



NORDdiffuser **Diffusers**

 **ETS NORD**

All about air



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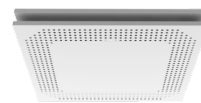
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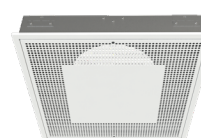
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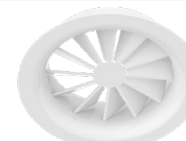
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DSS Supply air valve

DSS is a supply air valve for offices and living spaces. Valves can be installed in the ceiling or wall. DSS supply air valve is available in sizes Ø100-160.

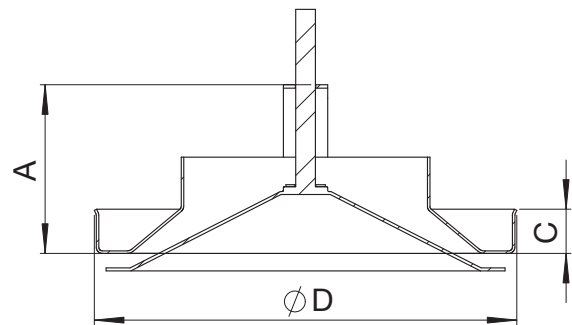


Structure and dimensions

Manufactured of galvanized steel and coated white (RAL 9003).

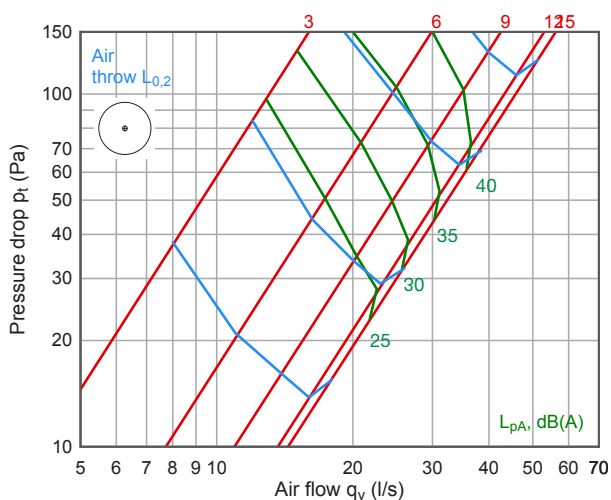
The valve has a foam seal and a threaded spindle for easy regulation and locking of the desired air flow. Comes with a sector plate for choosing the desired diffusion pattern.

Size	ØD	A	C	Weight, kg
100	134	70	19	0,3
125	169	80	19	0,4
160	209	80	19	0,6

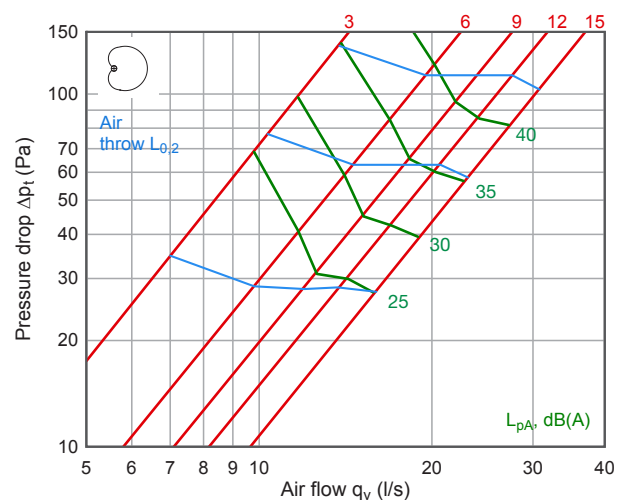


Technical data

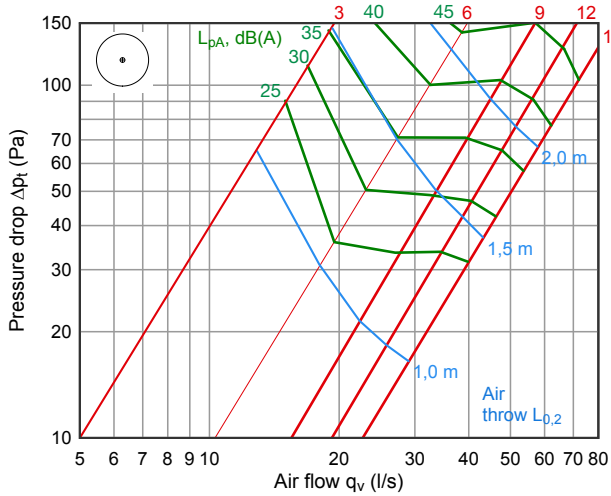
DSS 100



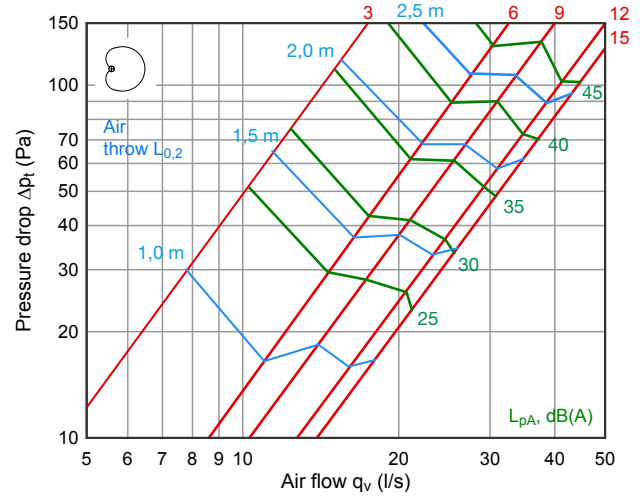
DSS 100 with sector plate



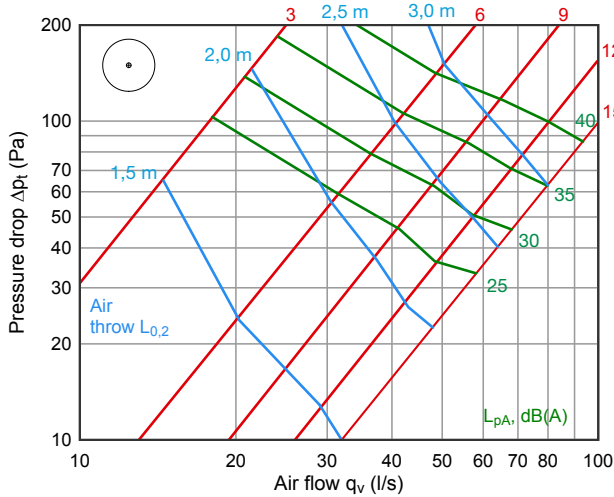
DSS 125



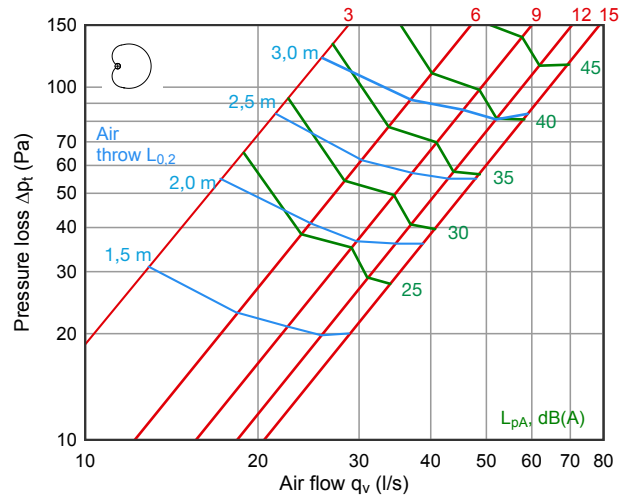
DSS 125 with sector plate



DSS 160



DSS 160 with sector plate



Acoustic data

DSS 100

Correction of sound level K_{okt} (dB)								
Adjust-	(Hz)							
ment	63	125	250	500	1000	2000	4000	8000
s=3	-5	-2	-4	-4	-3	-9	-20	-24
s=6	3	4	4	-1	-8	-19	-25	-25
s=9	4	5	5	-2	-9	-17	-22	-24
s=12	3	5	5	-4	-8	-12	-19	-26
s=15	5	7	3	-4	-8	-8	-16	-24

DSS 100 with sector plate

Correction of sound level K_{okt} (dB)								
Adjust-	(Hz)							
ment	63	125	250	500	1000	2000	4000	8000
s=3	4	4	2	-3	-5	-11	-16	-23
s=6	6	6	3	-2	-7	-13	-16	-26
s=9	5	6	4	-3	-7	-13	-15	-22
s=12	5	4	2	-4	-7	-9	-10	-19
s=15	6	5	1	-3	-6	-8	-13	-22

DSS 125

Correction of sound level K_{okt} (dB)								
Adjust-	(Hz)							
ment	63	125	250	500	1000	2000	4000	8000
s=3	-8	-6	-10	-9	-4	-6	-11	-19
s=6	-6	-3	-3	-3	-4	-9	-12	-20
s=9	-1	1	2	-1	-5	-12	-17	-25
s=12	1	3	3	-2	-7	-11	-15	-25
s=15	1	3	2	-3	-5	-9	-15	-25

DSS 125 with sector plate

Correction of sound level K_{okt} (dB)								
Adjust-	(Hz)							
ment	63	125	250	500	1000	2000	4000	8000
s=3	1	-1	-2	-4	-3	-9	-12	-20
s=6	6	1	1	-2	-5	-10	-15	-21
s=9	4	0	1	-2	-5	-11	-17	-25
s=12	4	2	1	-3	-5	-9	-13	-21
s=15	4	1	0	-3	-5	-9	-13	-22

DSS 160

Adjust- ment	Correction of sound level K_{okt} (dB) (Hz)							
	63	125	250	500	1000	2000	4000	8000
s=3	-6	-6	-4	-5	-4	-6	-15	-20
s=6	-6	-1	2	-2	-6	-10	-16	-23
s=9	-5	1	5	-3	-8	-11	-16	-24
s=12	-3	4	5	-3	-8	-11	-16	-25
s=15	0	10	3	-4	-8	-11	-17	-25

DSS 160 with sector plate

Adjust- ment	Correction of sound level K_{okt} (dB) (Hz)							
	63	125	250	500	1000	2000	4000	8000
s=3	-6	-5	-2	-4	-4	-8	-13	-20
s=6	-3	-1	2	-2	-6	-10	-14	-22
s=9	-4	0	2	-4	-7	-8	-10	-16
s=12	-2	2	3	-3	-6	-10	-15	-23
s=15	-2	3	3	-2	-6	-11	-16	-24

Sound attenuation, ΔL (dB)

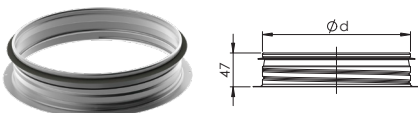
Product	Adjustment	Sound attenuation in dB at octave bands, middle frequency, (Hz)							
		63	125	250	500	1000	2000	4000	8000
DSS 100	s=3	24	17	14	13	13	16	9	8
	s=9	23	16	12	9	9	12	6	6
	s=15	21	16	12	8	7	10	5	6
DSS 100 with sector plate	s=3	24	18	14	13	12	11	8	9
	s=9	24	17	12	10	9	9	5	7
	s=15	23	16	12	9	7	7	5	7
DSS 125	s=3	17	17	13	13	15	16	9	9
	s=9	20	15	10	8	10	11	5	6
	s=15	21	15	9	7	8	9	3	6
DSS 125 with sector plate	s=3	19	18	14	13	15	15	11	11
	s=9	19	16	11	9	9	9	5	7
	s=15	21	16	10	8	8	8	4	7
DSS 160	s=3	17	17	13	14	17	14	9	9
	s=9	17	13	10	10	12	9	5	6
	s=15	18	12	9	8	10	7	4	6
DSS 160 with sector plate	s=3	19	17	13	14	16	13	10	10
	s=9	18	14	11	10	12	8	7	7
	s=15	19	13	9	9	10	6	5	7

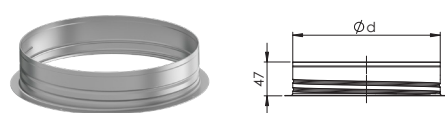
Product codes



Example: DSS 200

Accessories

RLT Socket			
	Product	Ød	ØD
	RLT 100	98	125
	RLT 125	124	150
	RLT 160	159	185

RLL Socket			
	Product	Ød	ØD
	RLL 100	99	125
	RLL 125	124	150
	RLL 160	159	185

Installation

Saddle RLT or RLL is attached to duct or part with rivets. The valve is threaded into the frame until fixing springs lie stably on the threads.

Measurement and regulation of air flow

Measurement of air flow through pressure differential measured with a separate measuring device. Regulation by adjusting control a.

DSS 100					
a, mm	3	6	9	12	15
k-value	1,3	2,5	3,8	5,0	5,3

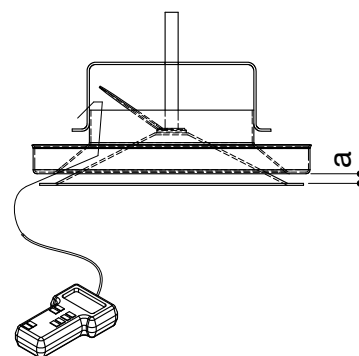
DSS 125					
a, mm	3	6	9	12	15
k-value	1,6	3,3	4,9	6,3	8,1

DSS 160					
a, mm	3	6	9	12	15
k-value	1,8	4,1	6,2	8,2	10,6

DSS 100 (with sector plate)					
a, mm	3	6	9	12	15
k-value	1,2	1,9	2,3	2,7	3,2

DSS 125 (with sector plate)					
a, mm	3	6	9	12	15
k-value	1,5	2,7	3,3	4,2	4,6

DSS 160 (with sector plate)					
a, mm	3	6	9	12	15
k-value	2,3	3,9	4,9	5,8	6,6



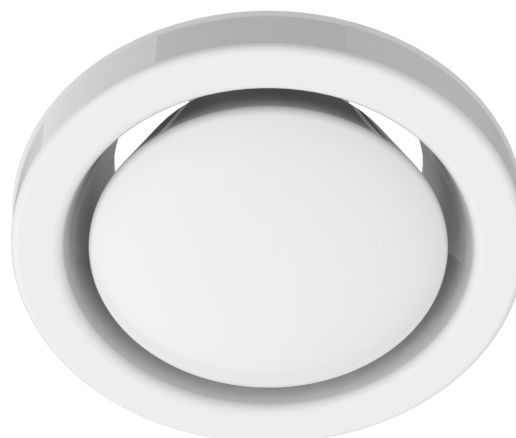
$$q_v = k \sqrt{\Delta p_m}$$

Maintenance

Remove the inner cone by turning counter-clockwise. Clean surfaces with damp cloth. Replace inner cone in its original position.

DSE Exhaust valve

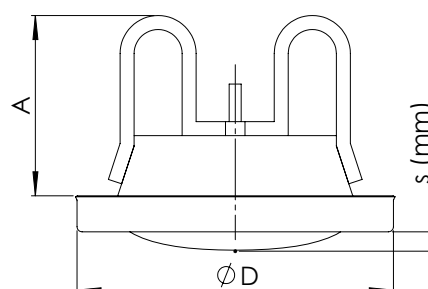
Exhaust valve for wall and ceiling installation.
Available in sizes Ø 100-200 mm.



Structure and dimensions

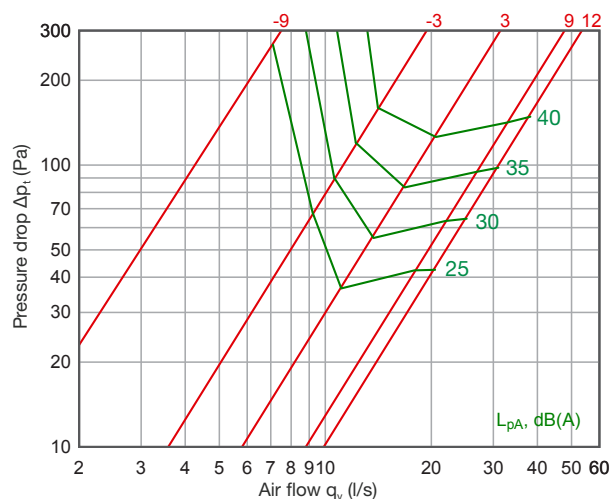
Manufactured of galvanized steel and coated white (RAL 9003). The valve has a foam seal and a threaded spindle for easy regulation and locking of the desired air flow. Comes with a sector plate for choosing the desired diffusion pattern.

Size	ØD	A	Weight, kg
100	130	68	0,3
125	158	84	0,4
160	188	87	0,5
200	237	105	0,6

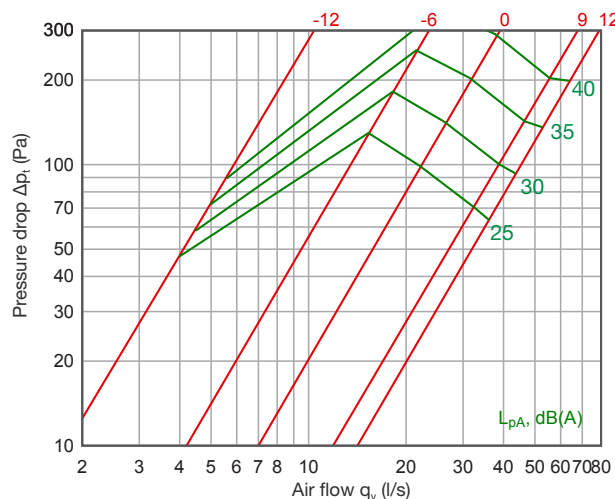


Technical data

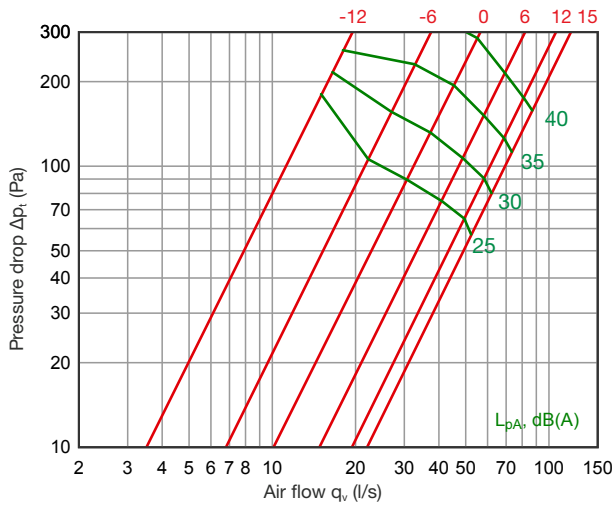
DSE 100



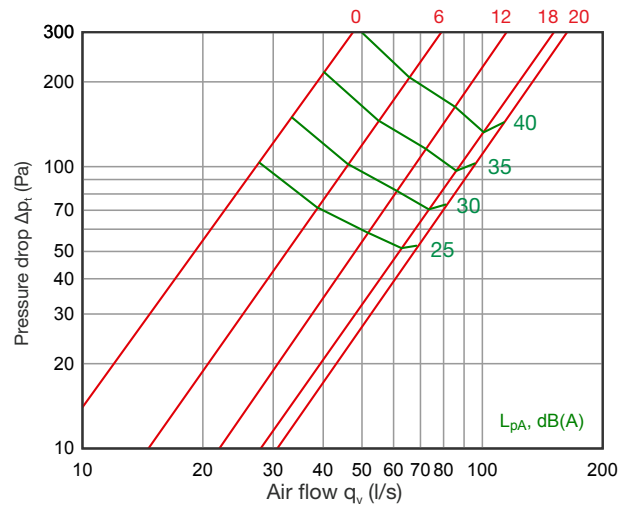
DSE 125



DSE 160



DSE 200



Acoustic data

DSE 100

Correction of sound level in dB at octave bands, middle frequency, (Hz)									
Adjust- ment	63	125	250	500	1000	2000	4000	8000	
s=-9	-2	-7	-9	-11	-10	-3	-13	-18	
s=-3	-2	-6	-6	-9	-10	-3	-10	-21	
s=+3	-2	-7	-2	0	-5	-13	-20	-22	
s=+9	-1	-4	0	0	-7	-11	-18	-20	
s=+12	-3	-4	1	-1	-8	-9	-17	-20	

DSE 125

Correction of sound level in dB at octave bands, middle frequency, (Hz)									
Adjust- ment	63	125	250	500	1000	2000	4000	8000	
s=-6	1	0	-3	-6	-9	-4	-15	-17	
s=0	0	0	-4	-6	-9	-4	-15	-17	
s=+9	0	1	-1	-3	-9	-5	-14	-18	
s=+12	1	2	-1	-3	-10	-5	-15	-18	

DSE 160

Correction of sound level in dB at octave bands, middle frequency, (Hz)									
Adjust- ment	63	125	250	500	1000	2000	4000	8000	
s=-12	2	-6	-7	-9	-6	-4	-12	-21	
s=-6	5	-2	-5	-8	-3	-8	-15	-17	
s=0	6	-1	-5	-7	-3	-8	-14	-17	
s=+6	3	-3	-4	-5	-3	-8	-14	-17	
s=+9	3	-1	-1	-3	-4	-9	-15	-18	
s=+12	2	0	1	-3	-5	-9	-16	-19	

DSE 200

Correction of sound level K_{okt} in dB at octave bands, middle frequency, (Hz)									
Adjust- ment	63	125	250	500	1000	2000	4000	8000	
s=0	3	0	-4	-5	-3	-10	-15	-18	
s=+6	1	-3	-7	-8	-2	-9	-13	-19	
s=+12	3	-3	-6	-8	-2	-9	-13	-19	
s=+18	3	-4	-5	-7	-2	-10	-15	-20	
s=+20	2	-4	-5	-7	-2	-9	-14	-19	

Sound attenuation, ΔL (dB)

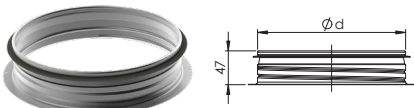
Sound attenuation in dB at octave bands, middle frequency, (Hz)									
Product	Adjustment	63	125	250	500	1000	2000	4000	8000
DSE 100	s=-9	27	21	19	18	20	17	10	9
	s=+3	24	16	13	12	12	15	5	7
	s=+12	24	16	12	10	8	14	4	6
DSE 125	s=-6	18	18	14	13	15	14	10	9
	s=0	18	17	12	11	12	13	8	8
	s=+12	20	16	10	8	9	9	5	6
DSE 160	s=-12	19	19	14	14	15	13	10	11
	s=+6	18	14	10	9	9	10	6	6
	s=+15	18	13	9	7	8	9	5	6
DSE 250	s=0	16	17	12	12	13	10	8	9
	s=+12	15	14	9	9	10	8	6	7
	s=+20	15	12	8	8	9	8	5	7

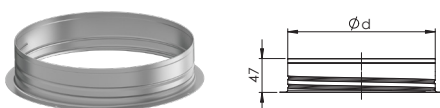
Product codes



Example: DSE 200

Accessories

RLT Socket			
	Product	Ød	ØD
	RLT 100	98	125
	RLT 125	124	150
	RLT 160	159	185

RLL Socket			
	Product	Ød	ØD
	RLL 100	99	125
	RLL 125	124	150
	RLL 160	159	185

Installation

Saddle RLT or RLL is attached to duct or part with rivets. The valve is threaded into the frame until fixing springs lie stably on the threads.

Measurement and regulation of air flow

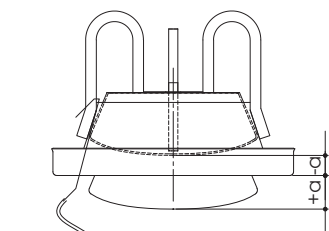
Measurement of air flow through pressure differential measured with a separate measuring device. Regulation by adjusting control a.

DSE 100								
a, mm	-9	-6	-3	0	3	6	9	12
k-value	0,86	1,15	1,44	1,73	2,01	2,29	2,57	2,86

DSE 125								
a, mm	-12	-9	-6	-3	0	3	6	9
k-value	0,6	0,95	1,3	1,65	2	2,4	2,8	3,2

DSE 160									
a, mm	-12	-9	-6	-3	0	3	6	9	12
k-value	1,1	1,55	2	2,45	2,9	3,5	4,1	4,65	5,2

DSE 200									
a, mm	-6	-3	0	3	6	9	12	15	18
k-value	0,48	1,07	1,66	2,41	3,16	3,94	4,72	5,48	6,24



$$q_v = k \sqrt{\Delta p_m}$$

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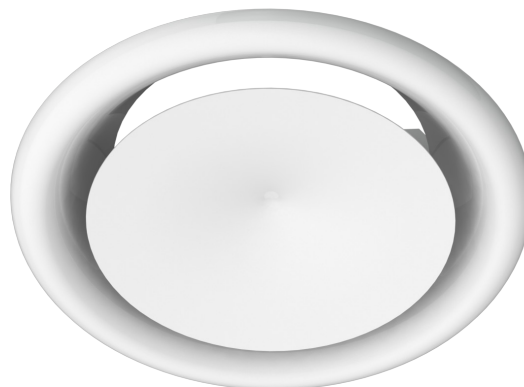
NORDdiffuser | DSE

Maintenance

Remove the inner cone by turning counter-clockwise. Clean surfaces with damp cloth. Replace inner cone in its original position.

DVP Supply air valve

For systems with low air flows.

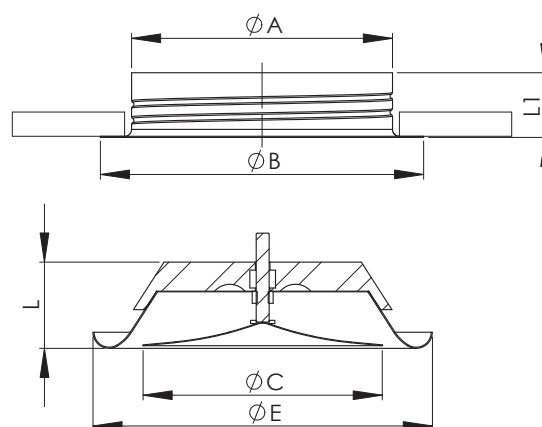


Structure and dimensions

Manufactured of galvanized steel and coated white (RAL 9003).

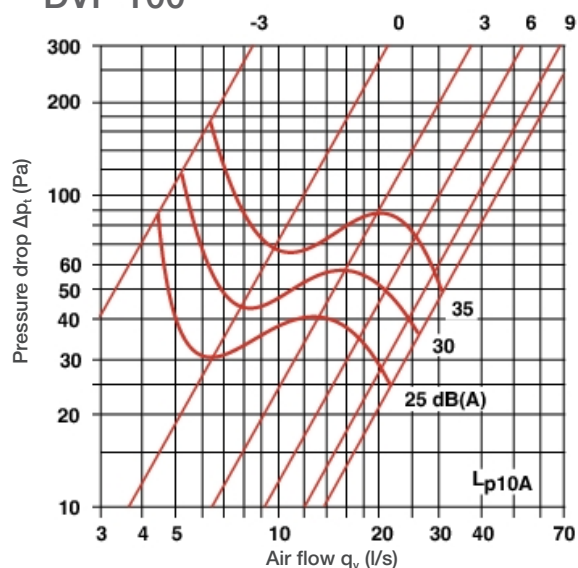
The vent body includes an elastic foam seal.

Size	ØA	ØB	ØC	ØE	L	L1	Weight, kg
100	98	125	92	137	40	45	0,12
125	123	150	115	164	45	45	0,3
160	159	185	148	212	55	45	0,4
200	198	225	188	248	60	45	0,5
250	248	290	240	300	70	45	1,2

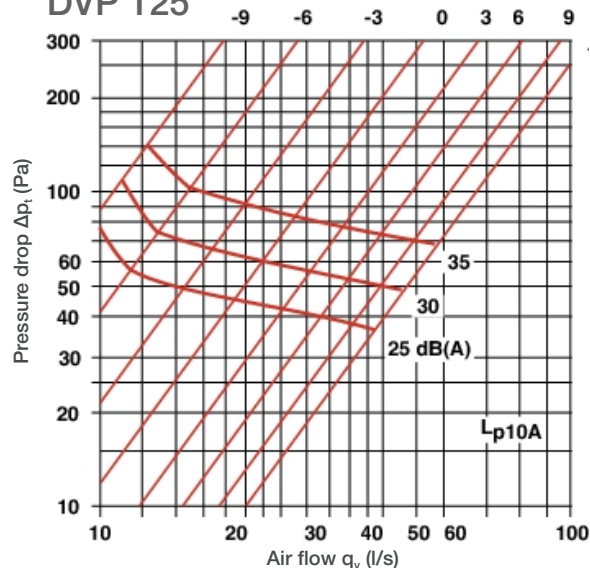


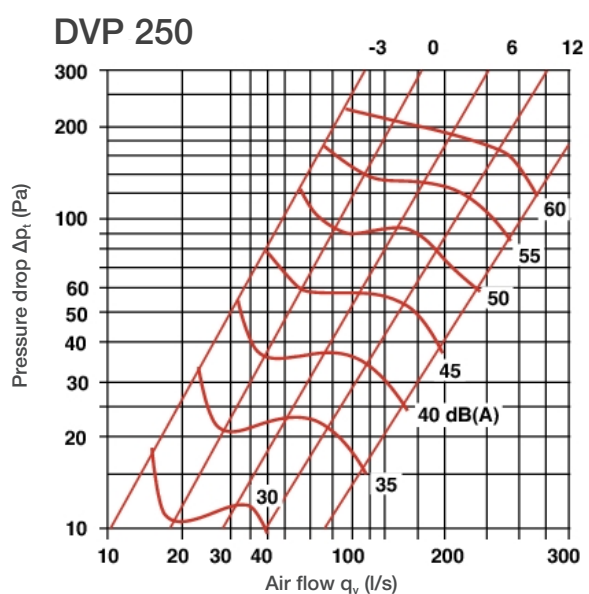
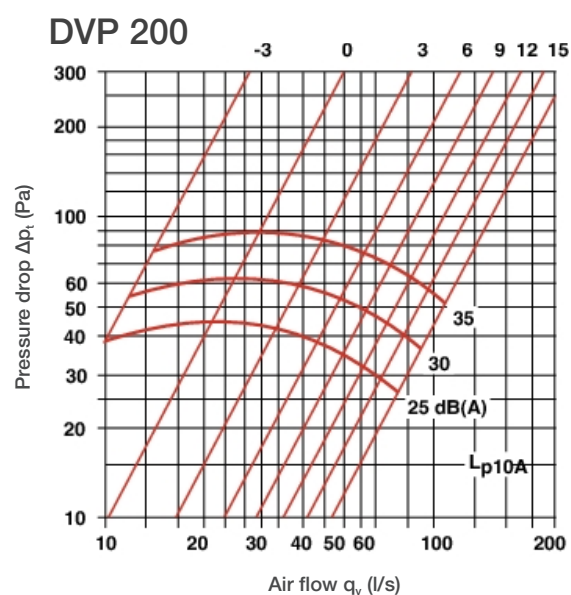
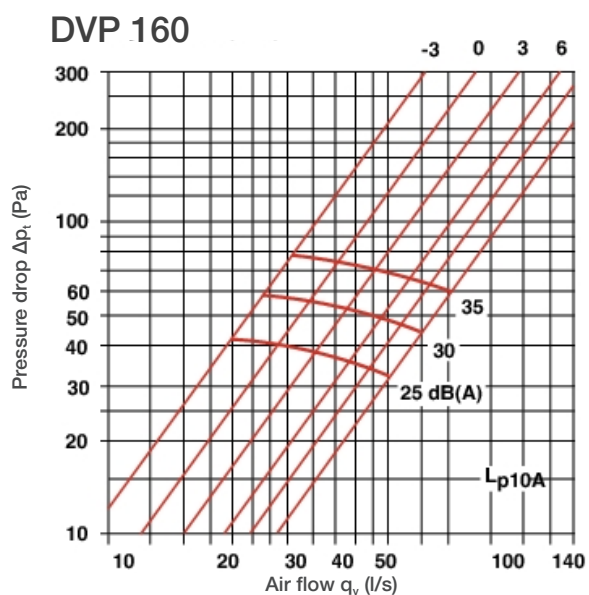
Technical data

DVP 100



DVP 125





Product codes



Example: DVP 200

Installation

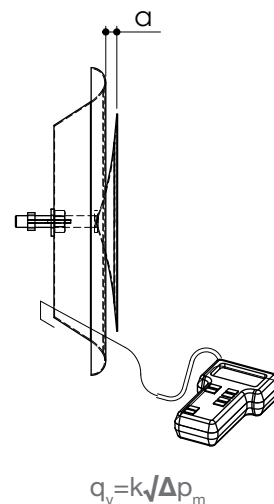
Installation to duct using a mounting frame (included).

Measurement and regulation of air flow

Measurement of air flow through pressure differential measured with a separate measuring device.

Regulation by opening or closing by turning the plate.

K-value								
a, mm	0	3	6	9	12	15	18	21
DVP 100	1,45	2,50	3,10	3,95	4,10			
DVP 125	2,50	3,65	4,40	5,45	6,40	7,45		
DVP 160	4,40	5,30	7,30	8,70	9,95	11,85		
DVP 200	4,05	6,05	8,25	10,25	12,00	15,30	17,45	
DVP 250	6,15	8,90	10,90	12,95	15,25	18,05	20,75	23,85



Maintenance

Remove the inner cone by turning counter-clockwise. Clean surfaces with damp cloth. Replace inner cone in its original position.

DVS Exhaust valve

DVS exhaust valve is suitable for ventilation systems with small air volumes.

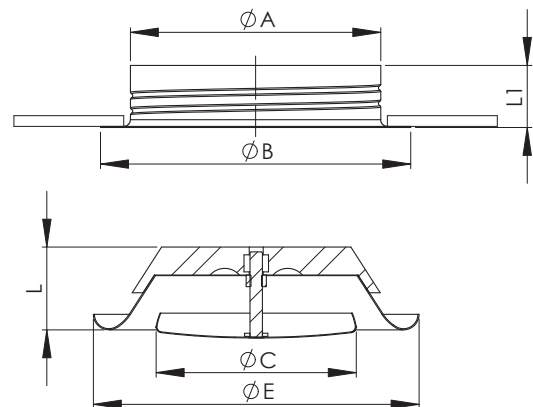


Structure and dimensions

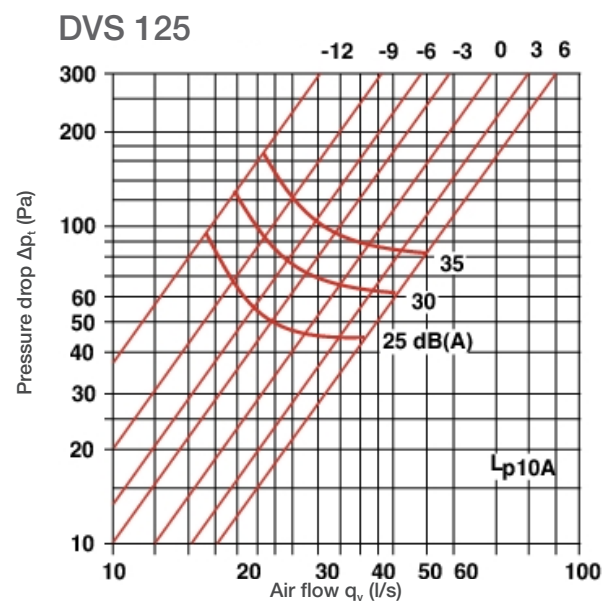
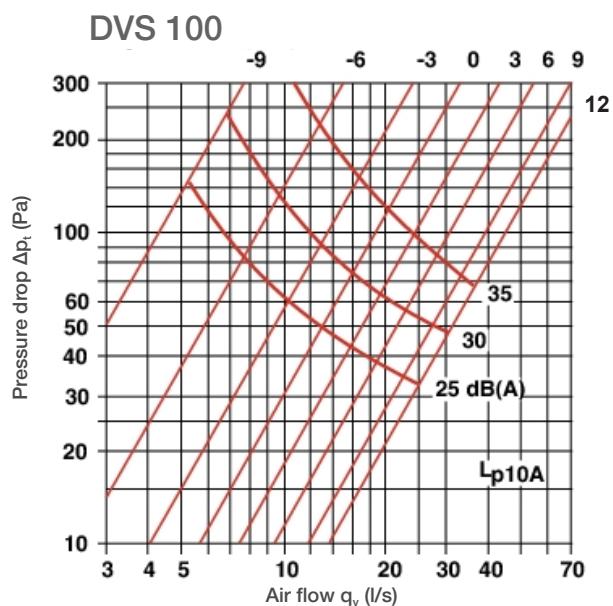
Manufactured of galvanized steel and coated white (RAL 9003).

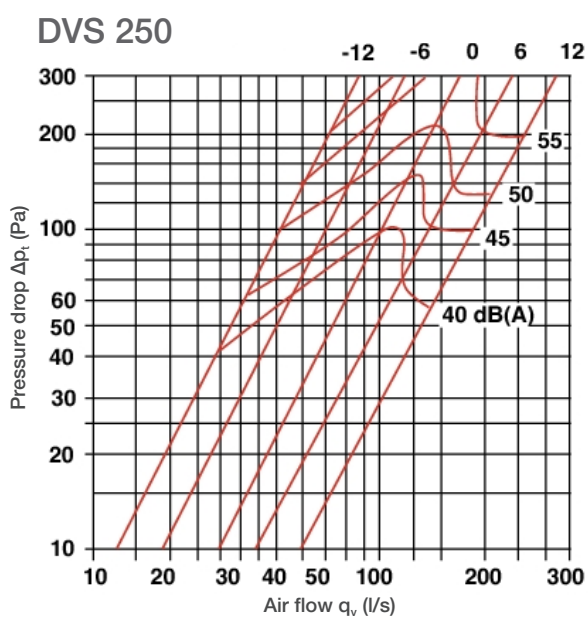
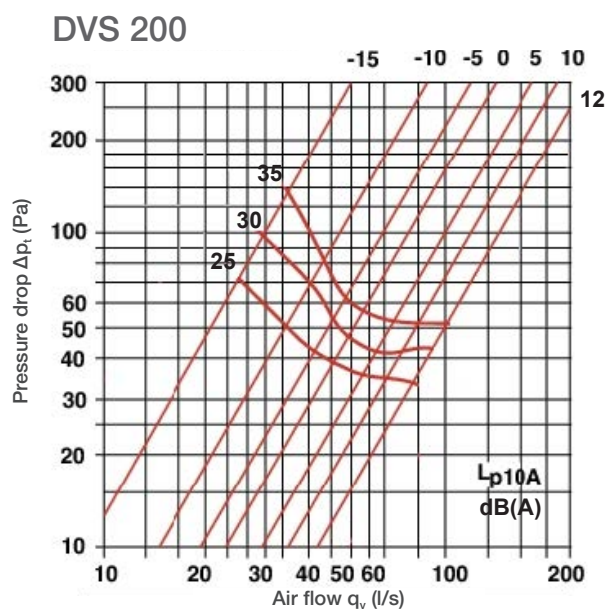
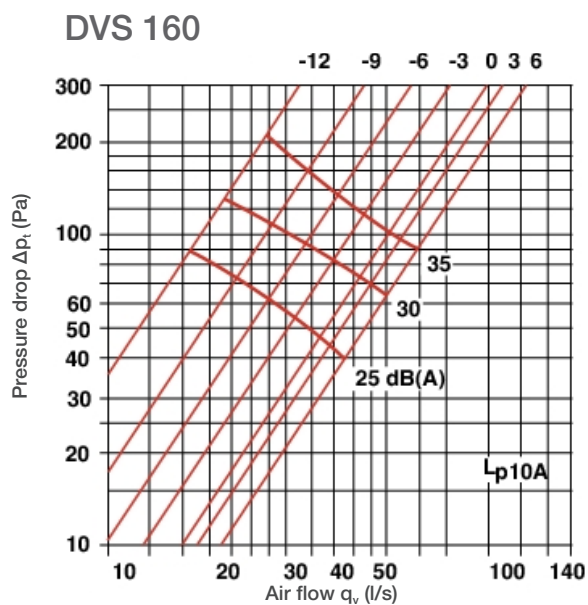
The valve body includes an elastic foam seal.

Size	ØA	ØB	ØC	ØE	L	L1	Weight, kg
100	98	125	92	137	40	45	0,12
125	123	150	115	164	45	45	0,3
160	159	185	148	212	55	45	0,4
200	198	225	188	248	60	45	0,5
250	248	290	240	300	70	45	1,2



Technical data





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Product codes

Product DVS - d

Diameter d

Example: DVS 200

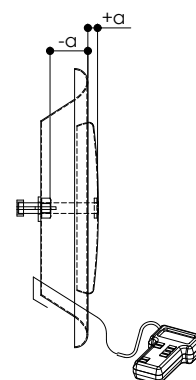
Installation

Installation to duct using a mounting frame (included).

Measurement and regulation of air flow

Measurement of air flow through pressure differential measured with a separate measuring device.

Regulation by opening or closing by turning the plate.



$$q_v = k \sqrt{\Delta p_m}$$

K-value									
a, mm	-12	-9	-6	-3	0	3	6	9	12
DVS 100		0,45	0,80	1,20	1,50	1,80	2,25	2,65	2,95
DVS 125	0,80	1,25	1,65	2,10	2,60	3,00	3,45	4,00	4,50
DVS 160	2,10	2,35	3,00	3,70	4,20	4,95	5,45	6,25	6,90
DVS 200	3,15	3,90	4,75	5,15	6,25	7,40	8,25	8,95	10,00
DVS 250	5,85	6,95	8,05	9,45	10,30	10,85	12,35	13,75	15,50

Maintenance

Remove the inner cone by turning counter-clockwise. Clean surfaces with damp cloth. Replace inner cone in its original position.

SFU Supply/exhaust air valve

SFU supply/exhaust valve for ceiling and wall installation. The air valve is suitable for homes as well as for offices.

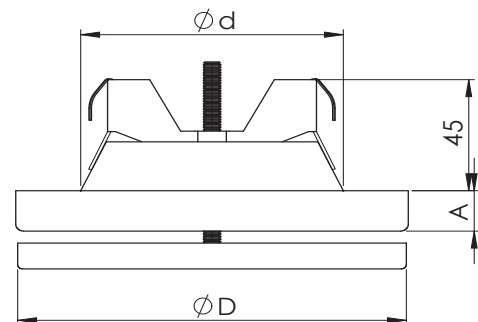
- Adjustable pressure loss
- The valve attenuates duct noise
- Installation directly into a duct/fitting
- Available in sizes Ø 100-200 mm



Structure and dimensions

SFU valves are manufactured of galvanized steel and coated with white paint (RAL 9003). The valve body includes an elastic foam seal. The disc is fixed to the body with threaded rod.

Size	ØD	A	Weight, kg
100	135	15	1,75
125	160	15	2,85
160	191	15	3,05
200	238	18	4,4



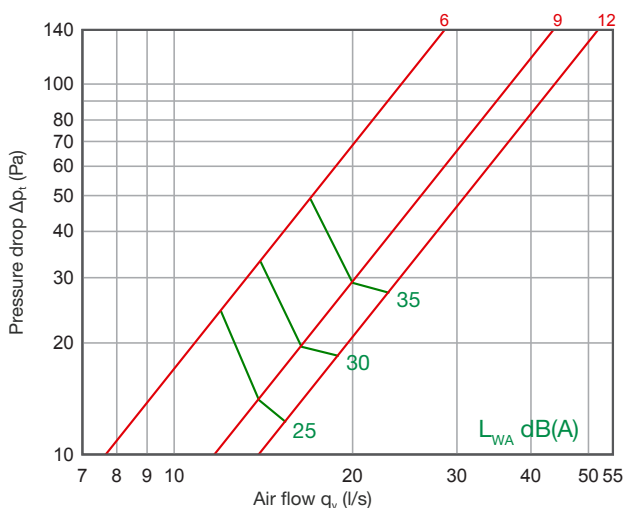
Technical data

Supply air

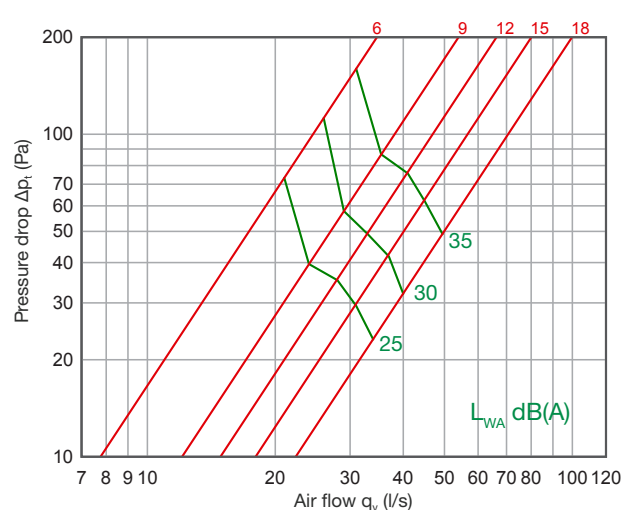
11

NORDdiffuser | SFU

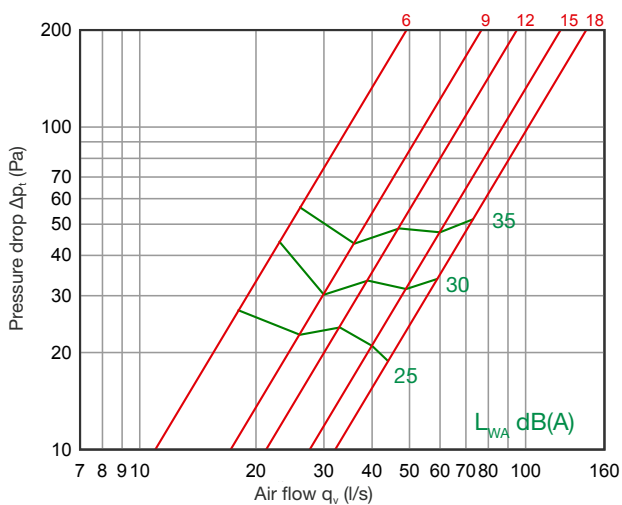
SFU 100



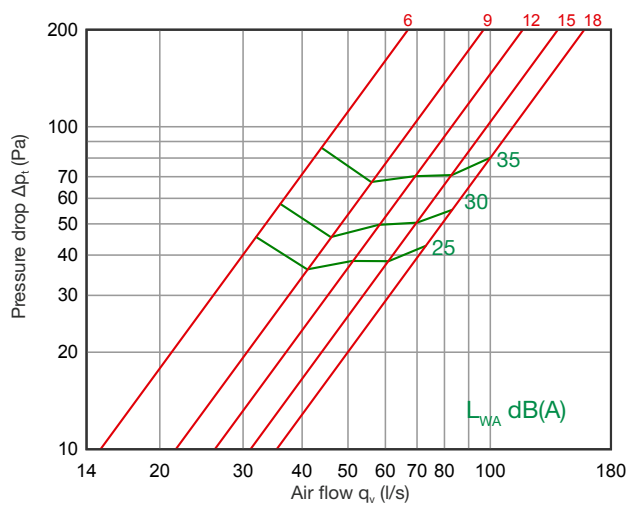
SFU 125



SFU 160

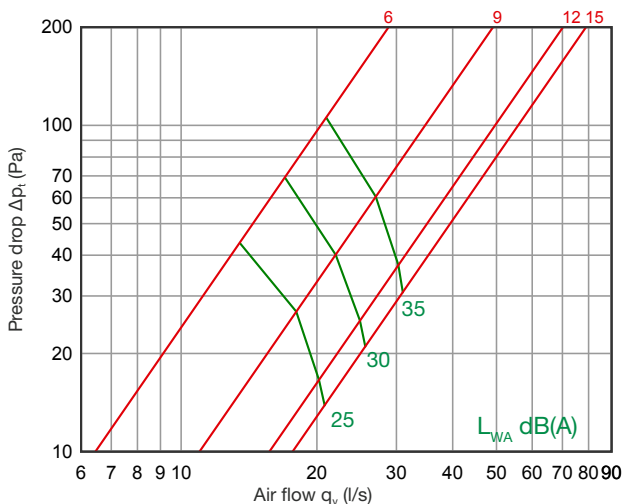


SFU 200

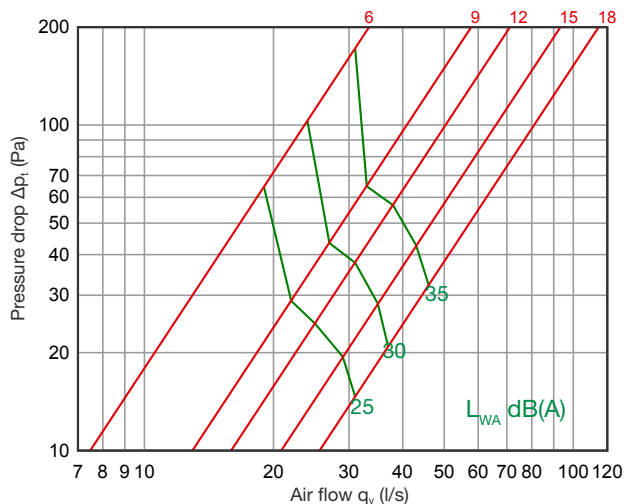


Exhaust air

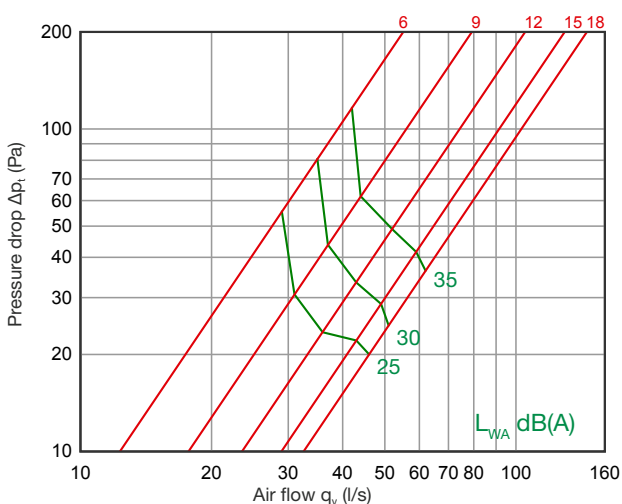
SFU 100



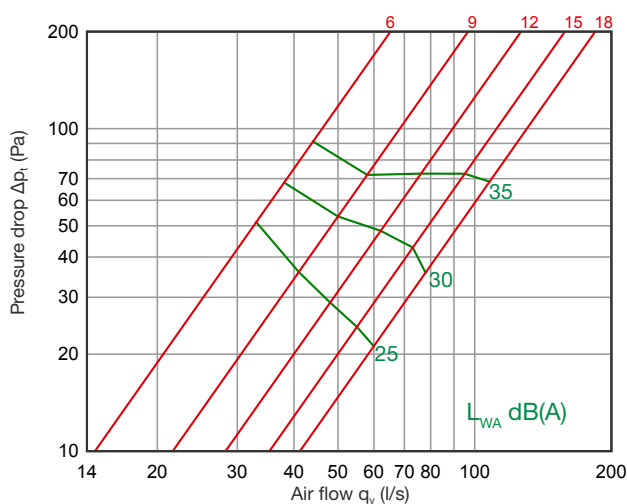
SFU 125



SFU 160



SFU 200



Product codes

Product _____ SFU - d

Diameter d _____

Example: SFU 200

Installation

SFU air valve can be installed directly into a duct/fitting. Push the valve into the duct. The valve shall be fixed with springs directly into a duct and it does not require any additional fastening.

Measurement and regulation of air flow

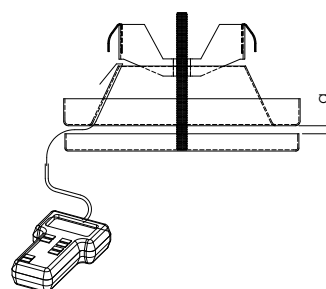
Measurement of air flow through pressure differential measured with a separate measuring device. Regulation by opening or closing by turning the plate. Measure the opening (a) position (in mm).

SFU 100, supply air			
a, mm	6	9	12
k-factor	2,40	3,70	4,25

SFU 125, supply air					
a, mm	6	9	12	15	18
k-factor	2,45	3,80	4,70	5,60	6,85

SFU 160, supply air					
a, mm	6	9	12	15	18
k-factor	3,50	5,55	6,70	8,55	9,80

SFU 200, supply air					
a, mm	6	9	12	15	18
k-factor	4,75	7,05	8,50	9,75	11,05



$$q_v = k \sqrt{\Delta p_m}$$

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NORDdiffuser | SFU

SFU 100, exhaust air					
a, mm	6	9	12	15	18
k-factor	1,90	2,95	4,00	4,35	4,40

SFU 125, exhaust air					
a, mm	6	9	12	15	18
k-factor	2,15	3,60	4,20	5,30	6,35

SFU 160, exhaust air					
a, mm	6	9	12	15	18
k-factor	3,55	5,00	6,40	7,60	8,55

SFU 200, exhaust air					
a, mm	6	9	12	15	18
k-factor	4,30	6,40	7,85	9,75	11,20

Maintenance

Remove the inner cone by turning counter-clockwise. Clean the components surfaces with damp cloth. Replace inner cone in its original position.

DKC Ceiling diffuser

Round ceiling diffuser.

Features:

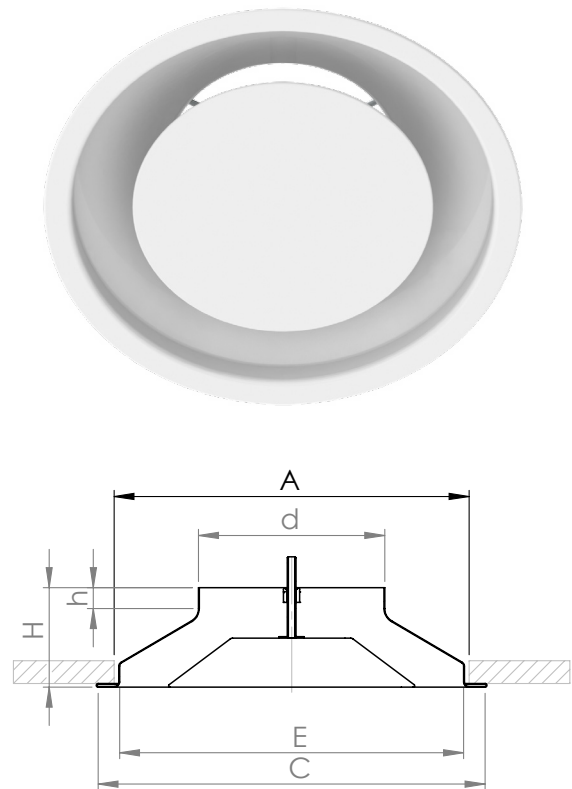
- horizontal or vertical air jet
- suitable for over- or under-heated supply air
- installation in ceiling or free hanging
- duct sizes Ø 160-400 mm

Material and finish

Manufactured of aluminium steel and coated white (RAL 9003).

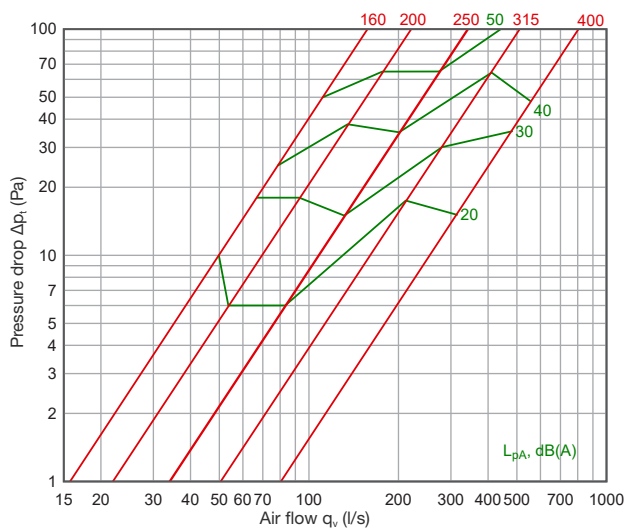
Measurements

Nominal size	d	E	C	h	H	A
160	157	280	335	45	105	288
200	198	360	423	48	118	370
250	248	445	517	48	130	461
315	313	560	640	48	146	576
400	398	680	776	65	185	700

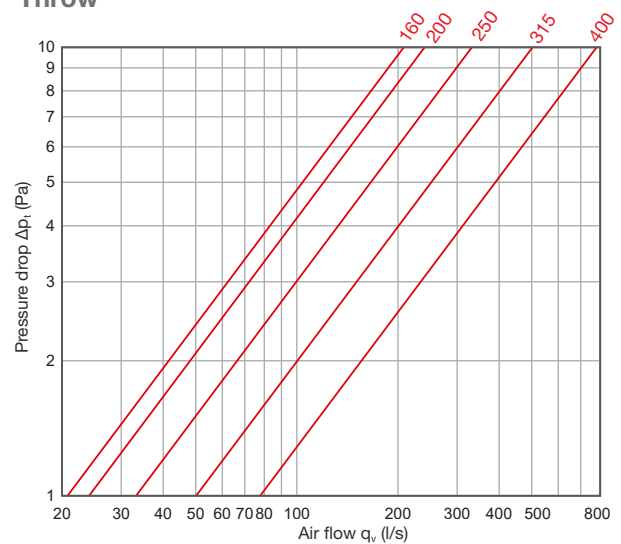


Technical data

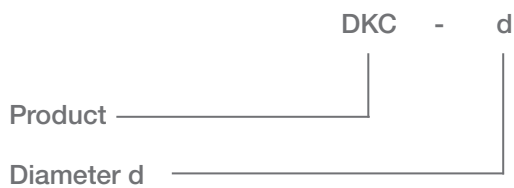
Acoustic data



Throw



Product codes



Example: DKC 200

Installation

Remove the inner cone. Attach the outer cone to duct or plenum box with rivets. Replace inner cone and adjust for position which gives the desired air flow and diffusion pattern.

Maintenance

Remove the inner cone by turning counter-clockwise. Clean surfaces with damp cloth. Replace inner cone in its original position.

N.B. Measure and note inner cone's original position.

DKA Ceiling diffuser

Ceiling diffuser with adjustable air jet pattern. Horizontal or vertical supply air pattern chosen by turning the cone.

Features:

- Horizontal or vertical air jet
- Installation in ceiling or free hanging
- Duct sizes Ø 160-630 mm
- Max. $\Delta t = 10^\circ\text{C}$

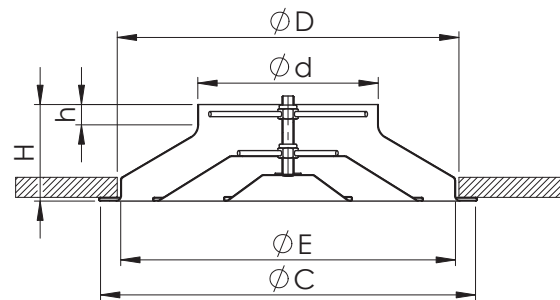


Material and finish

Manufactured of aluminium sheet and coated white (RAL 9003).

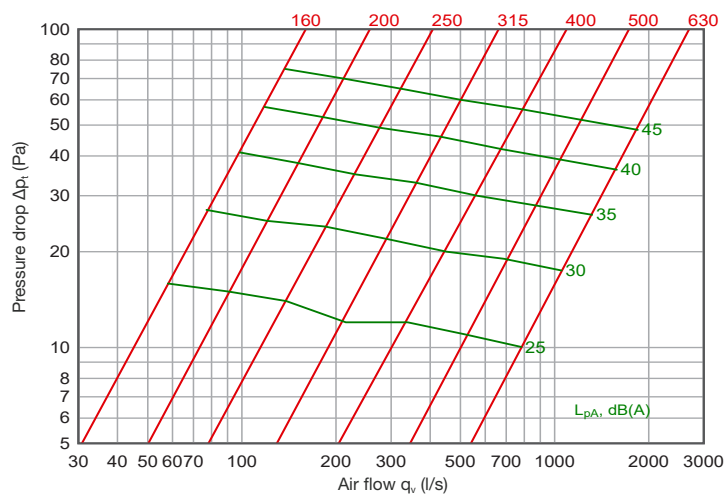
Measurements

Size	Ød	ØE	ØC	h	H	ØD
160	157	280	335	45	105	288
200	198	360	423	48	118	370
250	248	445	517	48	130	461
315	313	560	640	48	146	576
400	398	680	776	65	185	700
500	498	805	917	65	185	825
630	628	943	1045	65	185	963



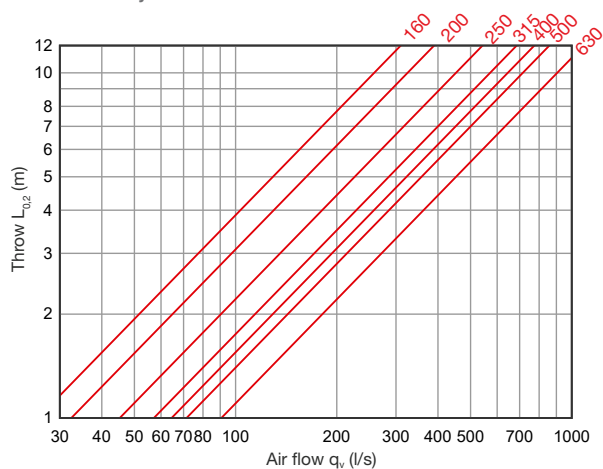
Technical data

Technical data are given for adjustment 0, when the inner and outer cones are on same level.

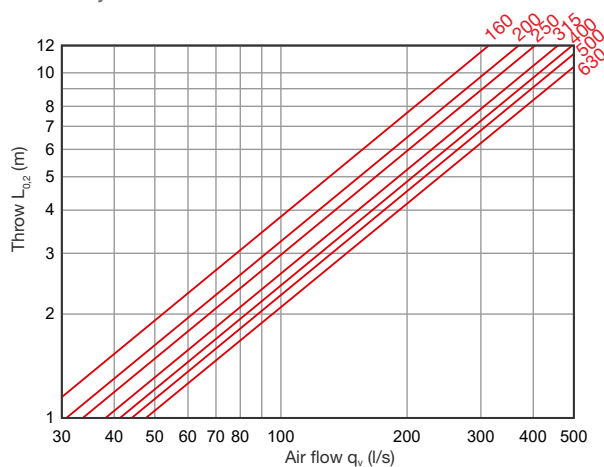


Throw

Horizontal jet



Vertical jet



Acoustic data

Size	Sound level correction factor K_{okt} [dB]					
	125	250	500	1000	2000	4000
160	6	4	2	-1	-6	-14
200	6	4	2	-2	-4	-13
250	6	6	1	-3	-4	-14
315	7	5	1	-1	-4	-14
400	8	5	3	-3	-5	-14
500	9	5	3	-4	-7	-14
Tol. $\pm$	3	2	2	2	2	2

Size	Sound attenuation ΔL (dB) at octave bands, middle frequency, (Hz)					
	125	250	500	1000	2000	4000
160	12	8	3	1	0	0
200	11	8	3	0	0	0
250	10	5	2	0	0	0
315	8	5	1	0	0	0
400	7	4	1	0	0	0
500	6	2	0	0	0	0
Tol. $\pm$	3	2	2	2	2	2

$$L_w = L_{A10} + K_{okt}$$

Product codes



Example: DKA 200

Maintenance

Remove the cones by turning counter-clockwise. Clean surfaces with damp cloth. Replace cones in its original positions.

N.B. Measure and note inner cone's original position.

Installation

Remove the cones. Attach the outer cone to duct or plenum box with rivets. Replace inner cones and adjust for position which gives the desired air flow and diffusion pattern.

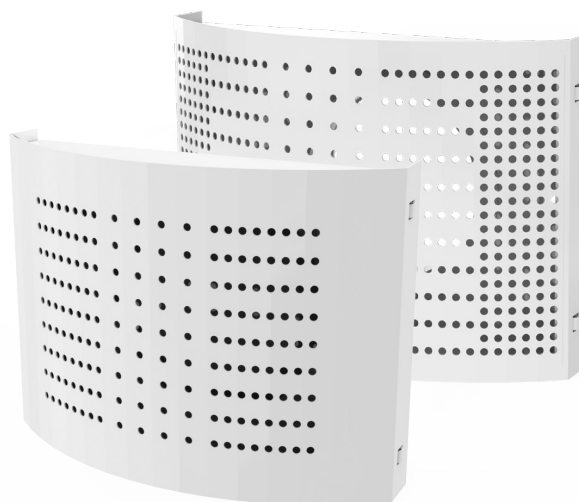
DSK-P Diffuser for supply air

Wall-mounted diffuser for supply air. Product is designed for use in residential houses and other premises where air flows are low and air distribution is from the wall.

DSK-P 100 and DSK-P 125 diffusers fulfill Finnish building code E7:2004 and Ministry of Environment type approval regulations (2008) for smoke throttling element, when installed on the wall or on the end of a horizontal duct.

Features:

- Low noise level
- Draftless air supply
- Easy installation
- Removable front plate

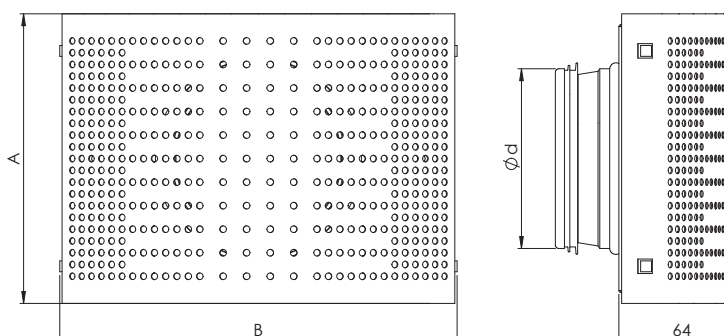


Suitable for houses, offices and other rooms with low air quantities with supply air on the wall.

Structure and dimensions

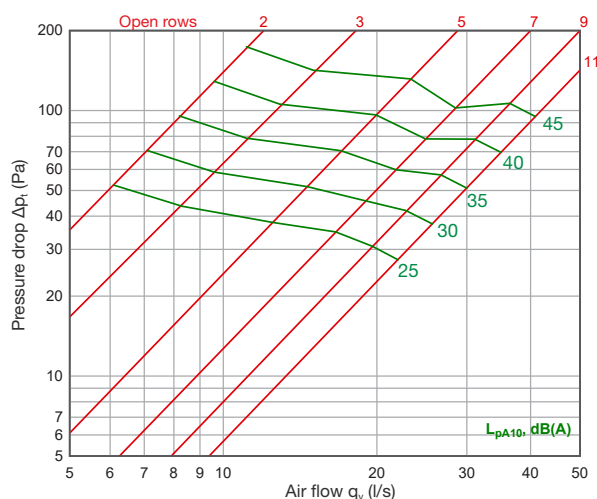
DSK-diffuser be composed of two parts: the main body and the front panel. Both details are manufactured of galvanized steel and coated white (RAL 9003). Duct connection is equipped with circular rubber gasket.

Product Ød	B mm	A mm	Weight, kg
DSK-P 100	217	160	0,7
DSK-P2 100	217	160	0,7
DSK-P 125	217	160	0,7
DSK 160	350	235	1,4
DSK 200	400	275	1,7

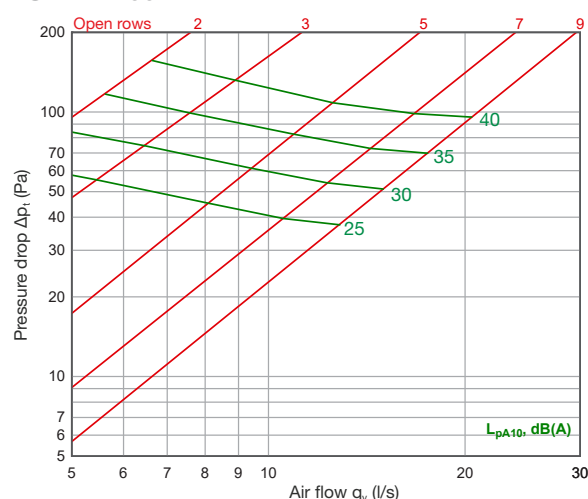


Technical data

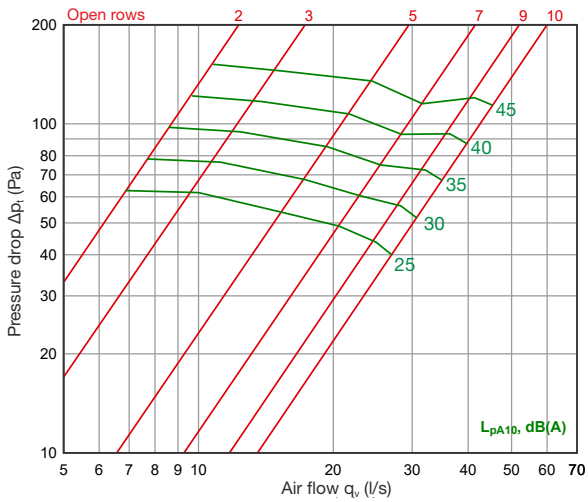
DSK-P 100



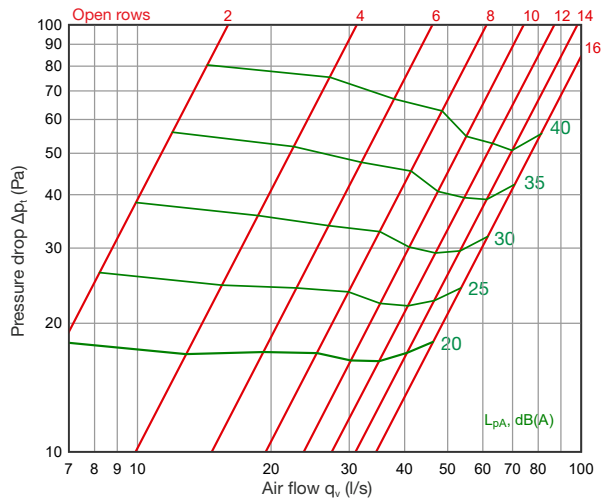
DSK-P2 100



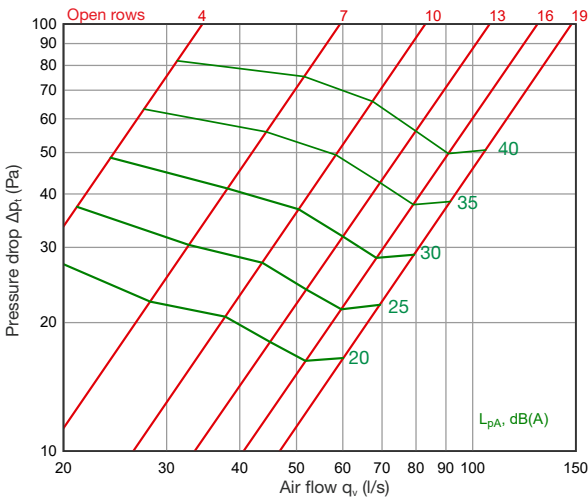
DSK 125



DSK 160



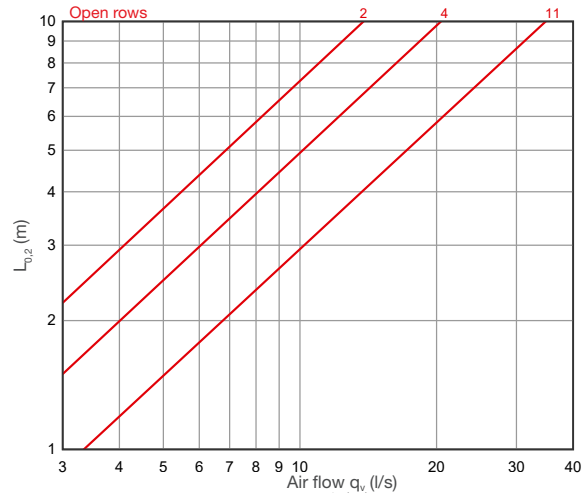
DSK 200



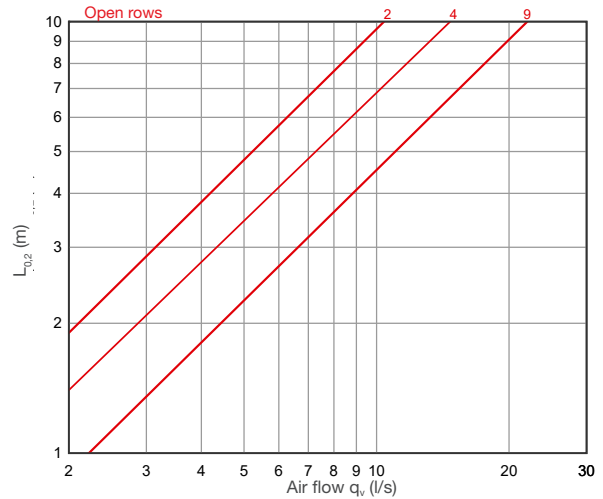
Throw

11

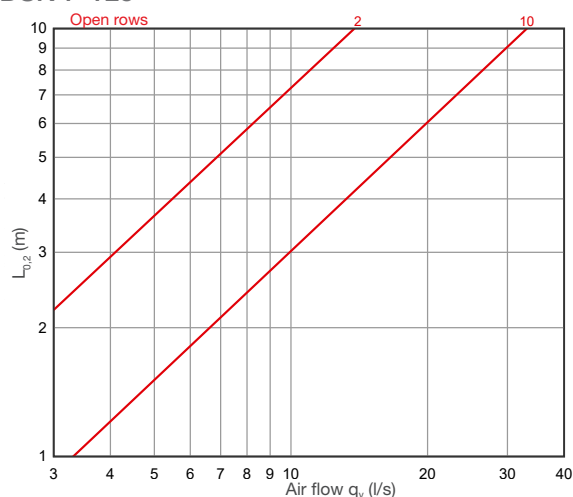
DSK-P 100



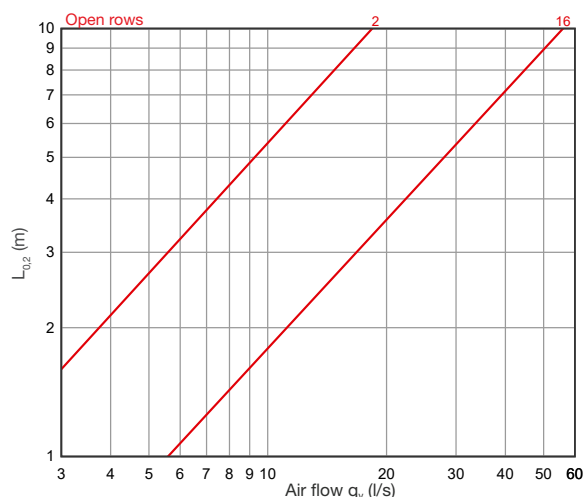
DSK-P2 100



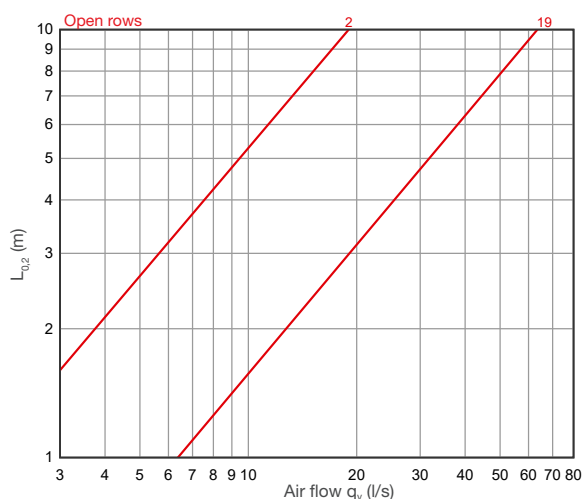
DSK-P 125



DSK 160



DSK 200



Acoustic data

DSK-P 100, mean octave sound power level: $L_{w\text{okt}} = L_{pA} + K$

Adjust- ment	Correction for octave band K_{okt} (dB)						
	125	250	500	1k	2k	4k	8k
11	-2	-2	0	0	-3	-15	-19
9	0	-1	1	0	-4	-14	-18
7	-2	-1	1	0	-3	-14	-18
5	0	0	0	0	-2	-11	-18
3	-2	0	0	-1	-1	-9	-17
2	-3	-5	-5	-1	-1	-5	-14

Adjust- ment	Sound attenuation (dB)						
	125	250	500	1k	2k	4k	8k
11	17	10	5	1	2	2	4
7	17	10	4	2	4	4	6
3	17	9	4	7	8	7	9

11

DSK-P2 100, $L_{w\text{okt}} = L_{pA} + K$

Adjust- ment	Correction for octave band K_{okt} (dB)						
	125	250	500	1k	2k	4k	8k
9	-2	-3	0	0	-4	-14	-17
7	-1	-1	0	0	-4	-14	-18
5	1	0	1	1	-3	-12	-17
3	0	-2	0	0	-1	-10	-17
2	-4	-4	-6	-2	0	-6	-15

Adjust- ment	Sound attenuation (dB)						
	125	250	500	1k	2k	4k	8k
7	17	10	4	2	4	4	6
3	17	9	4	7	8	7	9

DSK-P 125, mean octave sound power level: $L_{w_{okt}} = L_{pA} + K$

Adjust- ment	Correction for octave band K_{okt} (dB)						
	125	250	500	1k	2k	4k	8k
10	-1	-2	0	-1	-2	-12	-18
9	-2	-2	-1	-1	-1	-11	-18
7	-1	-3	-2	-2	0	-10	-18
5	-1	-2	-2	-2	0	-9	-17
3	-3	-7	-5	-3	0	-7	-16
2	-5	-8	-5	-3	0	-7	-16

Adjust- ment	Sound attenuation (dB)						
	125	250	500	1k	2k	4k	8k
10	14	8	4	0	1	2	4
7	14	8	4	1	3	5	6
3	15	9	5	6	7	8	10

DSK 160, mean octave sound power level: $L_{w_{okt}} = L_{pA} + K$

Adjust- ment	Correction for octave band K_{okt} (dB)						
	125	250	500	1k	2k	4k	8k
16	-8	-8	-6	-3	-7	-17	-27
14	-8	-8	-6	-3	-7	-17	-26
12	-8	-7	-6	-2	-7	-17	-26
10	-8	-8	-5	-3	-8	-16	-24
8	-6	-8	-6	-3	-7	-16	-23
6	-9	-9	-6	-3	-7	-15	-23
4	-11	-10	-8	-3	-6	-14	-22
2	-16	-15	-9	-2	-7	-12	-21

Adjust- ment	Sound attenuation (dB)						
	125	250	500	1k	2k	4k	8k
16	12	6	3	1	1	2	3
8	12	6	3	5	4	4	6
2	14	8	7	9	7	9	11

DSK 200, mean octave sound power level: $L_{w_{okt}} = L_{pA} + K$

Adjust- ment	Correction for octave band K_{okt} (dB)						
	125	250	500	1k	2k	4k	8k
19	-6	-7	-5	-3	-8	-18	-28
16	-6	-8	-5	-2	-8	-18	-27
13	-6	-7	-5	-3	-7	-17	-26
10	-5	-7	-6	-3	-6	-15	-25
7	-5	-7	-6	-4	-6	-14	-22
4	-9	-10	-8	-5	-5	-11	-21

Adjust- ment	Sound attenuation (dB)						
	125	250	500	1k	2k	4k	8k
19	9	6	2	0	1	1	3
10	9	6	3	3	3	3	5
4	9	7	6	5	5	7	9

Product codes

DSK-P - d - RAL 7000

Product _____

Diameter d _____

RAL colour _____

RAL colour: if other than standard colour (RAL 9003, white).

Example: DSK-P 125

Other materials:

H - acid-proof steel (standards EVS-EN 10088-2:2014, EN 1.4436 or AISI 316)

Installation

Installed directly to duct and fixed to wall with screws or with rivets to duct. Front plate simply pressed in tight against the body.

Measurement and regulation of air flow

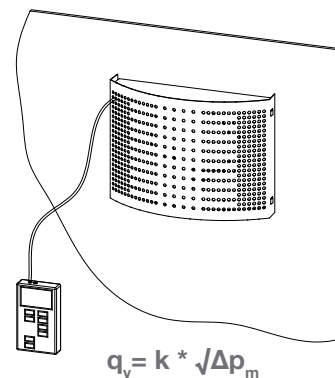
Measurement of air flow as pressure differential measured through a hole in the front plate.

Regulation by closing or opening nozzles.

K-factor

A - position, opened rows

A	11	9	7	5	3	2		
DSK-P 100	5,34	4,32	3,12	2,15	1,30	0,87		
A	9	7	5	3	2			
DSK-P2 100	2,16	1,56	1,08	0,65	0,49			
A	10	9	7	5	3	2		
DSK-P 125	4,68	3,95	3,08	2,16	1,30	0,89		
A	16	14	12	10	8	6	4	2
DSK 160	13,58	11,59	9,85	8,13	6,54	4,76	3,17	1,59
A	19	16	13	10	7	4		
DSK 200	17,47	14,95	11,72	8,92	6,09	3,47		



DEN Diffuser for supply air

Supply air diffuser with round plenum box for visible installation.

Features:

- visible installation
- duct sizes Ø 100-315 mm
- easy to clean
- low noise level
- with measuring and regulating device

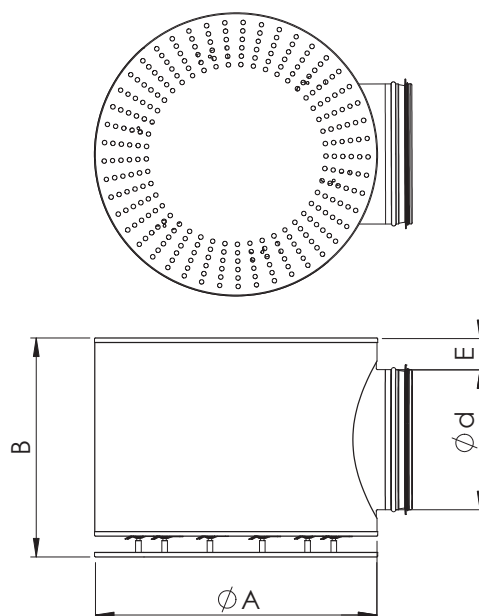
Air jets through the side and perforated front plate. Easily removable front plate makes cleaning easy.



Material and sizes

Manufactured of galvanized steel and coated with white (RAL 9003) polyester powder coating. Round duct connection with rubber gasket.

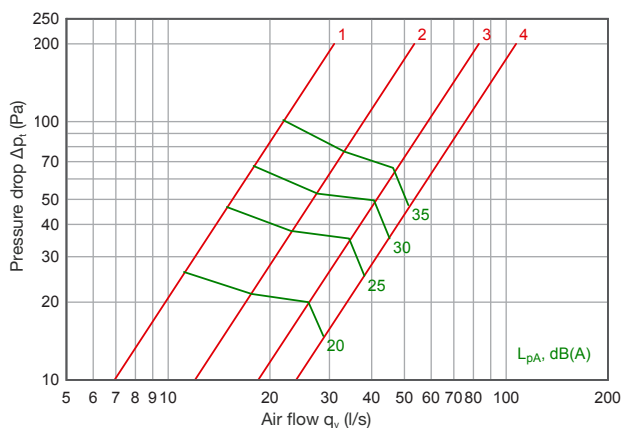
Nominal size	Ød	ØA	B	E	Weight, kg
100	99,3	350	240	36	2,5
125	124,3	350	240	38	3,0
160	159,3	400	275	41	4,5
200	199,3	450	305	31	7,2
250	249,3	500	395	56	11,0
315	314,3	600	487	56	12,0



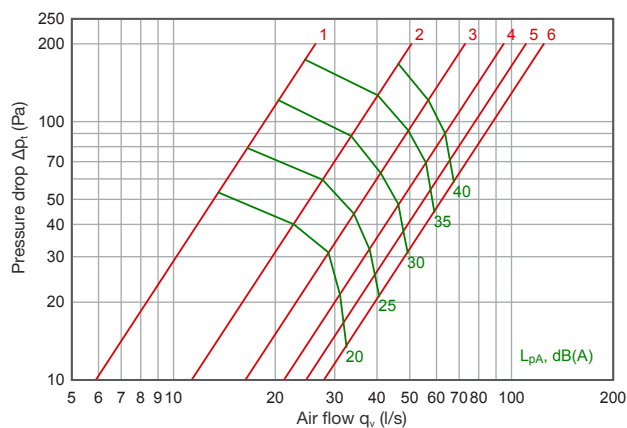
11

Technical data

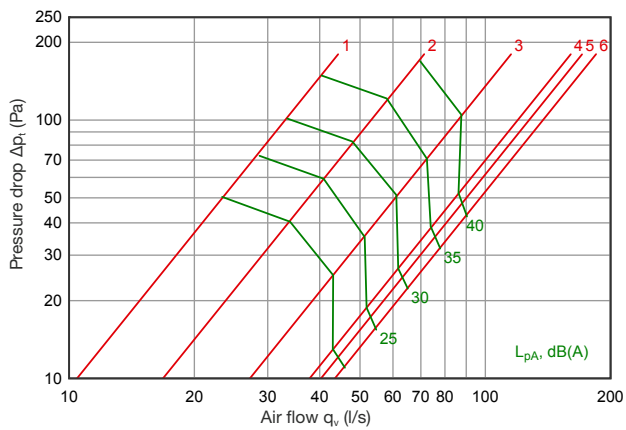
DEN 100



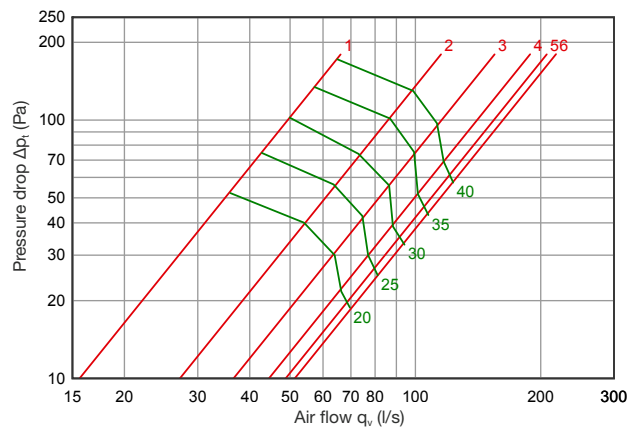
DEN 125



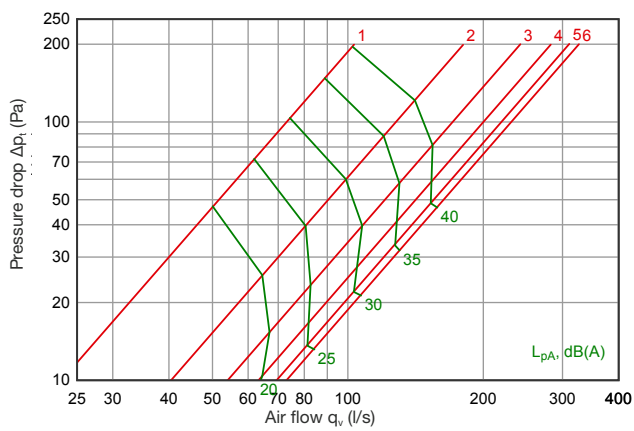
DEN 160



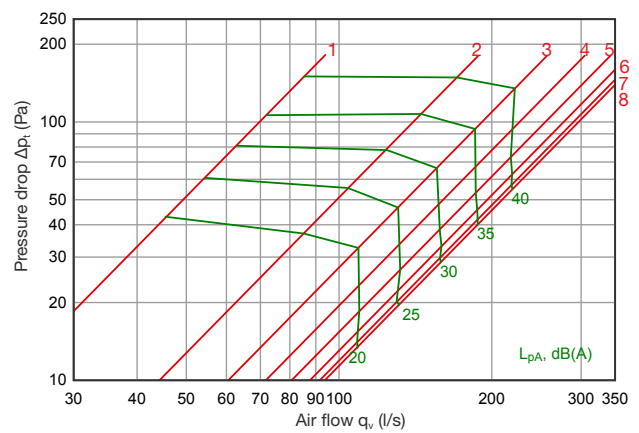
DEN 200



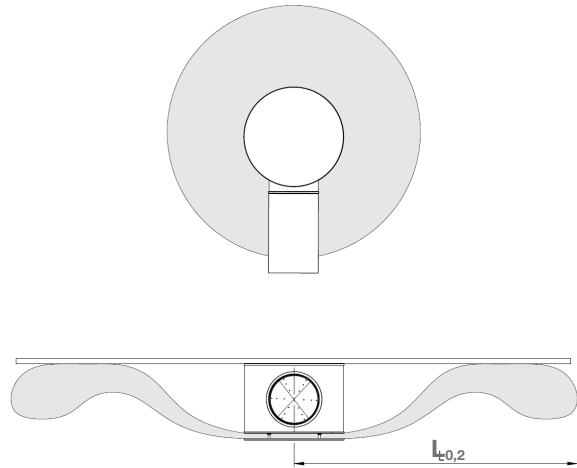
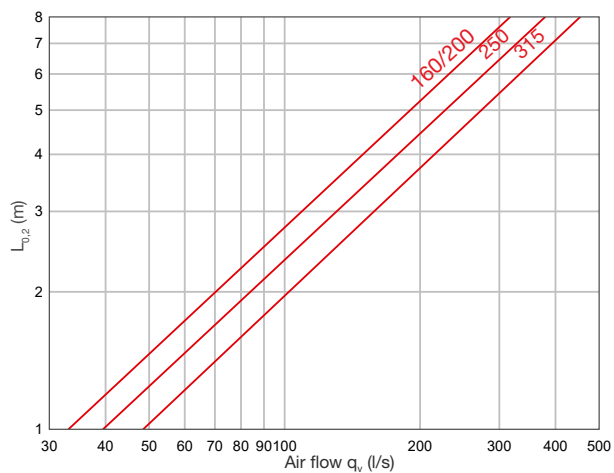
DEN 250



DEN 315



Throw



K-factor

Nominal size	Position							
	1	2	3	4	5	6	7	8
DEN 100	2,2	3,7	5,4	6,7				
DEN 125	1,85	3,65	5,35	7,25	8,60	9,80		
DEN 160	3,3	5,6	9,1	13	14,7	17		
DEN 200	5,2	10	15,1	21,3	26,1	29,3		
DEN 250	8,7	16,6	24,2	33,7	40,6	43,5		
DEN 315	7,8	18	27,9	36,1	47,5	56,5	86,4	91,3

Product codes

	DEN	-	d	-	RAL 7000
Product					
Diameter d					
RAL colour					

Colour code: if other than standard colour.

Example: DEN 200
 DEN 200 RAL7000

DEK Ceiling diffuser

DEK is a rectangular ceiling diffuser for duct connections Ø 100-400 mm.

Air is directed into the room through the side slots and perforated front panel. The directional plate can be used to select 2-, 3-, or 4-way airflow.

Diffuser front plate is easily removable, making the cleaning process more comfortable and less time consuming.

The diffuser is generally used with the SKDM plenum box.



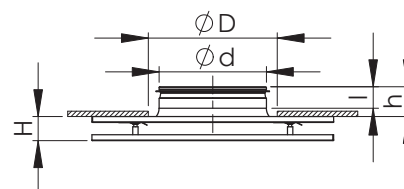
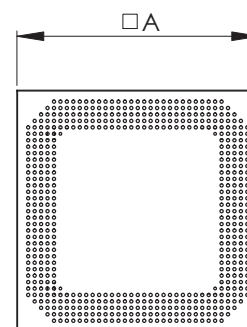
Features:

- low noise level
- removable front plate makes cleaning easy

Structure and dimensions

Manufactured of galvanized steel and coated white (RAL 9003). Round duct connection with rubber gasket.

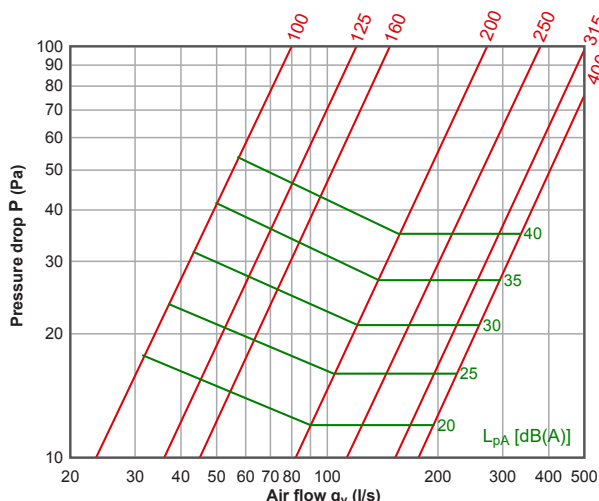
Size	Ød	A	H	ØD	h	l
100	100	300	44	130	45	40
125	125	350	44	170	50	40
160	160	350	44	210	55	40
200	200	450	44	250	55	40
250	250	450	44	300	55	40
315	315	595	47	365	55	40
400	400	595	47	450	90	75



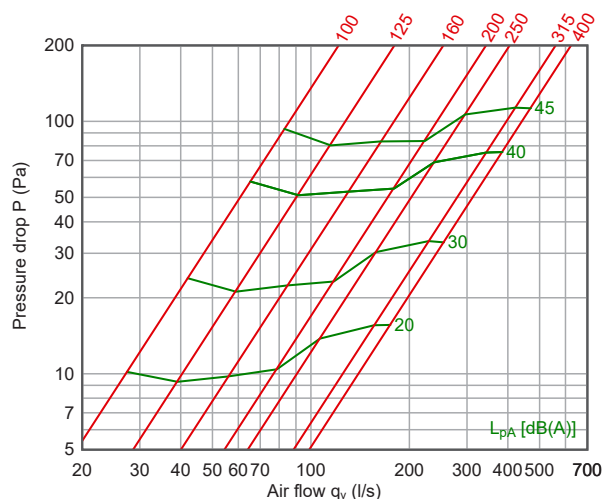
Technical data

Air flow - pressure drop - sound level

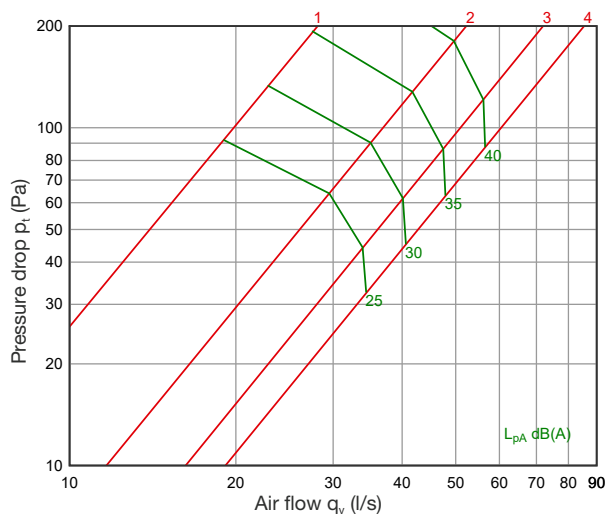
Supply air



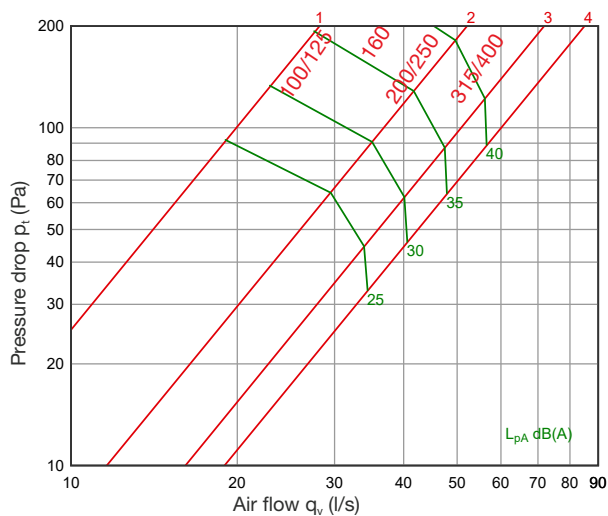
Exhaust air



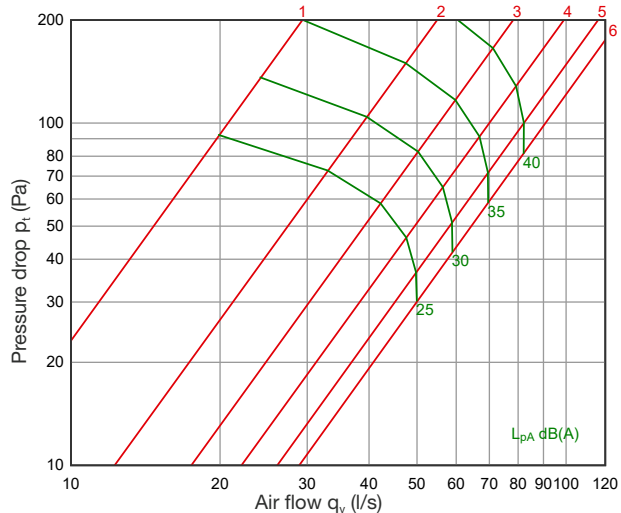
DEK 100 + SKDM 100/100



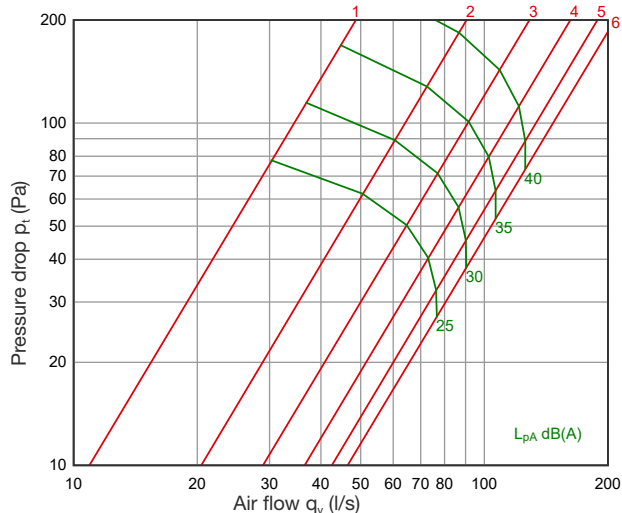
DEK 125 + SKDM 100/125



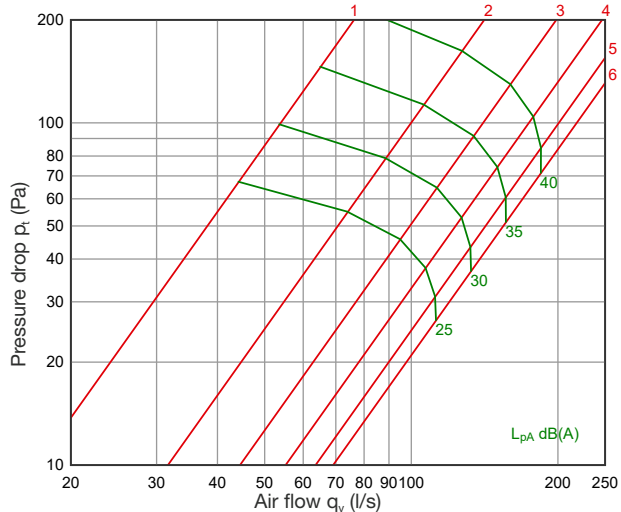
DEK 160 + SKDM 125/160



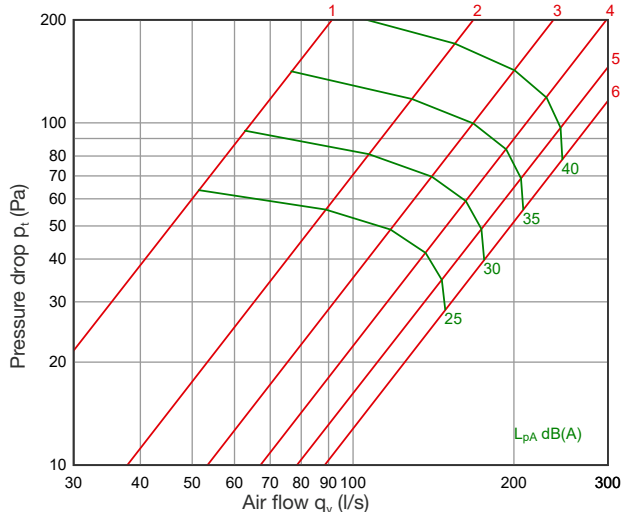
DEK 200 + SKDM 160/200



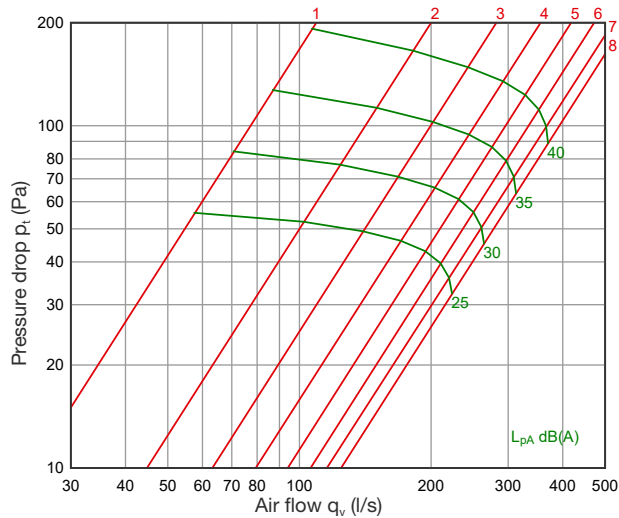
DEK 250 + SKDM 200/250



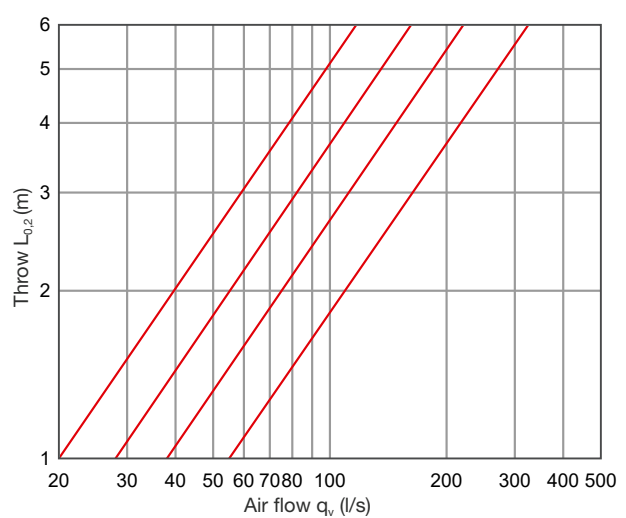
DEK 315 + SKDM 250/315



DEK 400 + SKDM 315/400



DEK, throw



Acoustic data

DEK Size	Sound level correction factor K_{okt} (dB)							
	Hz							
	63	125	250	500	1k	2k	4k	8k
100	6	3	2	2	-1	-3	-10	-19
125	14	11	7	1	-1	-1	-14	-19
160	14	11	5	1	0	-9	-14	-19
200	11	8	4	2	0	-9	-14	-19
250	11	8	2	3	-1	-9	-14	-19
315	14	11	3	2	-2	-6	-14	-19
400	15	12	4	2	-2	-11	-14	-19

DEK Size	Sound attenuation (dB)							
	Mean frequency of octave band (Hz)							
	63	125	250	500	1k	2k	4k	8k
100	18	15	10	4	5	5	2	4
125	17	14	9	4	4	2	3	4
160	16	13	8	4	3	2	4	5
200	13	10	7	5	3	2	3	5
250	12	9	5	5	3	3	4	6
315	11	8	6	5	2	3	4	5
400	11	8	7	5	2	2	4	7

$$L_w = L_{pA10} + K_{\text{okt}}$$

		Sound level correction factorK _{okt} (dB)								
DEK+SKDM	Position	K-factor	63	125	250	500	1k	2k	4k	8k
DEK 100 + SKDM 100/100	s = 1	2,0	1	4	-2	-6	-6	-8	-12	-17
	s = 2	3,8	4	7	0	-4	-6	-11	-17	-22
	s = 3	5,4	5	9	2	-3	-6	-13	-19	-25
	s = 4	6,6	7	11	3	-3	-6	-14	-21	-27
DEK 125 + SKDM 100/125	s = 1	2,0	1	4	-2	-6	-6	-8	-12	-17
	s = 2	3,8	4	7	0	-4	-6	-11	-17	-22
	s = 3	5,4	5	9	2	-3	-6	-13	-19	-25
	s = 4	6,6	7	11	3	-3	-6	-14	-21	-27
DEK 160 + SKDM 125/160	s = 1	2,1	-2	1	-4	-6	-6	-5	-8	-13
	s = 2	4,0	1	5	-1	-5	-6	-8	-13	-19
	s = 3	5,8	3	7	0	-4	-6	-10	-16	-22
	s = 4	7,4	4	8	1	-3	-6	-12	-18	-24
	s = 5	8,8	5	9	2	-3	-6	-13	-19	-26
	s = 6	10,0	5	10	3	-3	-6	-13	-21	-27
DEK 200 + SKDM 160/200	s = 1	3,5	-2	1	-4	-6	-6	-5	-8	-14
	s = 2	6,7	0	4	-1	-5	-6	-8	-13	-19
	s = 3	9,6	2	6	0	-4	-6	-10	-15	-22
	s = 4	12,2	3	7	1	-3	-7	-11	-17	-24
	s = 5	14,6	4	8	2	-3	-7	-12	-19	-26
	s = 6	16,7	4	9	3	-2	-7	-13	-20	-27
DEK 250 + SKDM 200/250	s = 1	5,5	-1	2	-3	-6	-6	-6	-8	-13
	s = 2	10,5	2	5	-1	-5	-6	-9	-13	-19
	s = 3	15,1	4	7	1	-4	-6	-11	-16	-22
	s = 4	19,2	5	9	2	-3	-6	-12	-18	-24
	s = 5	22,9	5	10	3	-3	-6	-13	-19	-26
	s = 6	26,1	6	11	3	-2	-6	-14	-21	-27

		Sound level correction factor K_{okt} (dB)								
DEK+SKDM	Position	K-factor	63	125	250	500	1k	2k	4k	8k
DEK 315 + SKDM 250/315	s = 1	6,4	0	2	-4	-7	-5	-5	-7	-11
	s = 2	12,5	3	5	-1	-5	-6	-9	-11	-16
	s = 3	18,1	4	7	0	-4	-6	-10	-14	-19
	s = 4	23,4	5	8	1	-4	-6	-12	-16	-22
	s = 5	28,3	6	9	2	-3	-6	-13	-18	-23
	s = 6	32,8	7	10	3	-3	-6	-14	-19	-25
DEK 400 + SKDM 315/400	s = 1	7,5	-1	0	-5	-7	-5	-4	-4	-8
	s = 2	14,7	1	4	-2	-6	-6	-7	-9	-14
	s = 3	21,5	3	5	-1	-5	-6	-9	-12	-17
	s = 4	28,0	4	7	0	-4	-6	-10	-14	-19
	s = 5	34,2	5	8	1	-4	-6	-11	-15	-21
	s = 6	40,1	6	9	2	-4	-6	-12	-17	-22
	s = 7	45,6	6	10	2	-3	-6	-13	-18	-23
	s = 8	50,9	7	10	3	-3	-6	-13	-19	-24

	Sound attenuation (dB)								
	Mean frequency of octave band (Hz)								
DEK+SKDM	Position	63	125	250	500	1k	2k	4k	8k
DEK 100 + SKDM 100/100	s = 1	21	18	16	17	25	20	20	21
	s = 4	21	18	16	18	18	17	16	12
DEK 125 + SKDM 100/125	s = 1	21	18	16	17	25	20	20	21
	s = 4	21	18	16	18	18	17	16	12
DEK 160 + SKDM 125/160	s = 1	20	16	16	17	21	17	20	21
	s = 6	19	15	15	17	16	15	15	13
DEK 200 + SKDM 160/200	s = 1	18	13	15	18	19	13	19	22
	s = 6	17	13	14	17	14	13	15	14
DEK 250 + SKDM 200/250	s = 1	14	12	14	18	18	17	20	20
	s = 6	14	11	13	16	14	14	16	16
DEK 315 + SKDM 250/315	s = 1	11	11	13	18	18	19	20	19
	s = 6	10	10	13	16	14	15	17	18
DEK 400 + SKDM 315/400	s = 1	8	9	13	18	18	19	20	19
	s = 8	8	9	12	16	14	15	17	18

Product codes

DEK - d - RAL 7000

Product

Diameter d

RAL colour

RAL colour: if other than standard colour. Standard colour white RAL 9003

Example: DEK 200

Material codes:

Standard material galvanized steel (DX51D+Z275), standard EVS-EN 10346:2009.

H – acid-proof steel (standards EVS-EN 10088-2:2014, EN 1.4436 or AISI 316)

Zn – uncoated galvanized steel

Accessories:

SKDM - plenum box

DKU Ceiling diffuser

Rectangular ceiling diffuser with perforated front plate.
Can also be used as an exhaust unit.

Features:

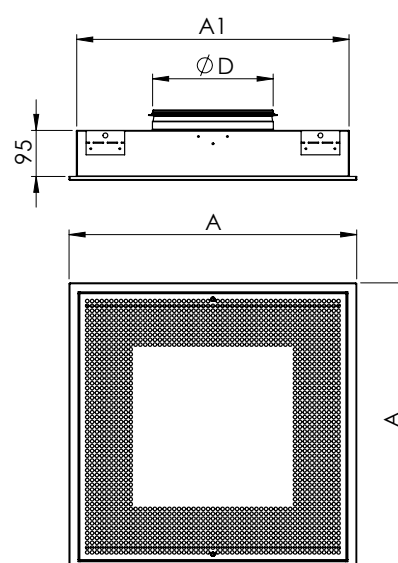
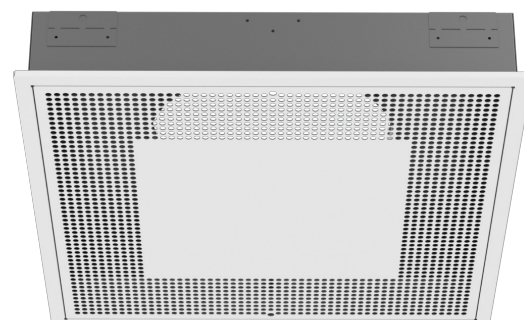
- horizontal air jet
- ceiling installation
- easy-to-open front plate
- duct sizes Ø 100-315 mm

Can be installed in SKDM plenum box.

Structure and dimensions

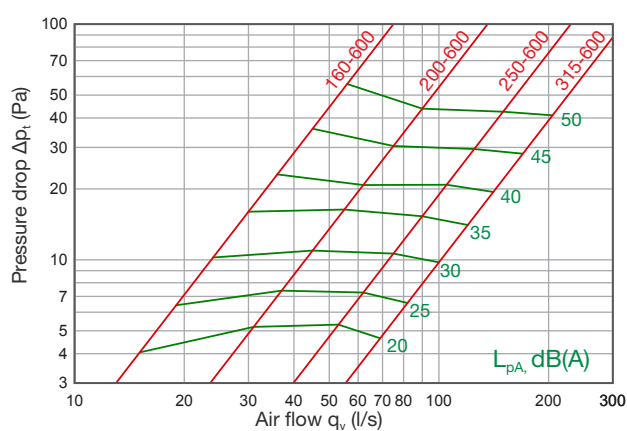
Manufactured of galvanized steel and coated white (RAL 9003). Round duct connection with rubber gasket. Front plate is easily removed for cleaning.

Nominal-size	Ød	A	A1	Weight, kg
100-300	100	300	270	2,7
125-300	125	300	270	2,8
125-600	125	595	565	6,8
160-450	160	450	420	4,7
160-600	160	595	565	6,9
200-450	200	450	420	4,7
200-600	200	595	565	6,9
250-600	250	595	565	6,8
315-600	315	595	565	6,7

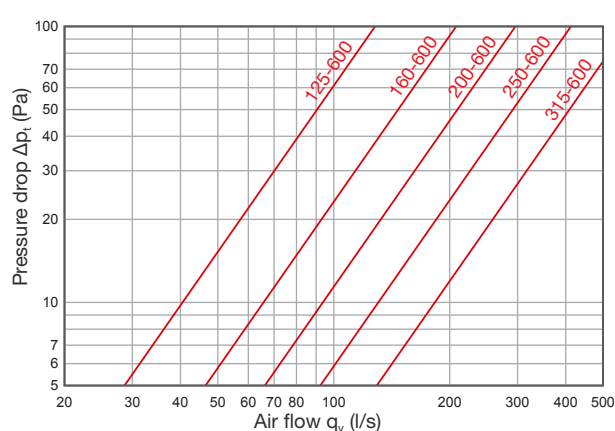


Technical data

Supply air



Exhaust air



Product codes

DKU - d - A - RAL 7000

Product _____

Diameter d _____

Diffuser size A _____

RAL colour _____

RAL colour: if other than standard colour. Standard colour white RAL 9003

Example: DKU 200-450

Material:

H – acid-proof steel (standards EVS-EN 10088-2:2014, EN 1.4436 or AISI 316)

Zn – uncoated galvanized steel

Colour code: if other than standard colour. Standard colour white RAL 9003.

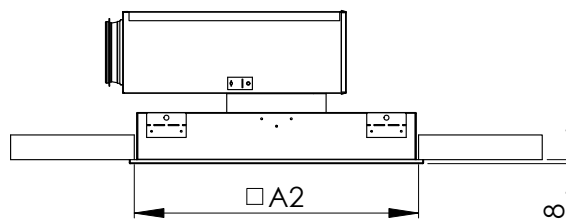
Accessories:

SKDM-plenum box

Installation

Installed directly to duct with screws or rivets or to SKDM plenum box.

Nominal size	A2
100-300	280
125-300	280
125-600	575
160-450	430
160-600	575
200-450	430
200-600	575
250-600	575
315-600	575



Recommended minimum distance before diffuser is 3 x duct diameter (3*d).

Maintenance

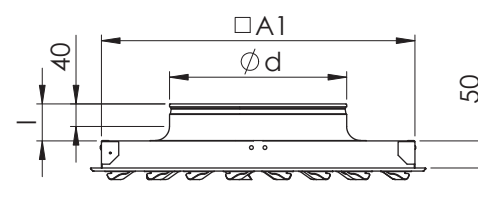
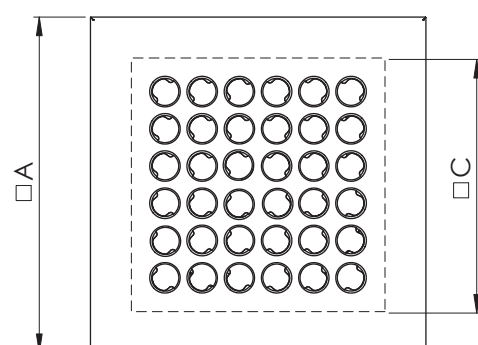
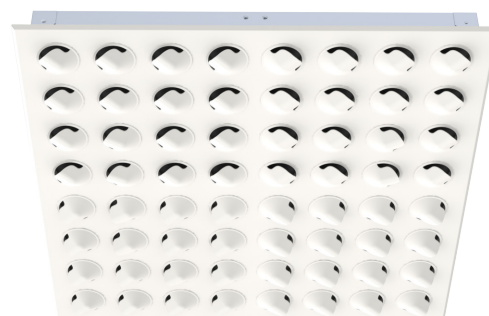
Remove front plate. Clean visible parts with a damp cloth.

DKZ Nozzle diffuser

DKZ is a rectangular nozzle diffuser, which is designed to provide effective supply air distribution, while also avoiding draft in the occupied zone. Diffusers front plate is easily removable, making the cleaning process more comfortable and less time consuming.

DKZ is suitable for using in rooms with or without suspended ceiling.

- Nozzles can be rotated by 360°
- Suitable for rooms with false ceiling
- Suitable for CAV and VAV systems
- High mixing ratio
- Can be used for heating, cooling and isothermal supply air
- Multiple air distribution patterns:
 - horizontal
 - vertical
- Easy access front panel
- Easy to clean
- Can be installed straight to the duct or used together with a SKDM plenum box
- Duct sizes Ø125-400 mm

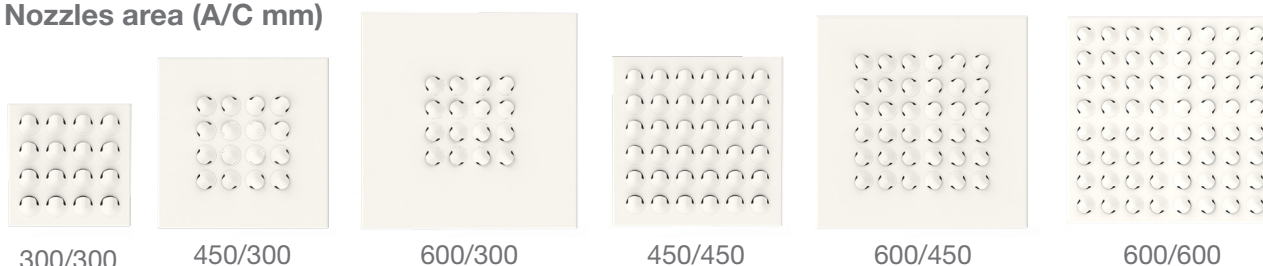


Material and surface treatment

Nozzle diffuser DKZ is manufactured from galvanized steel and the nozzles are from ABS. The front plate and nozzles have a white (RAL 9003), grey (RAL 7000) or black (RAL 9005) finish by standard, but are also available in any other RAL colours.

Nominal size d-A mm	A	A1	I	C	Nozzles, pc	Weight, kg
125-300	300	260	60	300	16	1,5
125-450	450	410	60	300	16	2,9
125-600	595	560	60	300	16	4,8
160-300	300	260	65	300	16	1,5
160-450	450	410	65	300	16	2,9
160-600	595	560	65	300	16	4,8
200-450	450	410	65	450	36	2,8
200-600	595	560	65	450	36	4,8
250-600	595	560	65	450	64	4,7
315-600	595	560	65	600	64	4,6
400-600	595	560	65	600	81	4,8

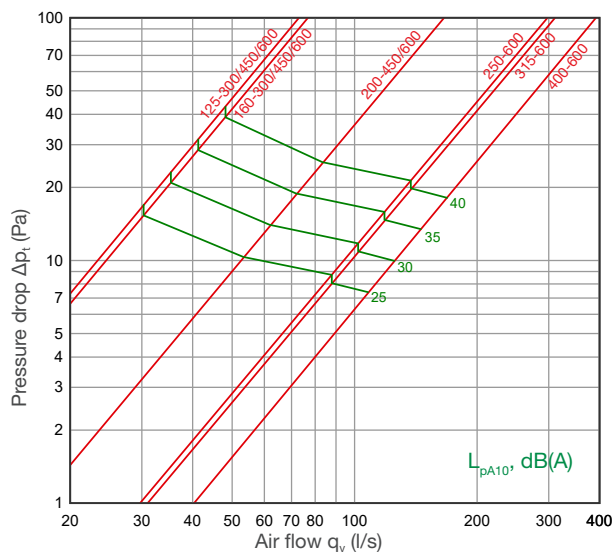
Nozzles area (A/C mm)



Technical data

Diffuser without plenum box

DKZ

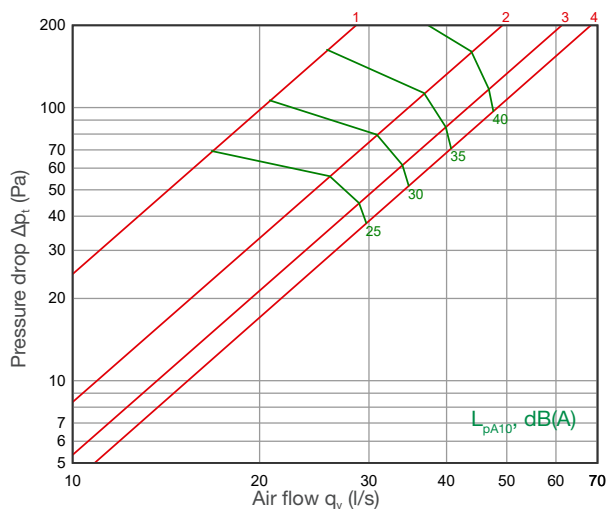


Sound level correction factor K_{akt} (dB)								
Tuote	63	125	250	500	1k	2k	4k	8k
DKZ125	-9	-6	-4	-1	-3	-16	-25	-34
DKZ 160	-9	-6	-4	-1	-3	-16	-25	-34
DKZ 200	-9	-6	-4	-1	-3	-16	-25	-34
DKZ 250	-9	-6	-4	-1	-3	-16	-25	-34
DKZ 315	-9	-6	-4	-1	-3	-16	-25	-34
DKZ 400	-9	-6	-4	-1	-3	-16	-25	-34

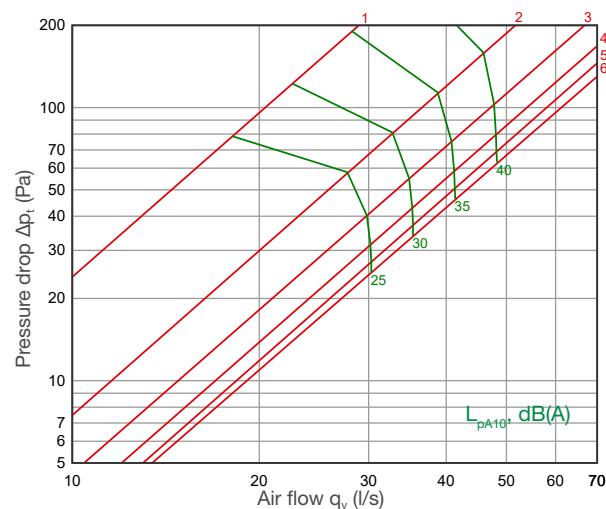
Sound attenuation (dB)								
Mean frequency of octave band (Hz)								
Tuote	63	125	250	500	1k	2k	4k	8k
DKZ125	21	15	8	8	3	4	5	6
DKZ 160	20	14	7	8	2	4	5	6
DKZ 200	20	11	6	3	2	3	4	6
DKZ 250	18	10	4	3	2	4	4	6
DKZ 315	15	9	4	2	2	4	6	8
DKZ 400	15	9	5	2	2	3	6	9

Diffuser with plenum box

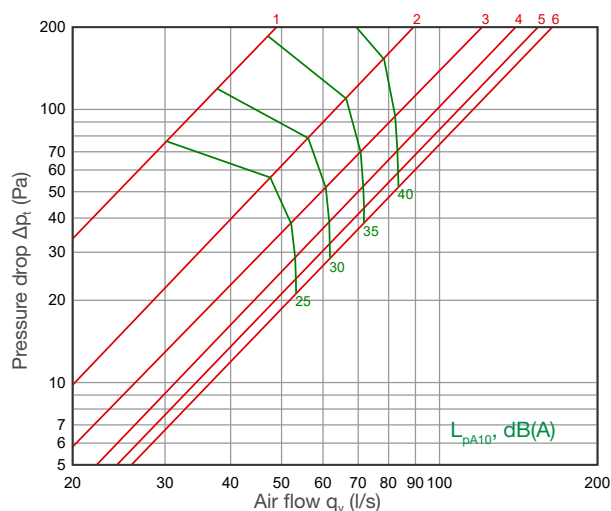
DKZ 125-300/450/600 + SKDM 100/125



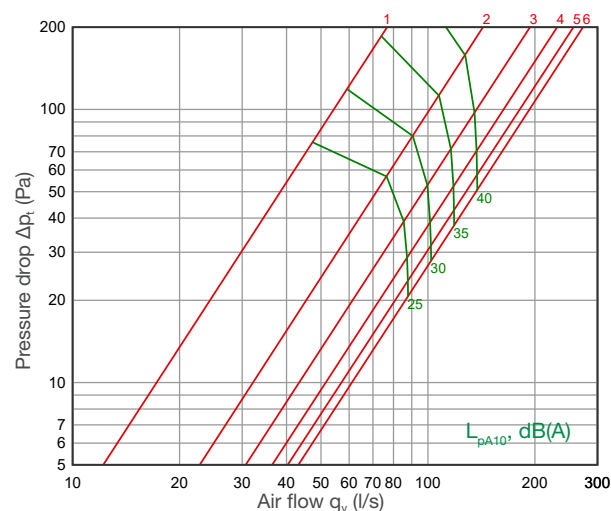
DKZ 160-300/450/600 + SKDM 125/160



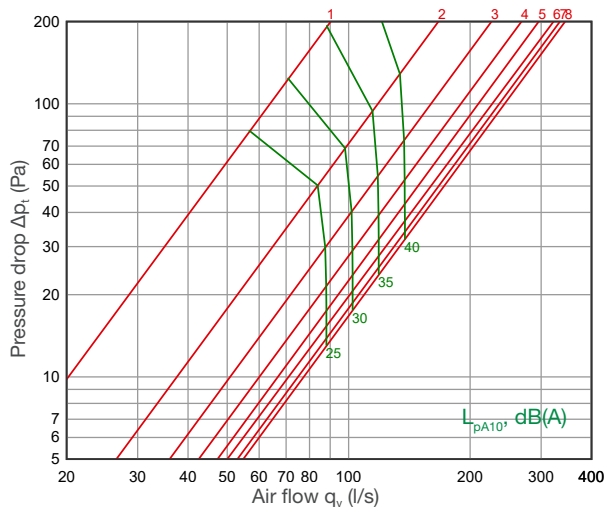
DKZ 200-450/600 + SKDM 160/200



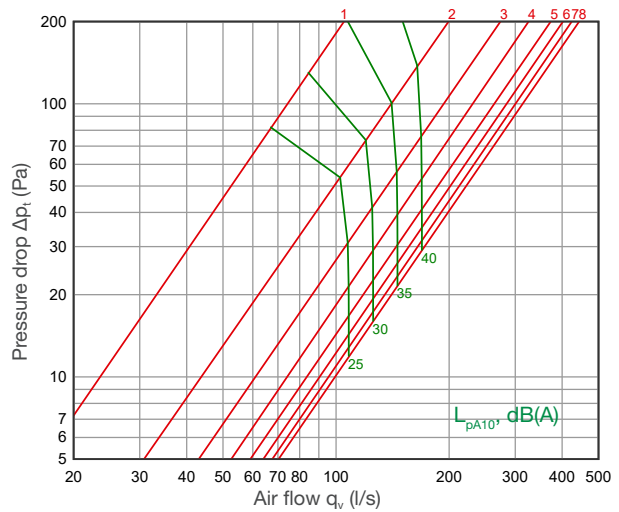
DKZ 250-600 + SKDM 200/250



DKZ 315-600 + SKDM 250/315



DKZ 400-600 + SKDM 315/400



Acoustic data, $L_w = L_{p10A} + K_{okt}$

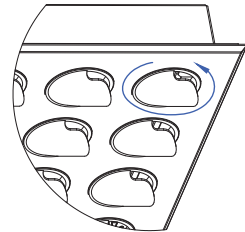
			Sound level correction factor K_{okt} (dB)							
Product	Position	K-factor	63	125	250	500	1k	2k	4k	8k
DKZ 125 + SKDM 100/125	s = 1	2,1	0	0	0	-2	-5	-10	-13	-18
	s = 2	3,8	1	1	0	-1	-4	-13	-17	-22
	s = 3	5,2	0	1	-1	-1	-4	-15	-22	-28
	s = 4	6,3	-1	0	-2	-1	-3	-16	-24	-31
DKZ 160 + SKDM 125/160	s = 1	2,2	-2	-2	-1	-2	-5	-10	-12	-17
	s = 2	4,1	-3	-2	-2	-1	-4	-13	-18	-23
	s = 3	5,8	-6	-4	-3	-1	-3	-15	-23	-29
	s = 4	7,3	-7	-5	-4	-1	-3	-16	-24	-32
	s = 5	8,5	-7	-5	-4	-1	-3	-16	-25	-33
	s = 6	9,6	-8	-5	-4	-1	-3	-16	-25	-34
DKZ 200 + SKDM 160/200	s = 1	3,6	3	1	-1	-2	-5	-10	-12	-17
	s = 2	6,8	2	1	-2	-1	-4	-13	-17	-23
	s = 3	9,6	-1	-1	-3	-1	-3	-15	-22	-29
	s = 4	12,1	-2	-2	-4	-1	-3	-16	-24	-32
	s = 5	14,2	-2	-2	-4	-1	-3	-16	-25	-33
	s = 6	15,9	-3	-2	-4	-1	-3	-16	-25	-34
DKZ 250 + SKDM 200/250	s = 1	5,6	3	1	-1	-2	-5	-10	-12	-17
	s = 2	10,7	3	1	-1	-1	-4	-13	-17	-22
	s = 3	15,1	0	0	-3	-1	-3	-15	-22	-28
	s = 4	19,0	-1	-1	-3	-1	-3	-16	-24	-32
	s = 5	22,2	-2	-2	-4	-1	-3	-16	-25	-33
	s = 6	24,9	-2	-2	-4	-1	-3	-16	-25	-34
DKZ 315 + SKDM 250/315	s = 1	6,6	2	1	-1	-2	-5	-10	-12	-18
	s = 2	12,8	-1	-1	-3	-1	-3	-14	-20	-26
	s = 3	18,4	-3	-2	-4	-1	-3	-16	-24	-32
	s = 4	23,5	-4	-3	-4	-1	-3	-16	-25	-33
	s = 5	28,1	-4	-3	-4	-1	-3	-16	-25	-34
	s = 6	32,1	-4	-3	-4	-1	-3	-16	-25	-34
	s = 7	35,7	-4	-3	-4	-1	-3	-16	-25	-34
	s = 8	38,7	-4	-3	-4	-1	-3	-16	-25	-34
DKZ 400 + SKDM 315/400	s = 1	7,8	2	0	-1	-2	-5	-9	-12	-17
	s = 2	15,1	-1	-2	-3	-1	-3	-14	-19	-25
	s = 3	22,0	-3	-3	-4	-1	-3	-16	-24	-31
	s = 4	28,4	-4	-3	-4	-1	-3	-16	-25	-33
	s = 5	34,5	-4	-3	-4	-1	-3	-16	-25	-34
	s = 6	40,1	-4	-3	-4	-1	-3	-16	-25	-34
	s = 7	45,2	-4	-3	-4	-1	-3	-16	-25	-34
	s = 8	49,9	-4	-3	-4	-1	-3	-16	-25	-34

DKZ	Asend	Sound attenuation (dB)							
		Mean frequency of octave band (Hz)							
DKZ 125 + SKDM 100/125	s = 1	20	15	10	17	24	23	22	20
	s = 4	19	13	10	18	21	19	22	17
DKZ 160 + SKDM 125/160	s = 1	17	14	10	15	21	20	20	19
	s = 6	16	13	9	15	19	17	19	17
DKZ 200 + SKDM 160/200	s = 1	15	13	9	12	18	16	18	18
	s = 6	13	13	8	13	17	16	17	18
DKZ 250 + SKDM 200/250	s = 1	12	13	9	10	15	13	16	18
	s = 6	10	13	7	11	14	14	15	18
DKZ 315 + SKDM 250/315	s = 1	10	12	9	8	12	9	14	17
	s = 8	8	13	7	9	12	12	13	18
DKZ 400 + SKDM 315/400	s = 1	8	12	9	6	9	6	12	16
	s = 8	5	14	6	7	10	10	11	19

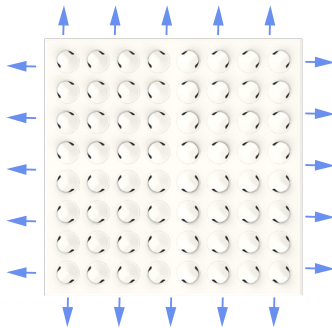
Nozzle settings

The nozzles are located on the front panel of the diffuser, allowing variable options for different air flow patterns. Depending on rooms characteristics and supply air temperature, the air flow can be distributed either horizontally or vertically. By facing nozzles to the sides, horizontal air flow is enabled. By facing nozzles to the center, vertical air flow is enabled.

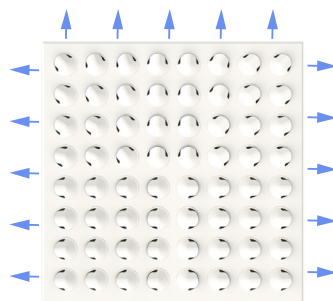
The nozzles are preset on 4-way diffusion.



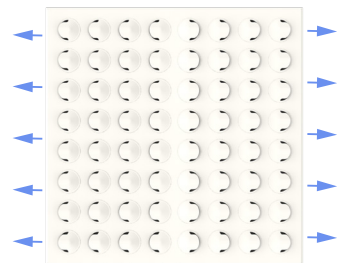
1. 4-way



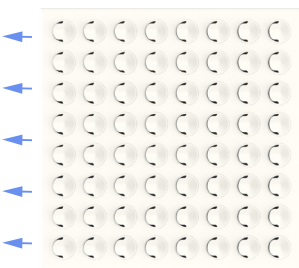
2. 3-way



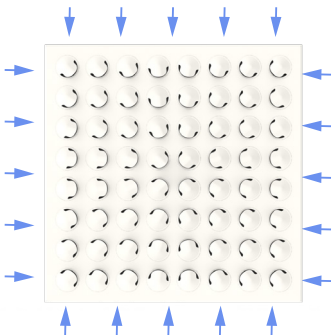
3. 2-way



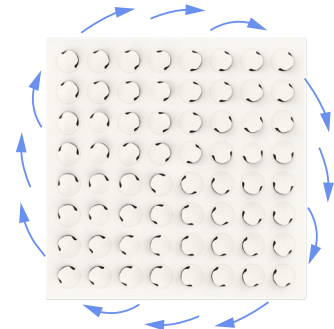
4. 1-way



5. Vertical



6. Swirl



Product codes

	DKZ	-	d	-	A	-	RAL 7000
Product	_____		_____		_____		_____
Diameter d	_____				_____		_____
Diffuser size A	_____						_____
RAL colour	_____						

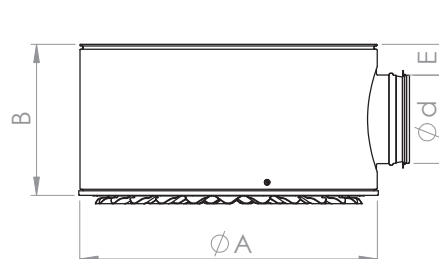
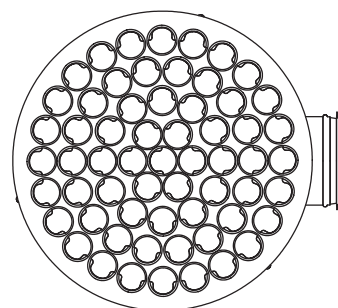
RAL colour: if other than standard colour. Standard colour RAL 9003.

Example: DKZ 200-600

DEZ Nozzle diffuser

DEZ is a round nozzle diffuser, which is designed to provide effective supply air distribution with low noise level, while also avoiding draft in the occupied zone. DEZ diffuser has an integrated circular plenum box, and may be used for either supply or exhaust air. Diffusers front plate is easily removable, making the cleaning process more comfortable and less time consuming.

- Nozzles can be rotated by 360°
- Suitable for rooms without false ceiling
- Suitable for CAV and VAV systems
- High mixing ratio
- Can be used for heating, cooling and isothermal supply air
- Multiple air distribution patterns:
 - horizontal
 - swirl
 - vertical
- Round plenum box
- Cylindrical air volume regulator
- Easy access front panel
- Easy to clean
- Low noise level
- Available in alternative colors
- Duct sizes Ø100-315 mm



Material and surface treatment

Nozzle diffuser DEZ is manufactured from galvanized steel and the nozzles are from ABS. The front plate and nozzles have a white (RAL 9003), grey (RAL 7000) or black (RAL 9005) finish by standard, but are also available in any other RAL colours.

Nominal size	ØA	B	E	Nozzles, pc	Weight, kg
100	435	226	62	37	4,9
125	435	226	50	37	5,1
160	541	273	55	61	7,2
200	631	322	60	85	10,0
250	631	379	64	85	11,2
315	745	471	77	121	15,2

Nozzle pattern on different sizes



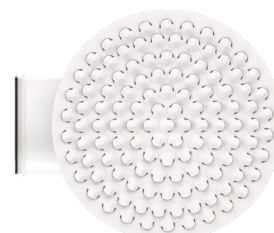
DEZ 100 ja 125



DEZ 160



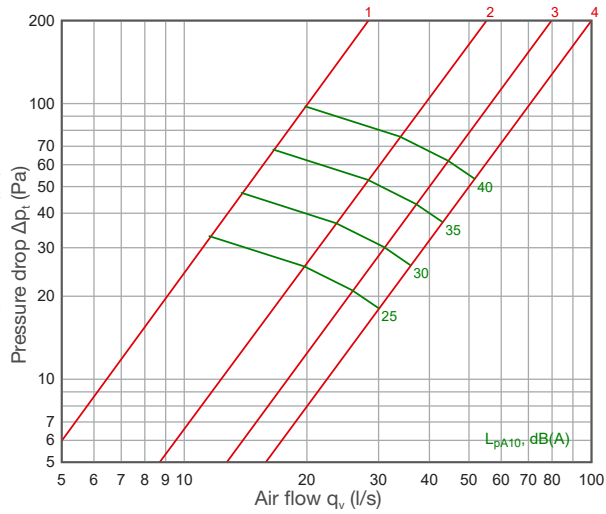
DEZ 200 ja 250



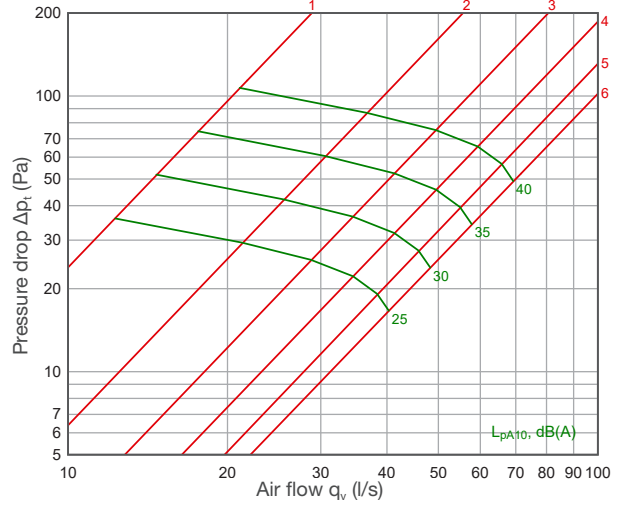
DEZ 315

Technical data

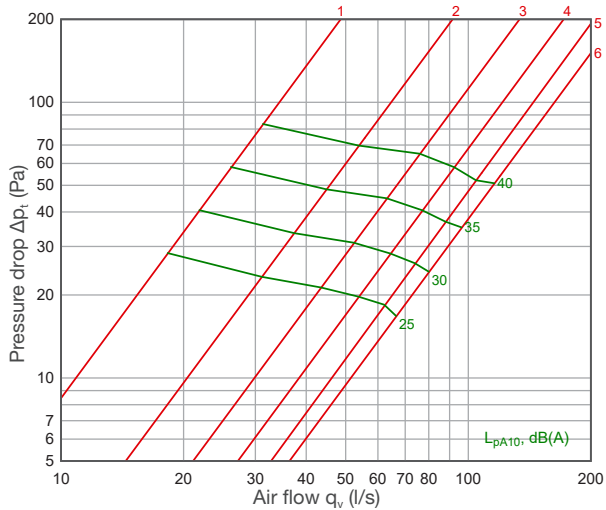
DEZ 100



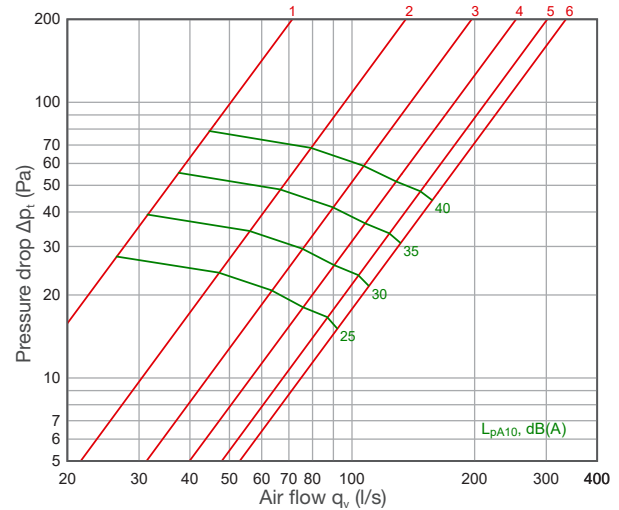
DEZ 125



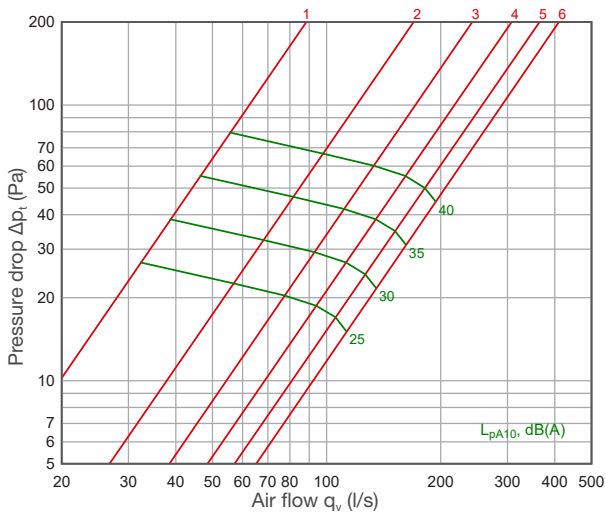
DEZ 160



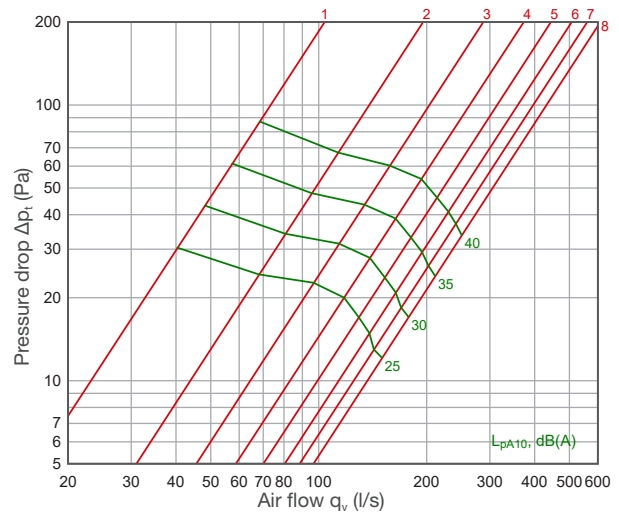
DEZ 200



DEZ 250



DEZ 315



11

NORDdiffuser | DEZ

Acoustic data

DEZ	Position	k-factor	Sound level correction factor K_{okt} (dB)							
			63	125	250	500	1k	2k	4k	8k
DEZ 100	s = 1	2,0	-8	0	1	-4	-4	-8	-13	-22
	s = 2	4,0	-7	2	3	-3	-5	-11	-16	-25
	s = 3	5,9	-6	3	4	-2	-6	-13	-18	-27
	s = 4	7,5	-5	4	5	-2	-6	-14	-19	-28
DEZ 125	s = 1	2,1	-9	-1	0	-4	-3	-7	-11	-20
	s = 2	4,1	-8	1	2	-3	-4	-9	-14	-23
	s = 3	6,0	-7	2	3	-3	-5	-11	-16	-25
	s = 4	7,9	-6	3	4	-3	-5	-12	-17	-26
	s = 5	9,5	-6	3	4	-2	-6	-13	-18	-27
	s = 6	10,7	-5	4	5	-2	-6	-14	-19	-28
DEZ 160	s = 1	3,5	-8	-1	-1	-4	-4	-8	-14	-21
	s = 2	6,7	-7	1	2	-3	-5	-10	-16	-25
	s = 3	9,9	-6	3	4	-3	-6	-12	-17	-26
	s = 4	12,9	-5,0	5	4	-2	-6	-13	-18	-27
	s = 5	15,6	-5,0	4	4	-2	-7	-12	-19	-27
	s = 6	17,7	-5,0	4	5	-2	-7	-14	-20	-28
DEZ 200	s = 1	5,1	-4	3	0	-4	-4	-8	-14	-23
	s = 2	9,9	-1	6	2	-3	-6	-10	-16	-25
	s = 3	14,7	-1	7	3	-3	-6	-12	-18	-27
	s = 4	19,4	-1	6	3	-2	-7	-13	-20	-28
	s = 5	23,6	-1	6	3	-2	-7	-14	-20	-29
	s = 6	26,8	-1	6	3	-2	-7	-15	-22	-29
DEZ 250	s = 1	6,3	-4	3	-1	-4	-4	-6	-12	-21
	s = 2	12,5	-3	5	1	-3	-5	-9	-15	-24
	s = 3	18,5	-2	6	2	-3	-6	-10	-17	-26
	s = 4	24,4	-1	6	3	-3	-6	-12	-18	-27
	s = 5	30,0	0	7	3	-2	-7	-13	-19	-28
	s = 6	35,3	0	7	4	-2	-7	-13	-20	-29
DEZ 315	s = 1	7,4	-3	2	-4	-2	-4	-9	-15	-22
	s = 2	14,2	-1	5	-2	-1	-5	-11	-17	-26
	s = 3	21,5	0	5	0	-1	-6	-13	-19	-27
	s = 4	29,0	0	6	1	0	-7	-15	-22	-29
	s = 5	36,0	2	7	1	0	-7	-16	-23	-29
	s = 6	43,1	1	6	0	0	-7	-17	-24	-31
	s = 7	50,0	1	6	0	0	-7	-15	-24	-32
	s = 8	56,4	2	6	0	0	-7	-17	-24	-32

11

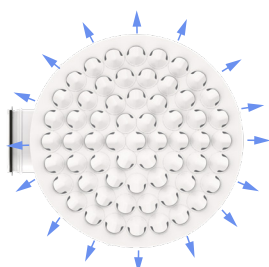
NORDdiffuser | DEZ

DEZ	Position	Sound attenuation (dB)							
		Mean frequency of octave band (Hz)							
		63	125	250	500	1k	2k	4k	8k
DEZ 100	s = 1	24	14	13	12	12	14	14	18
	s = 4	23	13	11	11	9	8	10	12
DEZ 125	s = 1	22	12	12	12	12	14	14	18
	s = 6	21	12	10	11	9	8	10	12
DEZ 160	s = 1	19	10	11	11	12	14	14	18
	s = 6	19	10	11	10	7	8	11	13
DEZ 200	s = 1	16	10	13	9	9	11	13	17
	s = 6	13	9	10	9	6	7	9	11
DEZ 250	s = 1	13	9	13	9	9	11	13	17
	s = 6	12	8	11	9	6	7	9	11
DEZ 315	s = 1	9	8	13	11	12	14	16	20
	s = 8	9	7	11	9	8	8	12	14

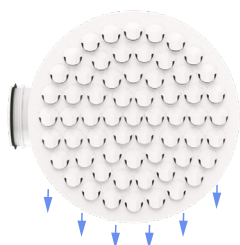
Nozzle settings

The nozzles are located on the front panel of the diffuser, allowing variable options for different air flow patterns. Depending on rooms characteristics and supply air temperature, the air flow can be distributed either horizontally, vertically or by swirl. By facing nozzles to the sides, horizontal air flow is enabled. By facing nozzles to the center, vertical air flow is enabled. By facing nozzles circularly, swirl air flow is enabled.

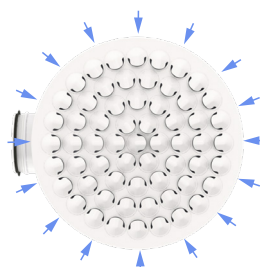
The nozzles are preset on 4-way diffusion.



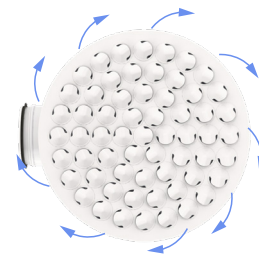
1. 4-way



2. 1-way

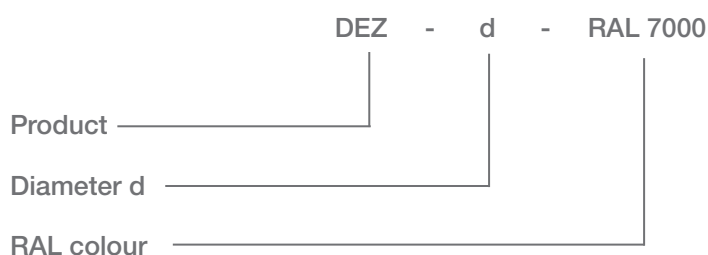


3. Vertical



4. Swirl

Product codes



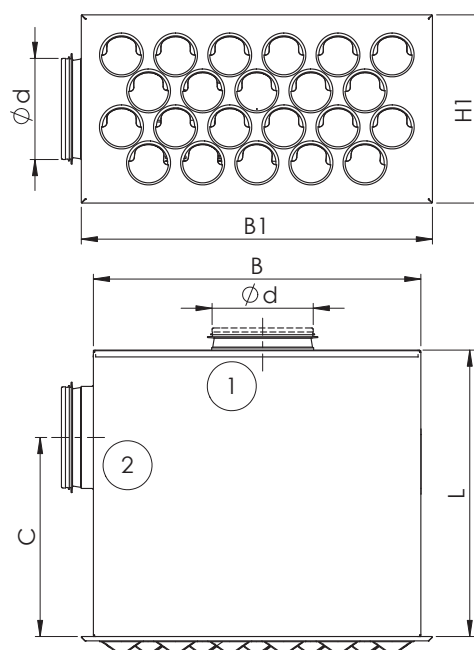
RAL colour: if other than standard colour. Standard colour RAL 9003.

Example: DEZ 200 RAL 9003

DRZ Nozzle diffuser

DRZ is a rectangular nozzle diffuser with integrated plenum box, which is designed to provide effective supply air distribution at low noise level, while also avoiding draft in the occupied zone.

- Nozzles can be rotated by 360°
- Suitable for wall installation
- Suitable for CAV and VAV systems
- High mixing ratio
- Can be used for heating, cooling and isothermal supply air
- Multiple air distribution patterns:
 - horizontal
 - vertical
- Easy access front panel
- Easy to clean
- With integrated plenum box
- Exact measuring and adjusting of air volumes



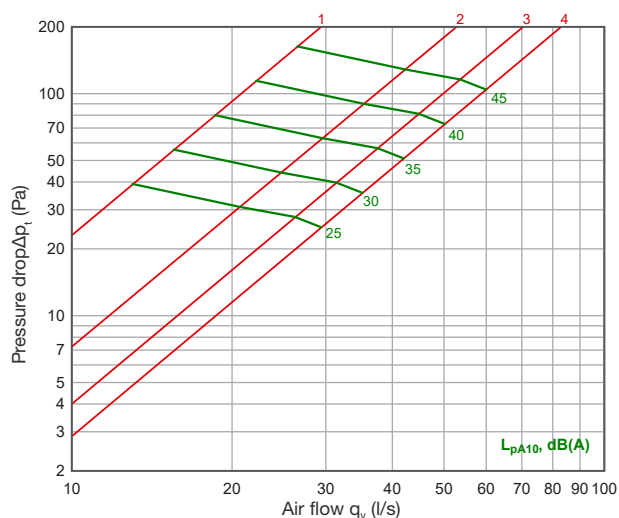
Material and dimensions

Nozzle diffuser box and front panel is manufactured from galvanized steel and the nozzles are from ABS. The front plate and nozzles have a white (RAL 9003), grey (RAL 7000) or black (RAL 9005) finish by stand-ard, but are also available in any other RAL colours.

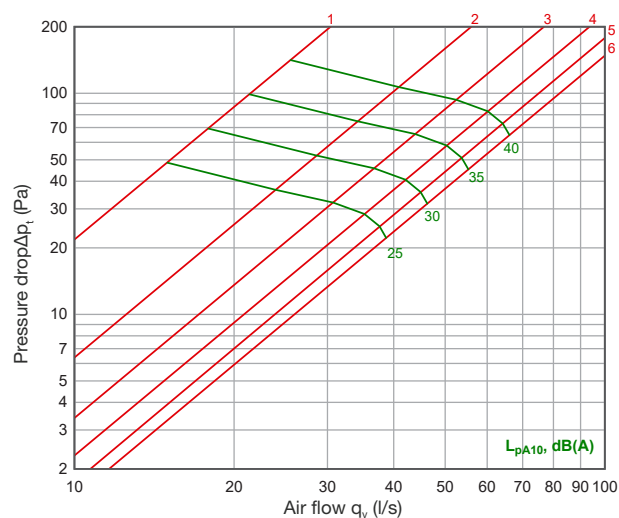
Nominal size Bx H mm	B	H	d	B1	H1	Nozzles, pcs	L	C	Weight, kg
400x150-1	400	150	100	431	181	17	350	230	4,8
400x200-1	400	200	125	431	231	22	380	243	5,9
500x200-1	500	200	160	531	231	30	415	260	6,9
600x250-1	600	250	200	631	281	48	435	280	9,2
750x300-1	750	300	250	781	331	75	415	305	10,5
400x150-2	400	150	100	431	181	17	331	230	4,8
400x200-2	400	200	125	431	231	22	356	243	5,9
500x200-2	500	200	160	531	231	30	391	260	6,9
600x250-2	600	250	200	631	281	48	431	280	9,2
750x300-2	750	300	250	781	331	75	481	305	10,5

Technical data

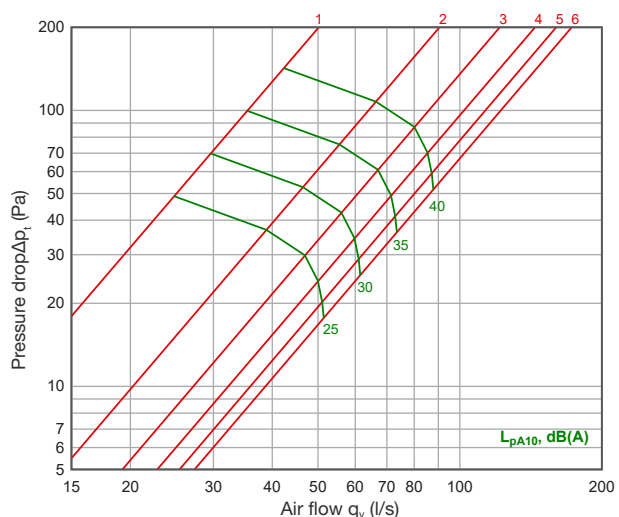
DRZ 400x150



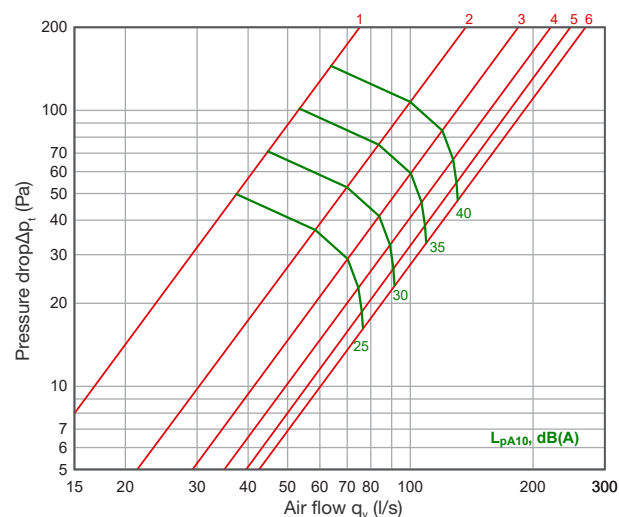
DRZ 400x200



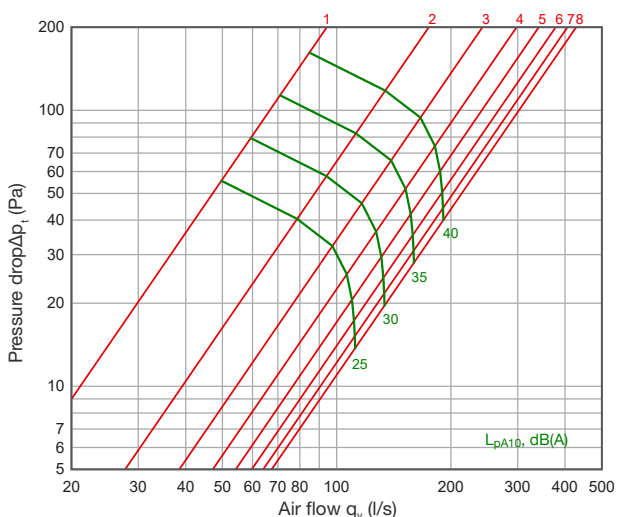
DRZ 500x200



DRZ 600x250



DRZ 750x300



Acoustic data

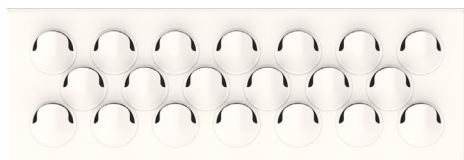
DRZ	Asento	Sound level correction factor K_{okt} (dB)							
		63	125	250	500	1k	2k	4k	8k
DRZ 400x150-1	s = 1	-7	-3	-2	-2	-5	-9	-16	-21
	s = 2	-6	-1	0	-1	-5	-12	-20	-27
	s = 3	-5	0	2	-1	-5	-13	-22	-30
	s = 4	-4	1	2	0	-5	-14	-24	-32
DRZ 400x200-1	s = 1	-8	-5	-4	-3	-5	-8	-13	-17
	s = 2	-7	-2	-1	-2	-5	-10	-17	-23
	s = 3	-6	-1	0	-1	-5	-12	-20	-26
	s = 4	-5	0	1	-1	-5	-13	-21	-29
	s = 5	-5	1	2	-1	-5	-13	-23	-30
	s = 6	-4	1	2	0	-5	-14	-24	-32
DRZ 500x200-1	s = 1	-7	-3	-3	-3	-6	-8	-11	-16
	s = 2	-5	-1	-1	-2	-5	-10	-15	-22
	s = 3	-4	1	1	-2	-5	-12	-18	-25
	s = 4	-3	2	2	-1	-5	-13	-19	-27
	s = 5	-3	2	3	-1	-5	-13	-21	-29
	s = 6	-3	3	3	-1	-5	-14	-22	-31
DRZ 600x250-1	s = 1	-5	-1	-2	-3	-7	-8	-9	-14
	s = 2	-4	1	1	-3	-6	-10	-13	-20
	s = 3	-3	2	1	-2	-6	-11	-15	-23
	s = 4	-2	3	2	-2	-6	-12	-17	-25
	s = 5	-1	4	3	-1	-6	-13	-18	-27
	s = 6	-1	5	4	-1	-7	-14	-19	-29
DRZ 750x300-1	s = 1	-6	-2	-3	-4	-7	-7	-7	-12
	s = 2	-4	0	-1	-3	-6	-9	-11	-18
	s = 3	-3	1	0	-2	-6	-10	-14	-21
	s = 4	-3	2	1	-2	-6	-11	-16	-24
	s = 5	-2	3	2	-2	-6	-12	-17	-25
	s = 6	-2	4	3	-1	-6	-13	-18	-27
	s = 7	-1	4	3	-1	-6	-14	-19	-28
	s = 8	-1	5	4	-1	-6	-15	-20	-29

DRZ	Asend	Mürasumbuvus (dB) Oktaavriba kesksagedus (Hz)							
		63	125	250	500	1k	2k	4k	8k
DRZ 400x150-1	s = 1	16	12	8	8	10	9	13	20
	s = 4	17	11	8	8	8	6	11	15
DRZ 400x200-1	s = 1	15	11	7	7	10	10	13	19
	s = 6	15	10	7	7	8	6	10	14
DRZ 500x200-1	s = 1	13	10	6	7	9	10	13	19
	s = 6	13	9	6	5	8	7	9	13
DRZ 600x250-1	s = 1	13	7	5	6	8	10	13	18
	s = 6	12	7	5	4	6	6	8	12
DRZ 750x300-1	s = 1	15	5	5	6	8	11	14	18
	s = 8	12	4	4	3	5	6	8	11

Nozzle settings

The nozzles are located on the front panel of the diffuser, allowing variable options for different air flow patterns. Depending on rooms characteristics and supply air temperature, the air flow can be distributed either horizontally or vertically. The nozzles are preset on 1-way diffusion.

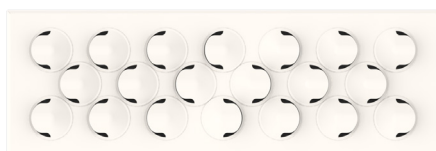
1. 1-way



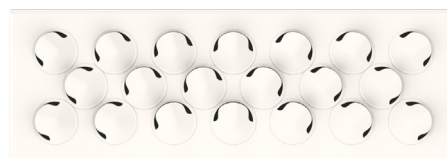
2. 1-side



3. 2-side



4. 3-way



Product codes

	DRZ	-	BxH	-	d	-	1	-	RAL 7000
Product									
Dimensions BxH									
Diameter d									
Duct connection									
1- duct connection rear									
2- duct connection side									
RAL colour									
RAL colour: if other than standard colour. Standard colour RAL 9003.									

Example: DRZ 300x150/100-1-1 RAL 9003

DDR Diffuser

Diffuser for supply air for large air quantities.
Wall or ceiling installation. Diffusion pattern adjustable between narrow and wide by rotating the inner cone.
Suitable also for heated supply air.

	l/s		
	30 dB(A)	35 dB(A)	40 dB(A)
DDR 200	150	180	220
DDR 250	230	280	390
DDR 315	350	410	580
DDR 400	540	610	900
DDR 500	700	850	1150

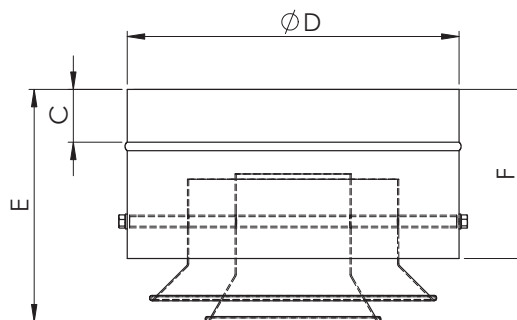


Material and sizes

Manufactured of galvanized steel and coated white (RAL 9003). Available in other RAL colours.

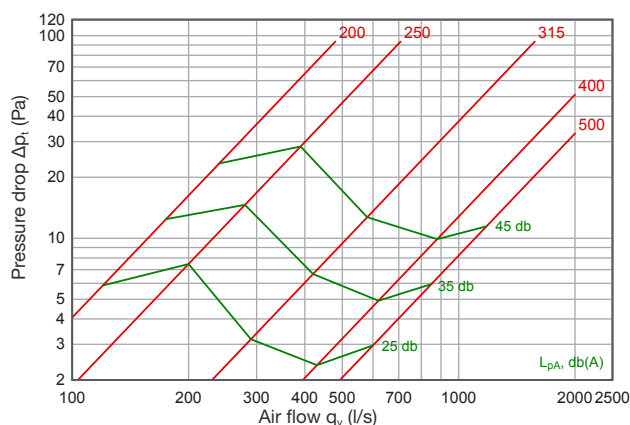
Nominal-size, mm	*ØD	F	E	C	Weight, kg
200	200	110	150	35	2,5
250	250	140	190	50	3
315	315	160	220	50	4,5
400	400	200	280	50	6,8
500	500	270	375	65	11

*ØD duct size.

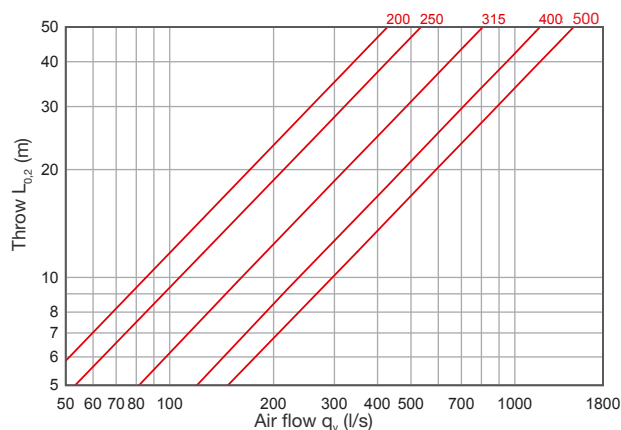


Technical data

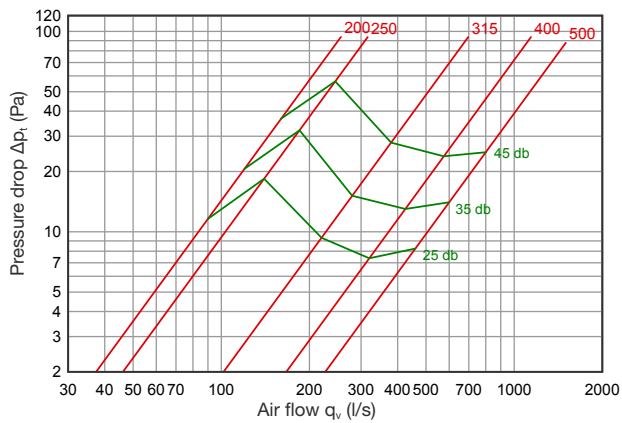
DDR wide air jet dispersal



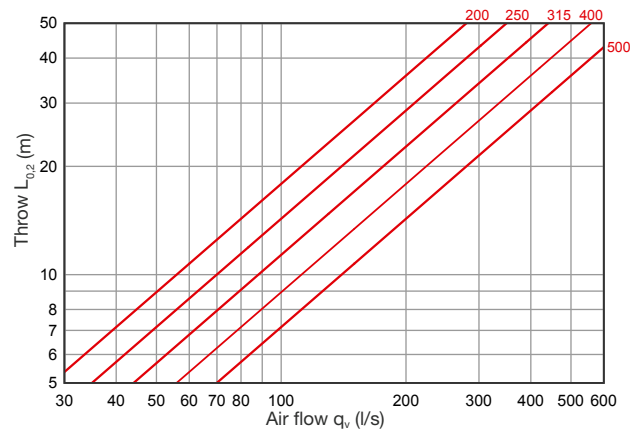
DDR wide air jet dispersal



DDR narrow air jet dispersal



DDR narrow air jet dispersal



Acoustic data

Wide air jet dispersal

L_w (dB)

Product	Sound level correction factor K_{okt} (dB)						
	125	250	500	1k	2k	4k	8k
DDR 200	3	2	-1	0	-3	-12	-29
DDR 250	1	2	-1	1	-4	-11	-27
DDR 315	3	1	-1	2	-5	-16	-28
DDR 400	7	1	1	1	-7	-18	-29
DDR 500	12	2	3	-2	-9	-17	-30

Narrow air jet dispersal

L_w (dB)

Product	Sound level correction factor K_{okt} (dB)						
	125	250	500	1k	2k	4k	8k
DDR 200	2	-1	-2	1	-3	-16	-31
DDR 250	0	-1	-4	2	-5	-18	-31
DDR 315	2	-1	-2	3	-9	-19	-31
DDR 400	4	-1	2	2	-9	-19	-31
DDR 500	7	-1	3	2	-22	-22	-32

ΔL , dB

Product	Sound attenuation (dB)						
	Mean frequency of octave band (Hz)						
	125	250	500	1k	2k	4k	8k
DDR 200	13	7	3	1	-	-	-
DDR 250	11	6	2	-	-	-	-
DDR 315	9	4	2	-	-	-	-
DDR 400	7	4	1	-	-	-	-
DDR 500	5	2	-	-	-	-	-

Product codes

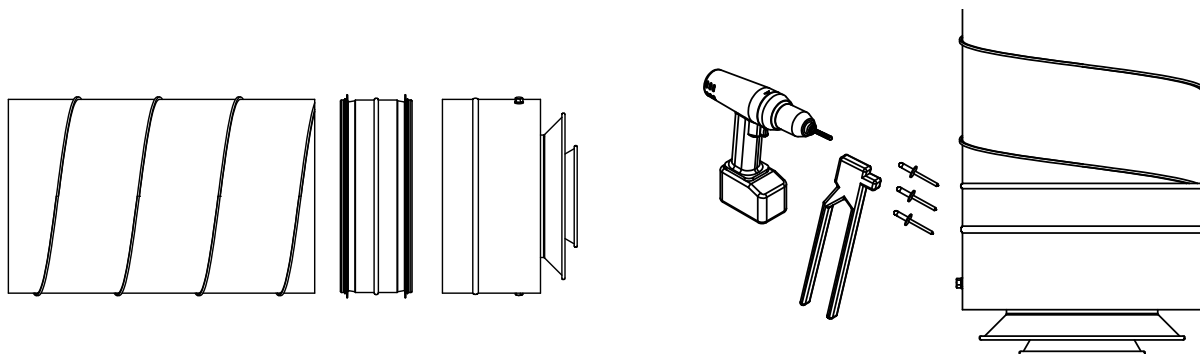


RAL colour: if other than standard colour. Standard colour RAL 9003.

Example: DDR 200

Installation and maintenance

Installation directly to duct or SKDM plenum box using an inner coupling and fixed with rivets.



Clean visible parts with a damp cloth.

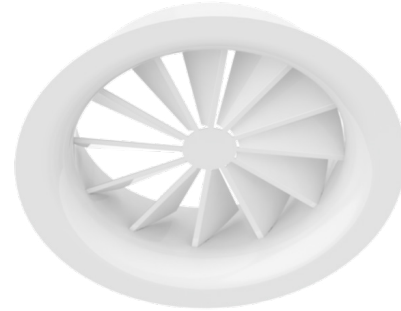
DPR Whirl diffuser

Diffuser for supply air for ceiling or free hanging installation.

Features:

- horizontal radial whirl air jet
- installation in ceiling or free hanging

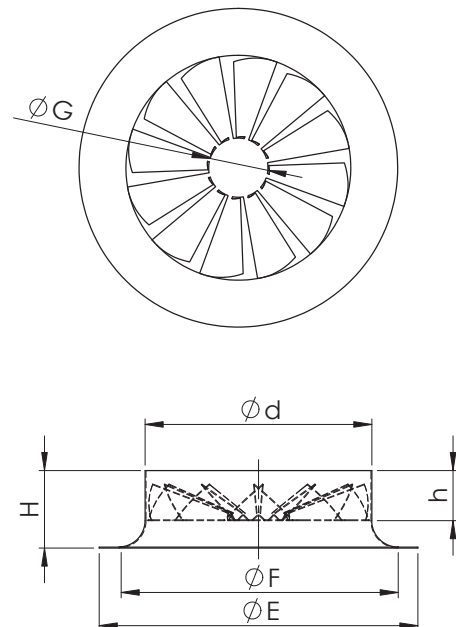
Suitable for hospitals, offices etc.



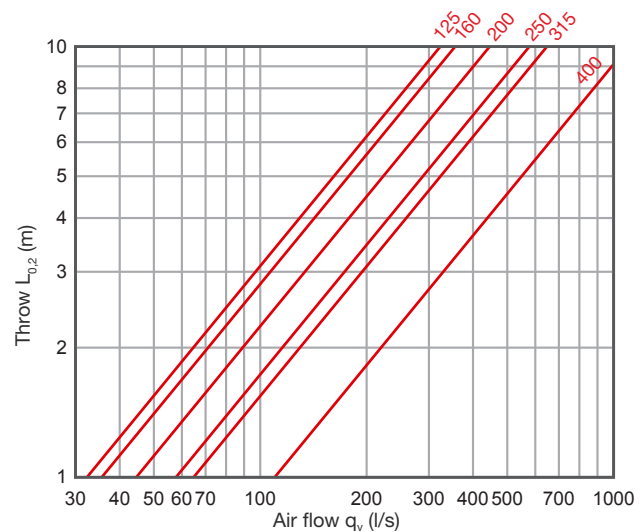
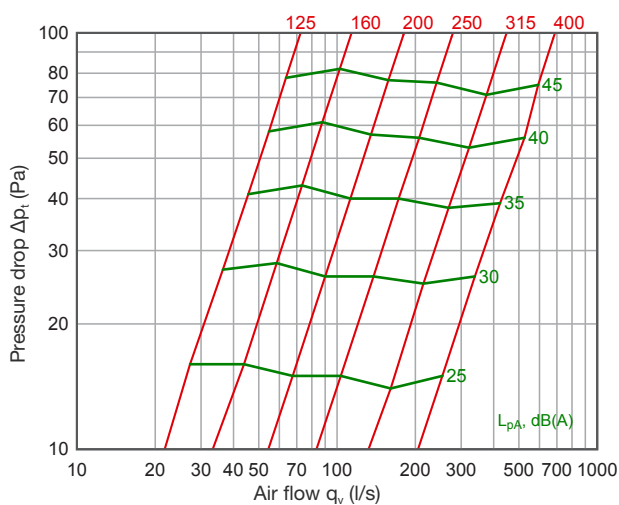
Structure and dimensions

Manufactured of galvanized steel and coated white (RAL 9003).

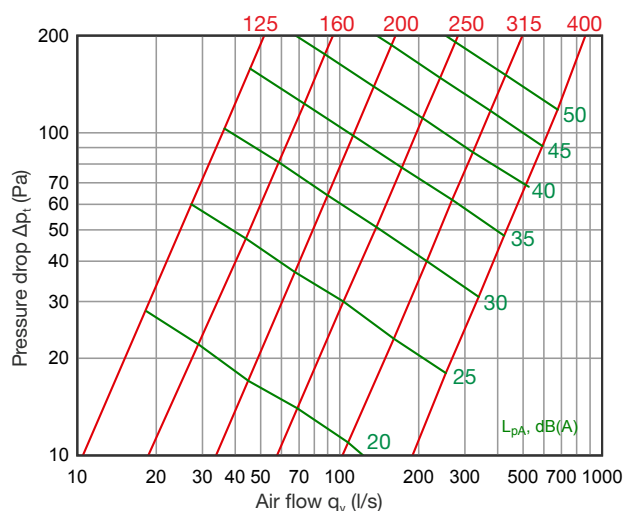
Nomi- nal-size Ød	d	E	F	G	h	H
125	122	225	195	28	55	82
160	157	250	220	50	55	82
200	197	300	270	50	55	82
250	247	350	320	65	55	85
315	312	415	375	87	55	85
400	398	520	470	87	60	107



Technical data



DPR with balancing mesh



Product codes



Example: DPR 125

Installation

Directly to duct with rivets.

11

Adjustment

It is not possible to control the air flows in the DPR diffuser itself. It is recommended to connect a diffuser to the SKDM plenum box for air volume control and measurement.

Maintenance

Clean visible parts with a damp cloth.

DSP Jet pipe



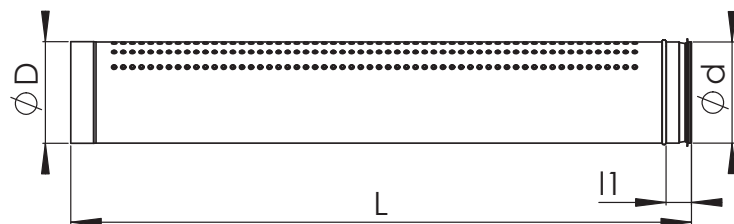
Ceiling-installed air distribution system.

Features:

- suitable for schools, offices, meeting halls, sports halls and warehouses
- especially designed for cooling
- large induction rate
- easy to install, measure, regulate and maintenance

Structure and dimensions

Nomi-nal-size	l_1	L	Weight, kg
160	29	1245	3,5
200	29	1245	4,5
250	50	1245	5,5
315	50	1245	6,9
400	50	1245	8,7
500	65	1245	11



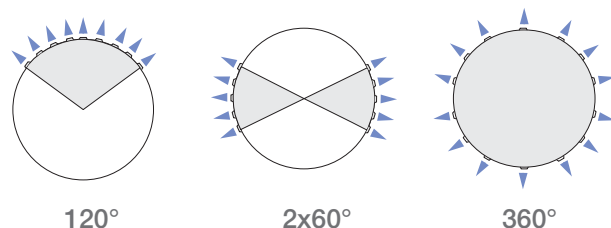
Standard material galvanized steel. The duct is patterned with a certain quantity of nozzles. One end with rubber gasket and the other end fits a duct. Other materials and finishes available. Extra ducts (DSPO, L = 1250) and parts available.

Principle

Designed for optimal cooling effect. Nozzles optimized for dynamic induction and provide effective distribution with low noise level. Each nozzle “takes in” a seven-fold quantity of room air, blending the supply air evenly and makes it possible to supply a large quantity of cooled air without draft to the occupied zone.

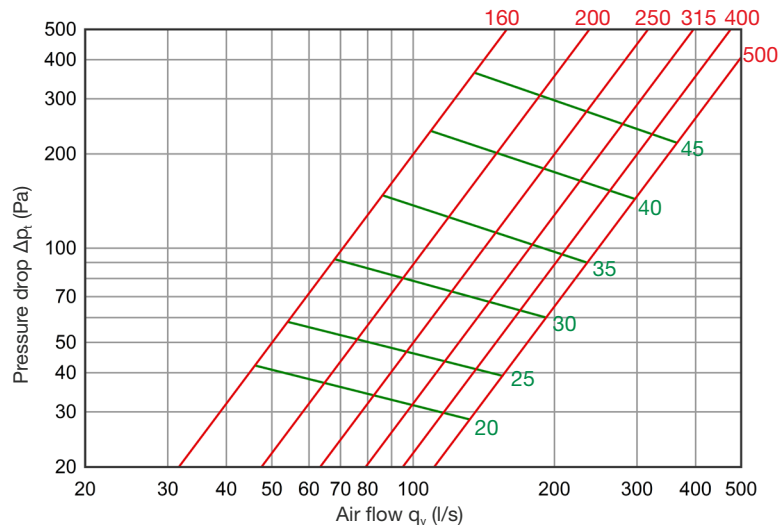
As seen on the diagram next page, the nozzles on the duct conform into various patterns (60°-360°).

Air flow depends on diameter. The proper function of the system requires controlled air flow speed. Air flow speed should not exceed 4 m/s.



	Upward 120°	Downward 120°	Horizontal 2x60°	Circular 360°
Min distance between nozzle pipes (m)	1,5	1,5	2,5	1,5
Installation height (m)	2,2-4,5	3-8	2,5-5	2,2-4,5
Ceiling distance from the duct (mm)	220	50	120	200
Supply air temperature, Δt (°C)	0-15	3-8	0-12	0-12

Technical data



System design

Dimensioning

The figure shows maximum air quantities for different sizes of ventiducts. Air quantity and pressure loss are freely selectable until 120 Pa. Figure on the next page shows noise level. If required air volume and pressure loss are defined in the order, the air volume will be preadjusted. If only air volume is defined the product will be supplied with a pressure loss of 60 Pa. Air quantity can be easily adjusted on site by closing or opening nozzles. Air quantity can be calculated as follows:

$$q_v = \sqrt{\Delta p} \times 0,030 \times \text{quantity}$$

q_v = required air volume, dm³/s

$\sqrt{\Delta p}$ = chosen/measured pressure loss, Pa

0,030 = k-value

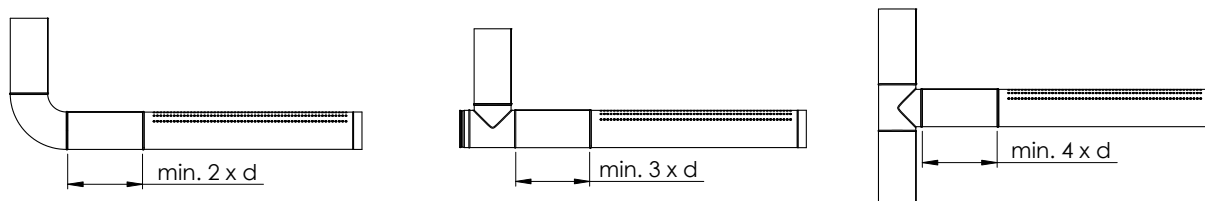
Qty = number of open nozzles

Product codes

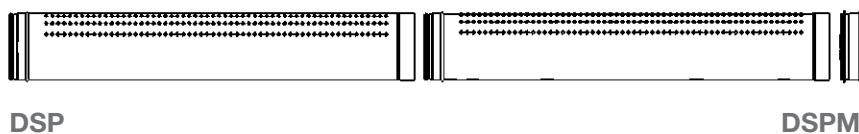
	DSP	-	H	-	d	-	120	-	1	-	l/s	-	RAL 7000
Product													
Material													
(-)													
ZM – zinc-magnesium coated steel													
H – acid-proof steel													
Diameter d													
Supply air pattern													
120, 2x60, 360													
Direction													
1 - upward													
2 - horizontal													
3 - downward													
Air quantity (l/s)													
RAL colours													

Installation

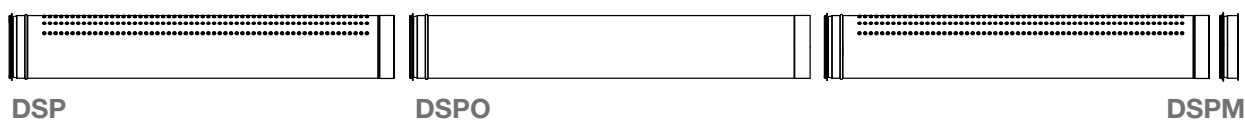
Ventiduct should not be installed too close to bends, tees other elements that may create turbulence and hence noise. Straight duct sections should be installed between ventiduct and potentially disruptive components, as shown in the illustration below. Air quantity is preadjusted and no extra dampers are needed.



Lengthening of duct



DSPO lengthening duct between two jet pipes



SKDM Plenum box

Designed to facilitate installing air supply units to duct systems.

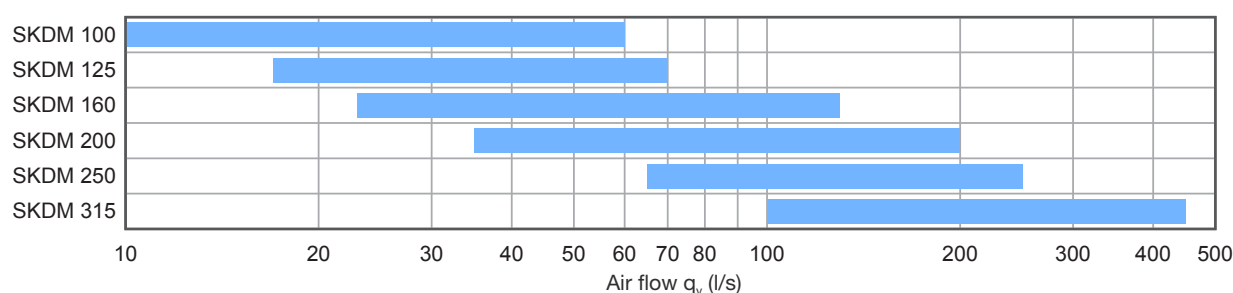
Makes it possible to adjust unit's air volume and attenuate sound from the duct system. Sizes for duct connections Ø 100-315 mm and unit connections Ø 125-400 mm.



Features:

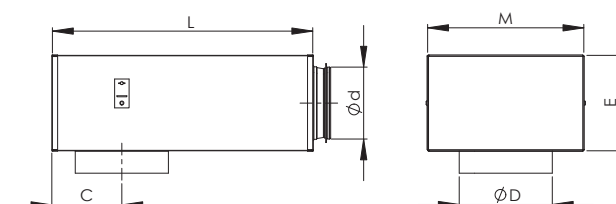
- exact measuring and adjusting of air quantities
- quiet even with high pressures
- removable measuring and adjusting unit

Quick selection



Materials and sizes

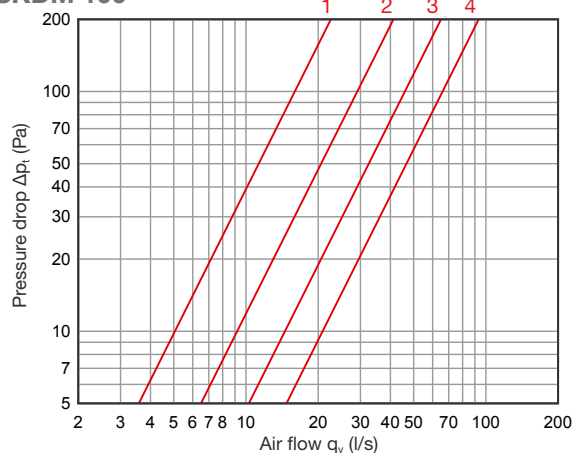
Manufactured of galvanized steel sheet.
Equipped with duct connection with gasket.
Synthetic sound absorption material.



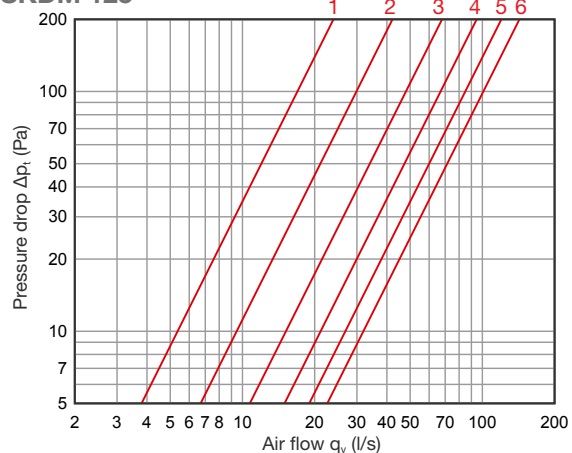
Nominal size	d	D	M	E	L	C
100/125	100	125	270	140	450	100
100/160	100	160	270	140	450	120
125/125	125	125	270	165	450	120
125/160	125	160	270	165	450	120
125/200	125	200	270	165	450	140
125/250	125	250	340	200	500	165
160/160	160	160	270	200	500	140
160/200	160	200	340	200	500	140
160/250	160	250	340	200	500	165
160/315	160	315	400	200	570	197
200/200	200	200	340	240	650	165
200/250	200	250	400	240	650	165
200/315	200	315	400	240	650	200
200/400	200	400	450	290	700	240
250/250	250	250	400	290	700	197
250/315	250	315	450	290	700	197
250/400	250	400	450	290	700	240
315/315	315	315	450	355	800	265
315/400	315	400	500	355	800	265
400/400	400	400	570	440	800	265

Technical data

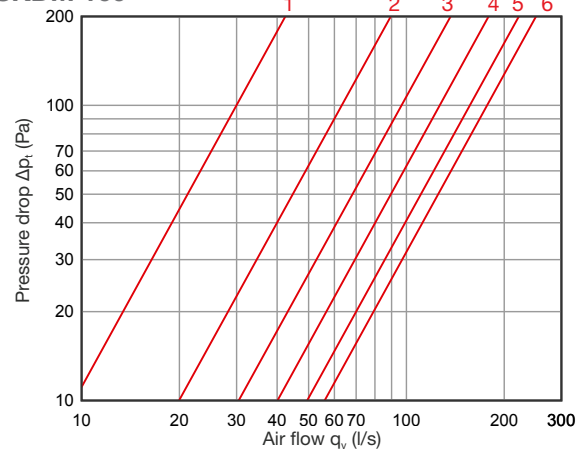
SKDM 100



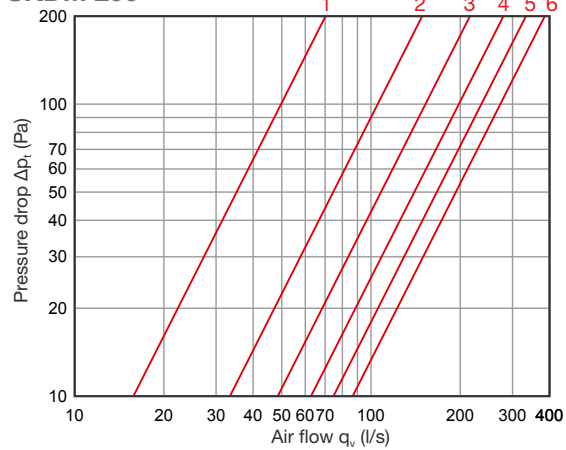
SKDM 125



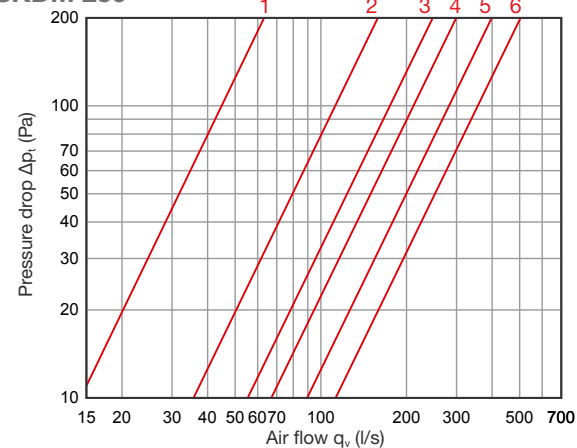
SKDM 160



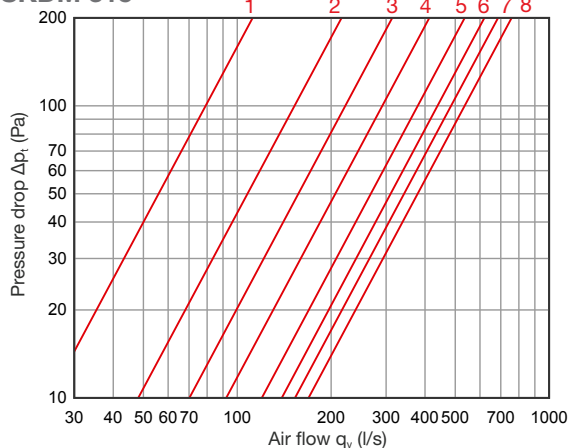
SKDM 200



SKDM 250



SKDM 315



Product codes



Example: SKDM 200-250

Adjustment and measuring

The supply volume flow rate for the attached diffuser is determined using the measurement and adjustment module (NRO).

The tubes and control spindle are passed through the diffuser front plate. Replace the diffuser. Measure the differential pressure. The flow rate is calculated using the formula below:

$$q_v = k \cdot \sqrt{\Delta p_m}$$

k = k-value

Δp_m = Measured differential pressure (Pa)

Adjust the air flow rate by rotating the control spindle until the desired setting is achieved. Calculate air flow by means of the k-value indicated on the control spindle. Replace the tubes and spindle into the plenum box and replace the diffuser.

NRO-adjustment and measuring unit

Nominal size	Adjustment position							
Ød, (mm)	1	2	3	4	5	6	7	8
100	1,6	2,9	4,6	6,3				
125	1,7	3,0	4,7	6,4	8,0	9,3		
160	3,0	6,2	9,4	12,3	14,6	16,7		
200	5,0	10,5	14,9	18,8	21,7	23,6		
250	5,6	15,5	23,0	30,7	38,4	46,0		
315	9,5	18,3	26,6	35,5	44,4	51,0	57,5	63,0

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