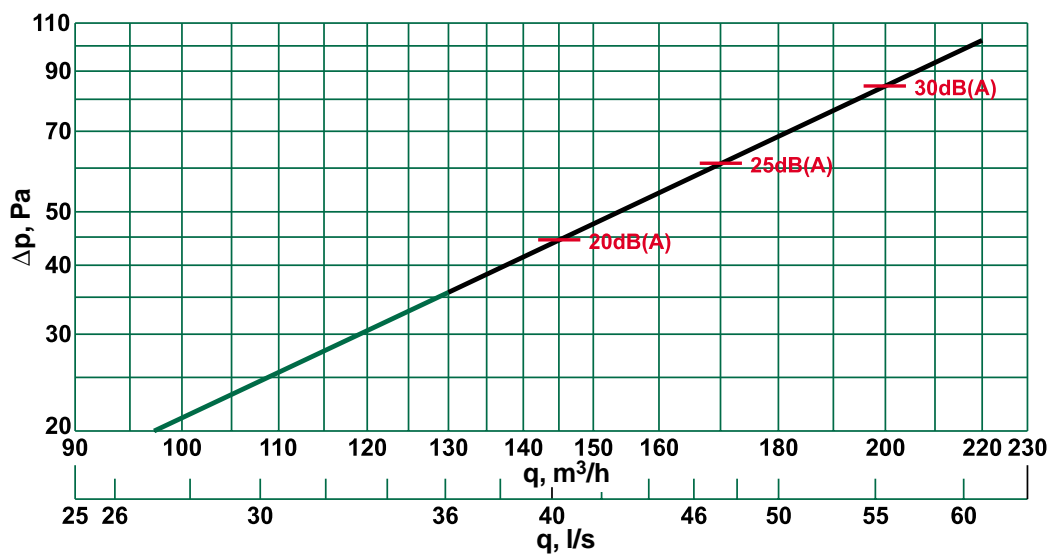
Nozzle devices DD, DK, DS



Size O80 – throw



Size O80 – pressure drop and sound level

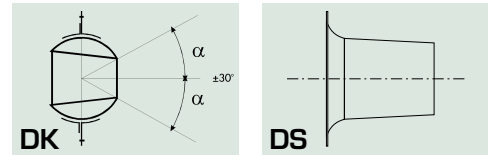


In the above graph, the sound levels in dB(A) are indicated for a reference room med 10 m² room absorption, equivalent to 4 dB room attenuation.

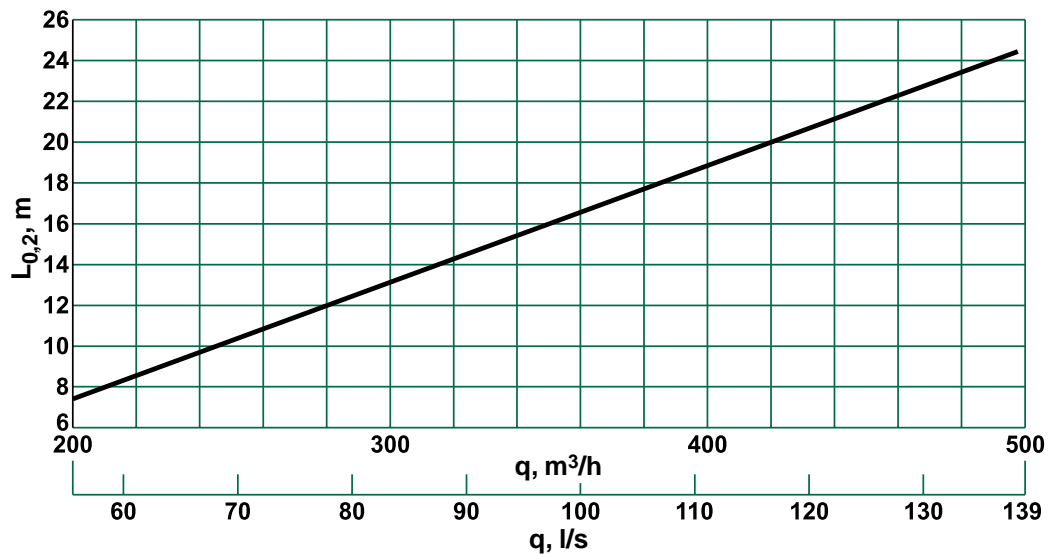
Diffusion angle for the nozzle = ±30°
 Installation height, min - max = 2.9 - 4.2 m
 Min distance between devices = 240 mm

Air flow, throw, pressure drop, sound level

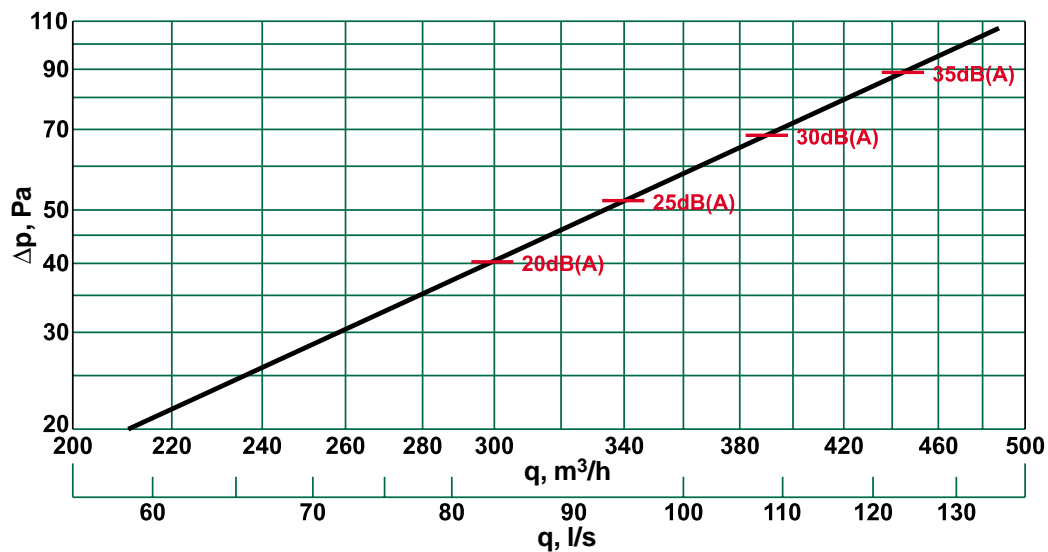
Nozzle devices DK och DS



Size120 – throw



Size 120 – pressure drop and sound level

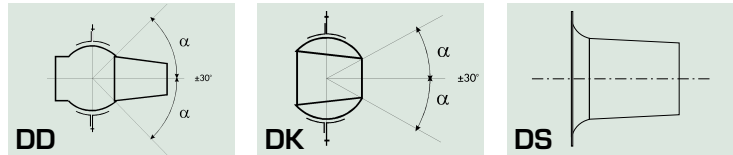


In the above graph, the sound levels in dB(A) are indicated for a reference room med 10 m² room absorption, equivalent to 4 dB room attenuation.

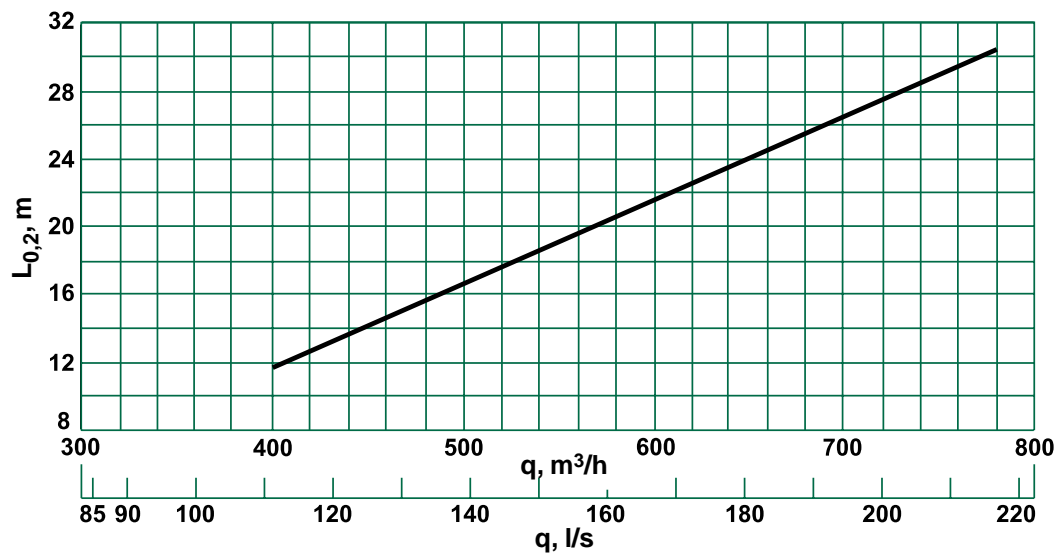
Diffusion angle for the nozzle = ±30°
 Installation height, min - max = 3.1 - 6.5 m
 Min distance between devices = 360 mm

Air flow, throw, pressure drop, sound level

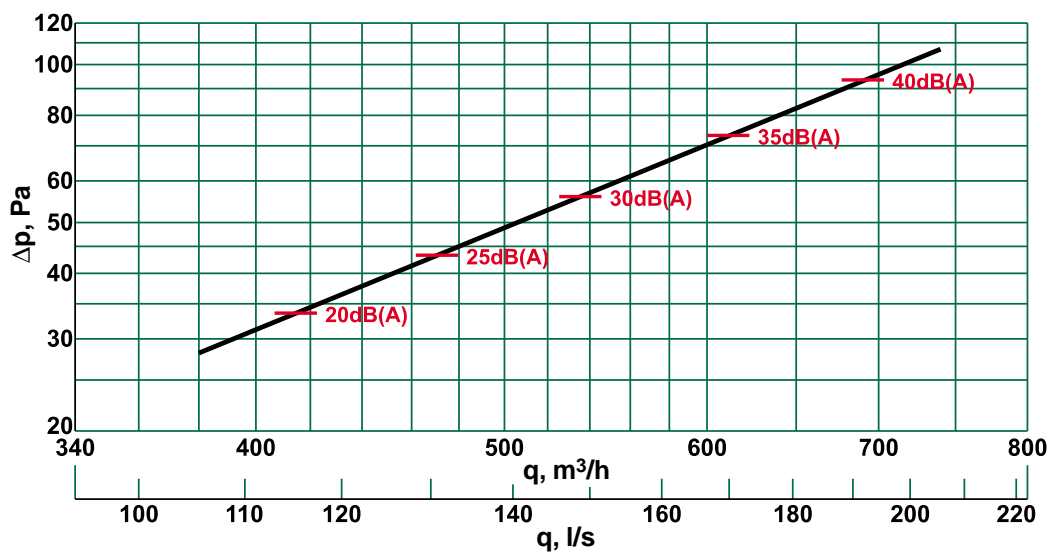
Nozzle devices DD, DK, DS



Size 150 – throw



Size 150 – pressure drop and sound level

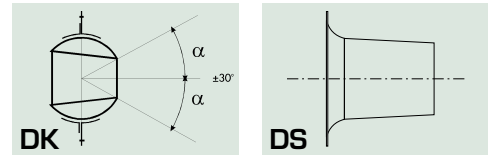


In the above graph, the sound levels in dB(A) are indicated for a reference room med 10 m² room absorption, equivalent to 4 dB room attenuation.

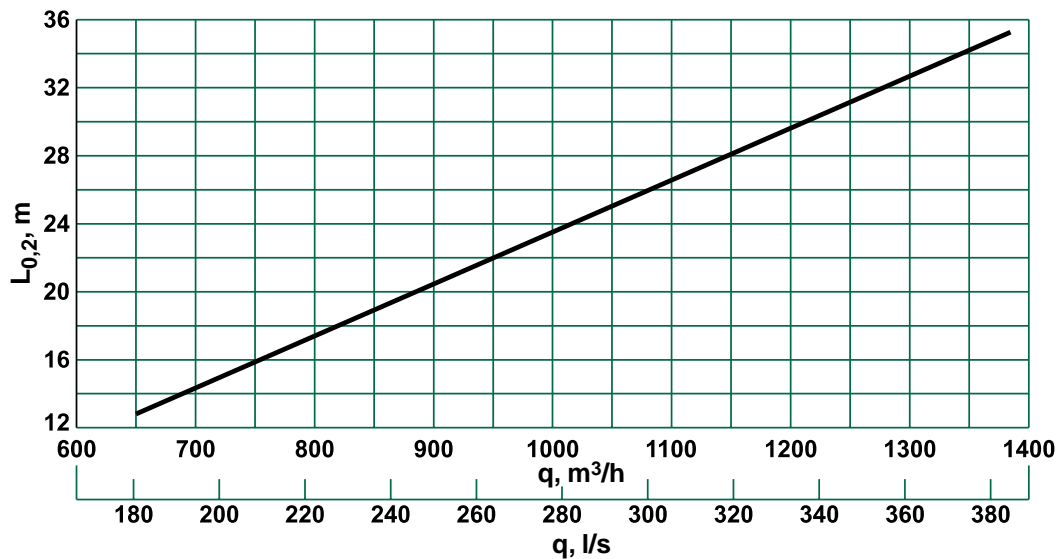
Diffusion angle for the nozzle = ±30°
 Installation height, min - max = 3.3 - 8.5 m
 Min distance between devices = 450 mm

Air flow, throw, pressure drop, sound level

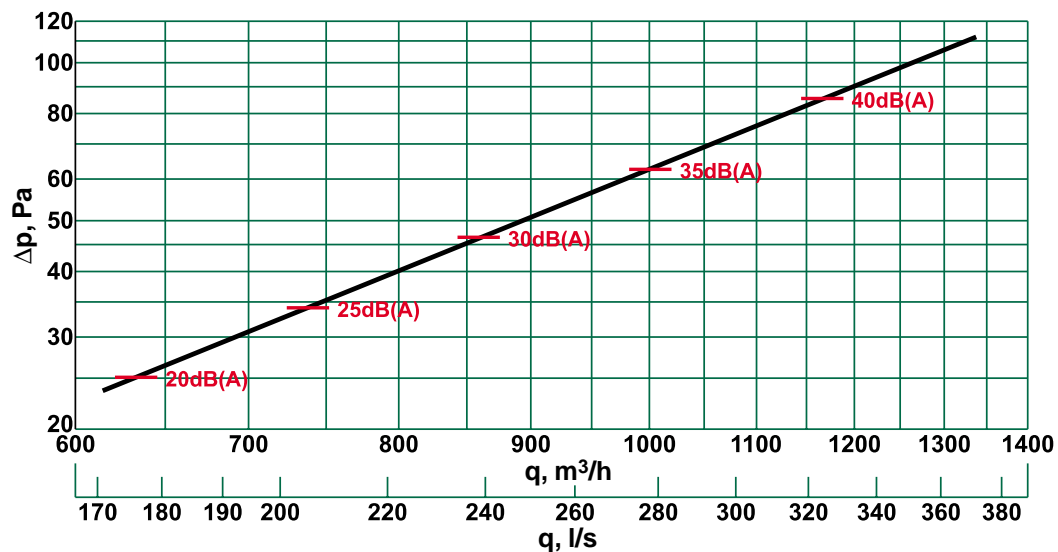
Nozzle devices DK och DS



Size 200 – throw



Size 200 – pressure drop and sound level

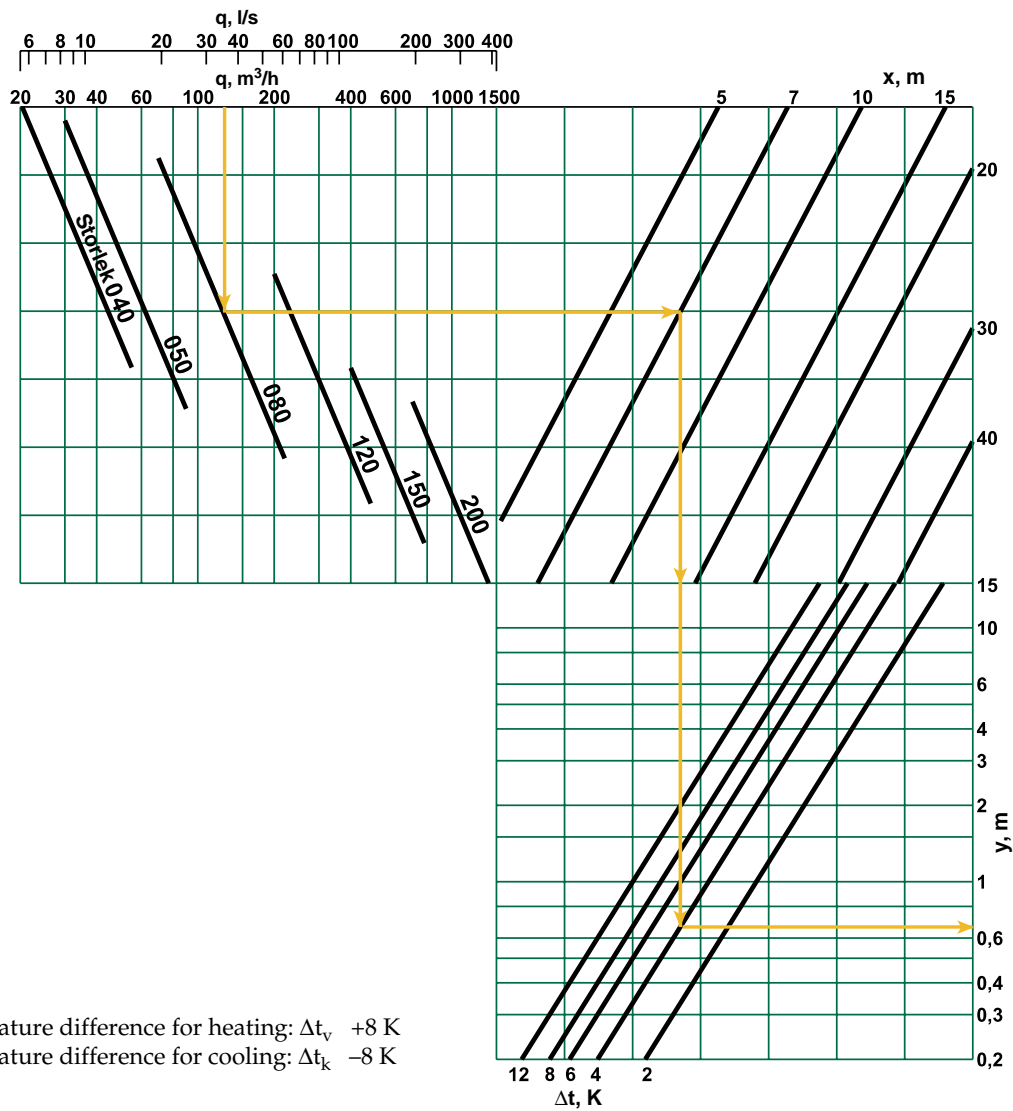


In the above graph, the sound levels in dB(A) are indicated for a reference room med 10 m² room absorption, equivalent to 4 dB room attenuation.

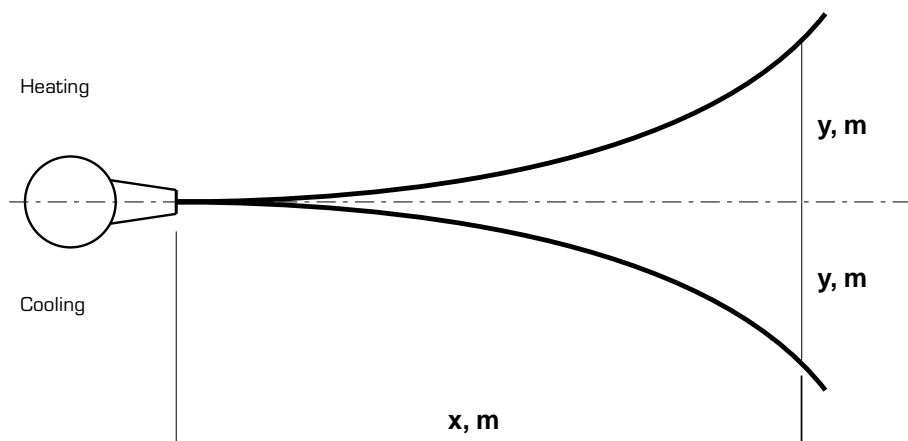
Diffusion angle for the nozzle = ±30°
 Installation height, min - max = 3.7 - 10.5 m
 Min distance between devices = 550 mm

Throw, diffusion pattern

Throw for heating and cooling function



Throw, diffusion pattern



Acoustical data, installation alternative

Definitions

q	air flow	l/s, m ³ /h
Δp_t	total pressure drop	Pa
L_{02}	throw	m
L_{A10}	sound pressure level with 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

Sound power level

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

$$L_W = L_{A10} + K_1 + K_2$$

Correction factor K1 when the angle of inclination of the nozzle $\alpha = 15^\circ$

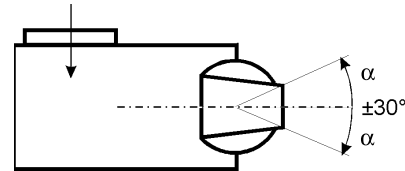
Size	Correction of sound level K1 in dB for octave band, mean frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
040	1	0	-6	0	-5	-5	-9	-13
050	6	5	0	-3	-4	-4	-10	-15
080	7	6	1	-2	-3	-7	-12	-17
120	5	4	-2	-1	-3	-4	-14	-20
150	7	6	-1	0	-5	-8	-17	-24
200	4	3	-2	-2	-2	-10	-16	-24

Correction factor K2 when the angle of inclination of the nozzle $\alpha = 30^\circ$

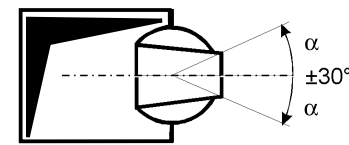
Size	040	050	080	120	150	200
K2	2	2	4	4	4	3

Installation alternatives

Nozzle device DK

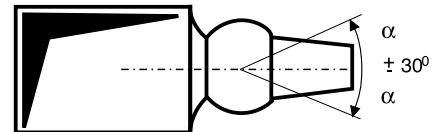


Device installed in a connection box

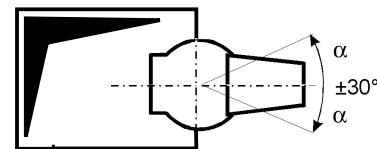


Device installed in a duct

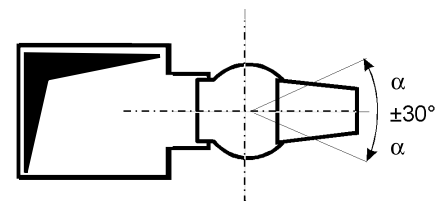
Nozzle device DD



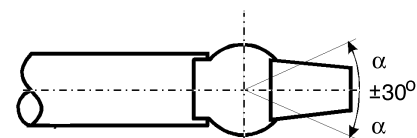
Device installed on a duct



Device installed in a duct



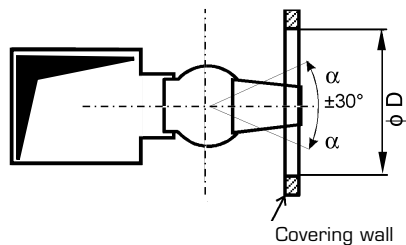
Device installed on a duct with a connection box



Device installed at the end of a spiral-wound duct

Installation alternative, cont., dimensions

Nozzle device DD, continued



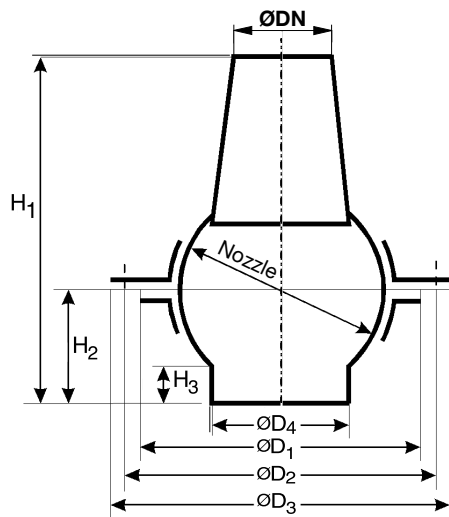
Device installed behind a covering wall.

For size 080, the hole in the covering wall shall be ØD = 330 mm.

For size 150 the hole in the covering wall shall be ØD = 590 mm.

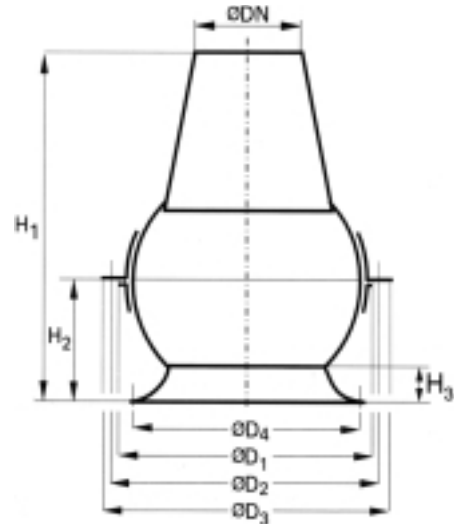
Dimensions

Nozzle device installed with a connecting duct



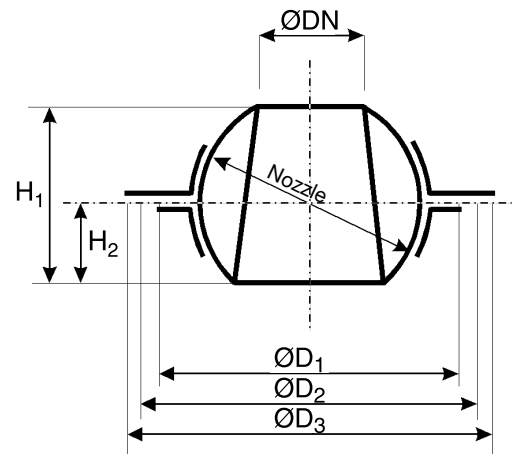
ØDN	ØD ₁	ØD ₂	ØD ₃	ØD ₄	H ₁	H ₂	H ₃
080	198	214	228	123	280	85	24
150	260	380	402	223	508	160	39

Nozzle device DD installed with a pipe coupling



ØDN	ØD ₁	ØD ₂	ØD ₃	ØD ₄	H ₁	H ₂	H ₃
080	198	214	228	175	270	90	35
150	362	378	403	300	530	170	48

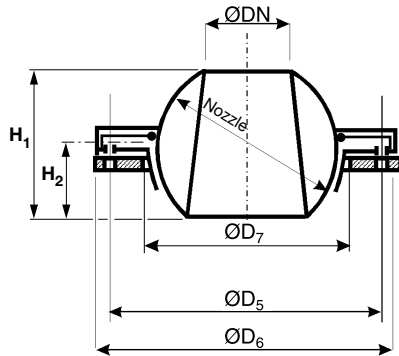
Nozzle device DK



ØDN	ØD ₁	ØD ₂	ØD ₃	H ₁	H ₂
040	118	128	140	82	45
050	145	172	180	92	35
080	202	228	240	148	74
120	300	316	334	221	113
150	360	380	400	276	138
200	468	492	508	367	180

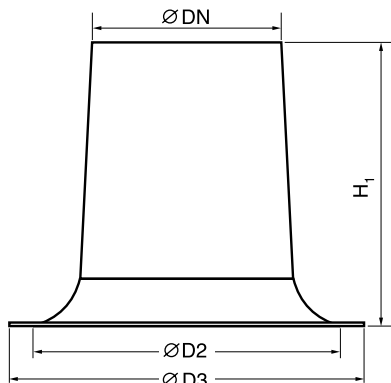
Dimensions cont., descriptive text, product code

Nozzle device DK-O



ØDN	ØD ₅	ØD ₆	ØD ₇	H ₁	H ₂
040	116	131	102	82	45
050	136	164	120	92	35
080	200	230	180	148	74
120	284	311	260	221	113
150	348	380	326	276	138
200	478	498	453	367	180

Nozzle device DS



ØDN	ØD ₂	ØD ₃	H ₁
050	102	114	80
080	146	158	120
120	212	224	180
150	268	280	246
200	310	322	270

Descriptive text

Nozzle DD/DK/DK-O/DS for installation in a duct/wall manufactured by Fläkt Woods in aluminium, for example in size 150, with an adjustable air direction $\pm 30^\circ$.

Product code

Nozzle device

DD-aaa-b

Size _____
080, 150

Surface finish

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

Nozzle device

DK-aaa-b-c

Size _____
040 - 200

Installation method

- 1= ring to flat surface
2= to spiro duct

Surface finish

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

Nozzle device

DK-O-aaa-b

Size _____
040 - 200

Surface finish

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

Nozzle device

DS-aaa-b

Size _____
050 - 200

Surface finish

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

