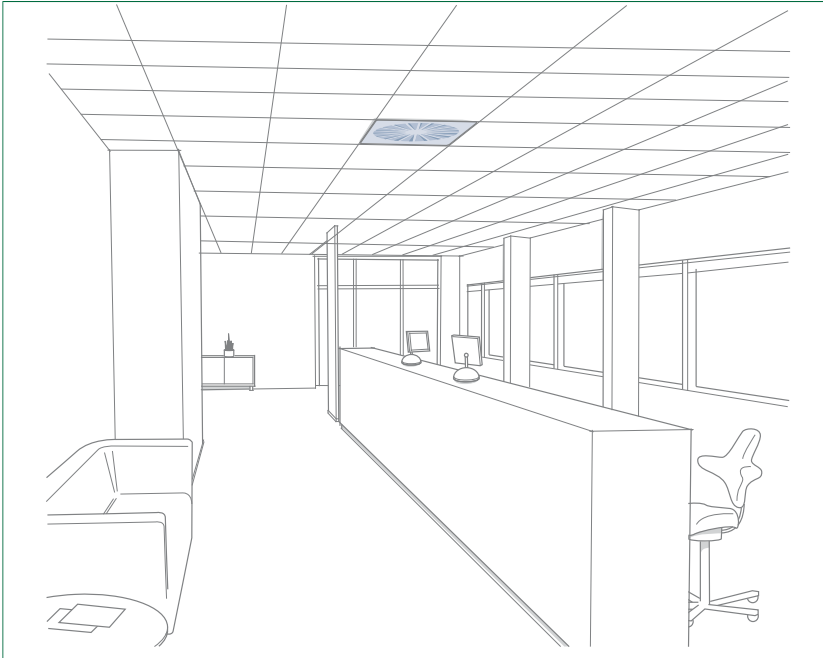


Swirl diffuser VSKH / Supply air unit VSKB (=VSKH +ATTD)



The VSKB is a quiet, ceiling-mounted supply air unit that consists of a swirl diffuser, VSKH, and a plenum box, ATTD. The design of the diffuser provides very good mixing of the supply air with the air in the premises (high induction rate). This keeps the indoor climate pleasant even with supply air temperatures considerably below the room air temperature. The swirl diffuser VSKH has adjustable deflectors. The slot height of the diffuser can be set at 0 or 12 mm. The VSKH swirl diffuser is also available without the plenum box.

Quick Selection

VSKB with 0 mm slot, 1:3 plenum box ATTD (50 Pa)

Supply air unit VSKB-	Diffuser VSKH-	Connection ATTD		Air flow l/s at sound level		
		inlet mm	outlet mm	25 dB(A)	30 dB(A)	35 dB(A)
100-3-4	160-4	100	160	28	37	-
100-3-6	160-6	100	160	27	-	-
125-3-4	200-4	125	200	32	48	-
125-3-6	200-6	125	200	38	57	-
160-3-6	250-6	160	250	56	72	-
200-3-6	315-6	200	315	80	101	123
250-3-6	400-6	250	400	96	126	157

VSKB with 0 mm slot, 1:2 plenum box ATTD (50 Pa)

Supply air unit VSKB-	Diffuser VSKH-	Connection ATTD		Air flow l/s at sound level		
		inlet mm	outlet mm	25 dB(A)	30 dB(A)	35 dB(A)
100-2-4	125-4	100	125	28	38	-
100-2-6	125-6	100	125	32	-	-
125-2-4	160-4	125	160	32	39	48
125-2-6	160-6	125	160	40	51	-
160-2-4	200-4	160	200	48	55	64
160-2-6	200-6	160	200	54	69	81
200-2-6	250-6	200	250	62	76	91
250-2-6	315-6	250	315	89	107	127
315-2-6	400-6	315	400	118	150	177

- = outside working area, 4 = 425x425, 6 = 595x595

Specifications

- Easy to install and adjust
- Low sound level
- Adjustable air slot 0 or 12 mm
- Adjustable deflectors
- High induction rate
- 6 connection sizes and 2 diffuser sizes (425x425 or 595x595)
- All connection sizes are suitable for suspended ceiling systems (595x595), false ceiling plate available for size 425x425
- Available with CleanVent coating
- Silent plenum box ATTD with air flow control
- Also available with the extremely compact plenum box ATTS

Product code example

Bundle code:

Supply air unit VSKB-200-3-6

Ordering codes:

Swirl diffuser VSKH-315-6

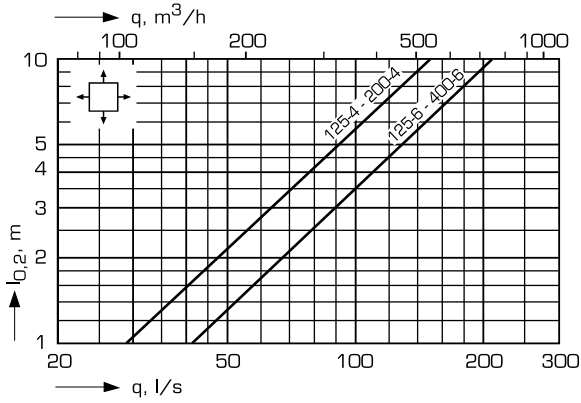
Plenum box ATTD-200-315-1

Air flow, throw, pressure drop, sound level

Supply air unit VSKB with 0 mm slot, 4-way diffusion

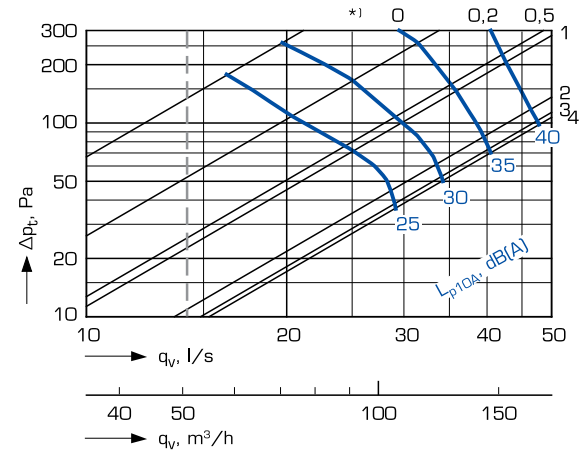
Throw (isothermal)

Sizes in the diagram below refer to air diffuser connection in mm.



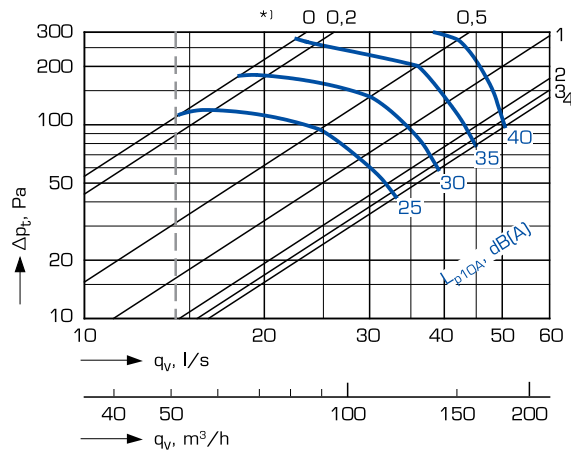
VSKB-100-2-4 (425x425) - with 0 mm slot

[VSKH-125-4 + ATTD-100-125-1]



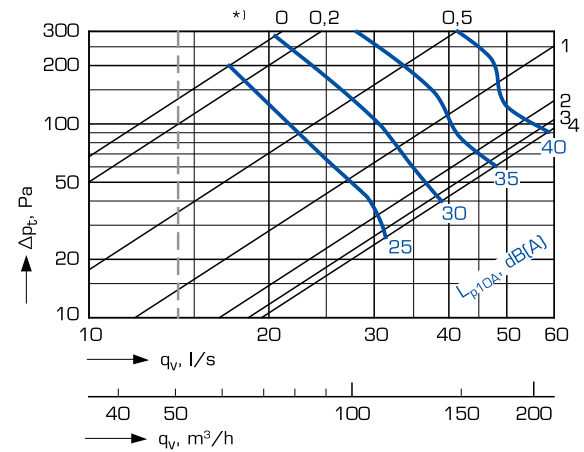
VSKB-100-2-6 (595x595) - with 0 mm slot

[VSKH-125-6 + ATTD-100-125-1]



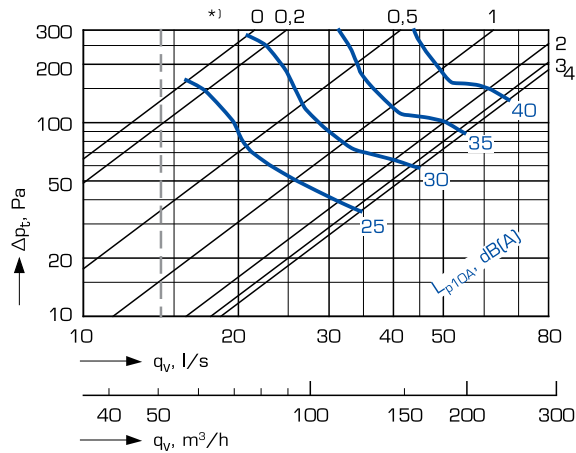
VSKB-100-3-4 (425x425) - with 0 mm slot

[VSKH-160-4 + ATTD-100-160-1]



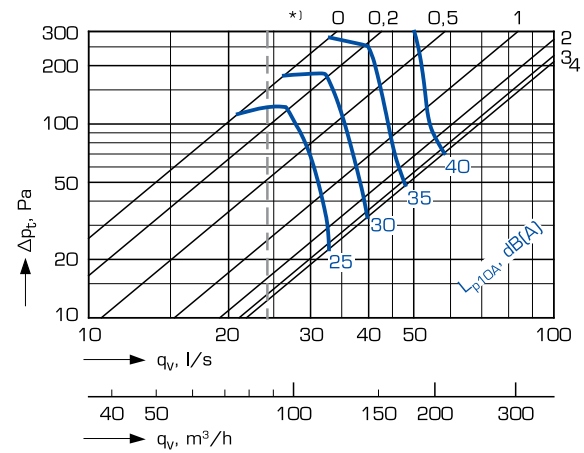
VSKB-100-3-6 (595x595) - with 0 mm slot

[VSKH-160-6 + ATTD-100-160-1]



VSKB-125-2-4 (425x425) - with 0 mm slot

[VSKH-160-4 + ATTD-125-160-1]



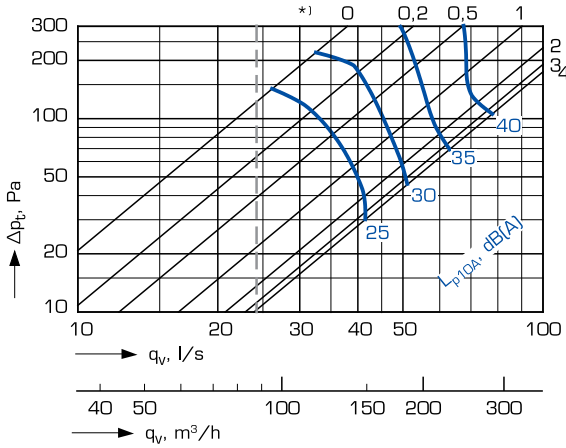
*) adjustment position

---- Min. airflow required to obtain sufficient measuring pressure.

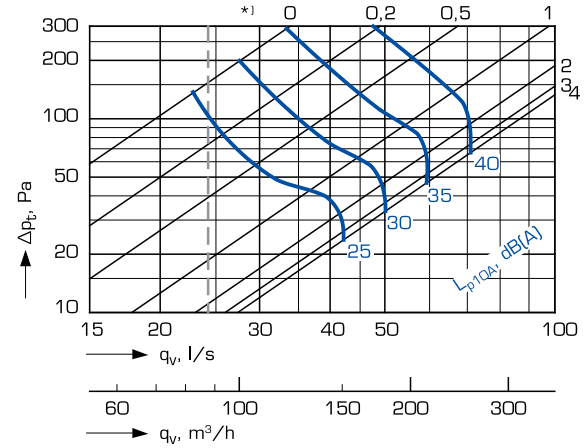
Air flow, pressure drop, sound level

Supply air unit VSKB with 0 mm slot, 4-way diffusion

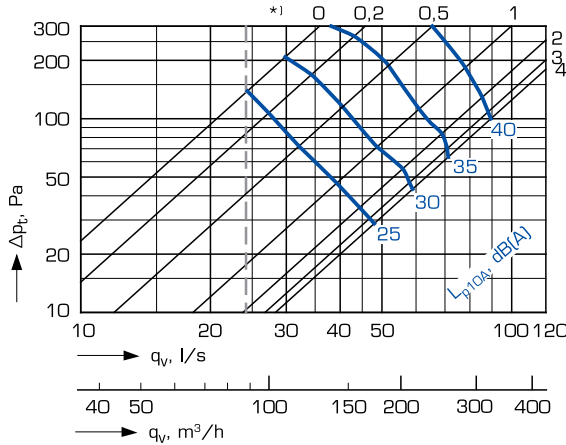
VSKB-125-2-6 (595x595) - with 0 mm slot
[VSKH-160-6 + ATTD-125-160-1]



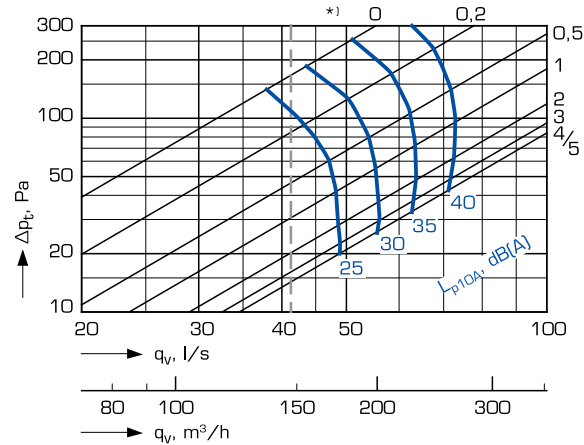
VSKB-125-3-4 (425x425) - with 0 mm slot
[VSKH-200-4 + ATTD-125-200-1]



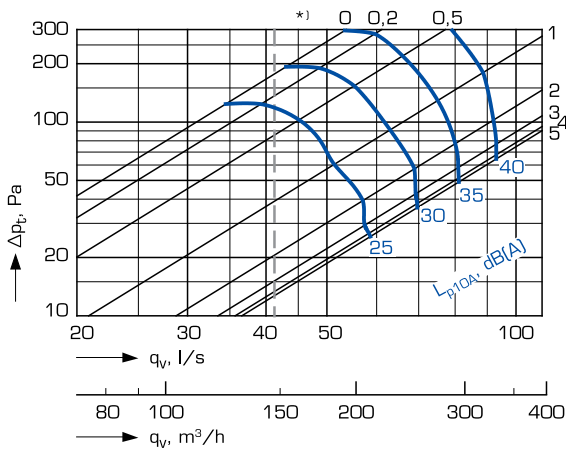
VSKB-125-3-6 (595x595) - with 0 mm slot
[VSKH-200-6 + ATTD-125-200-1]



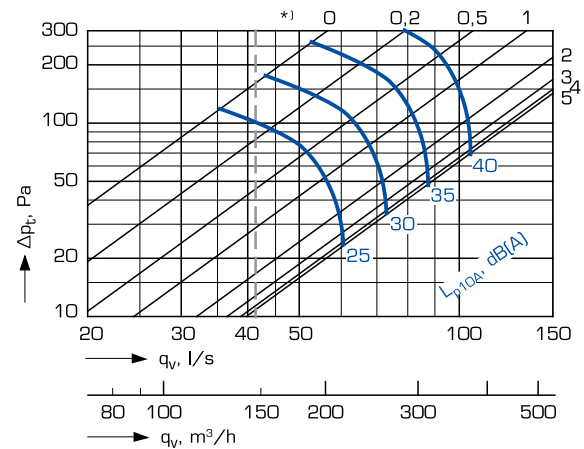
VSKB-160-2-4 (425x425) - with 0 mm slot
[VSKH-200-4 + ATTD-160-200-1]



VSKB-160-2-6 (595x595) - with 0 mm slot
[VSKH-200-6 + ATTD-160-200-1]



VSKB-160-3-6 (595x595) - with 0 mm slot
[VSKH-250-6 + ATTD-160-250-1]



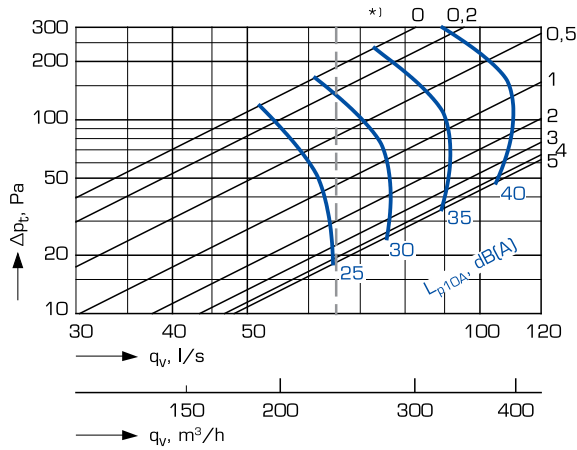
*) adjustment position

---- Min. airflow required to obtain sufficient measuring pressure.

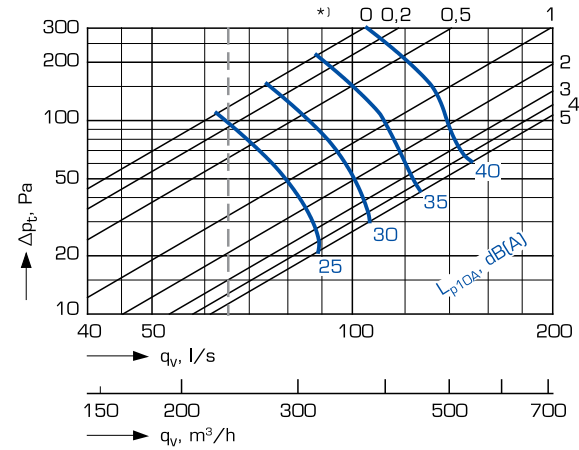
Air flow, pressure drop, sound level

Supply air unit VSKB with 0 mm slot, 4-way diffusion

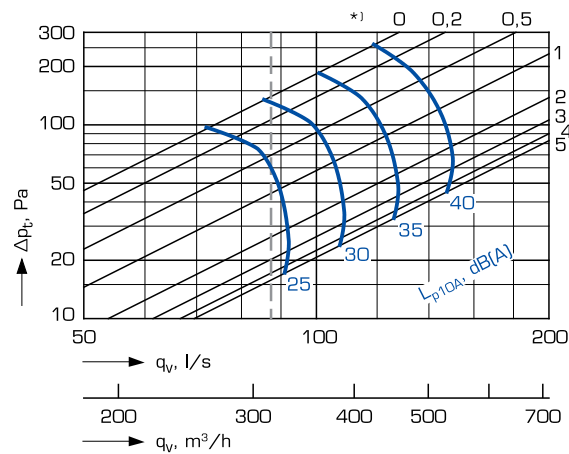
VSKB-200-2-6 (595x595) - with 0 mm slot
[VSKH-250-6 + ATTD-200-250-1]



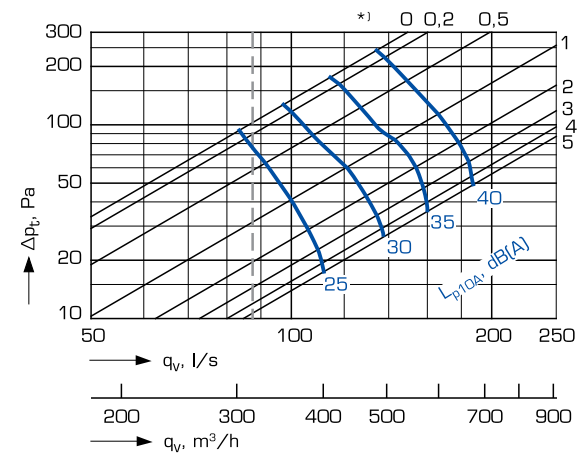
VSKB-200-3-6 (595x595) - with 0 mm slot
[VSKH-315-6 + ATTD-200-315-1]



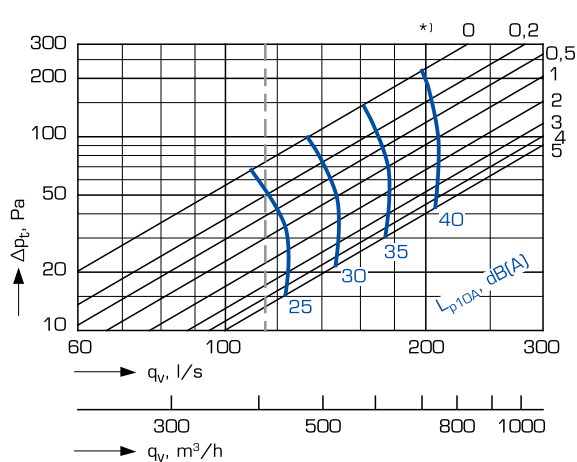
VSKB-250-2-6 (595x595) - with 0 mm slot
[VSKH-315-6 + ATTD-250-315-1]



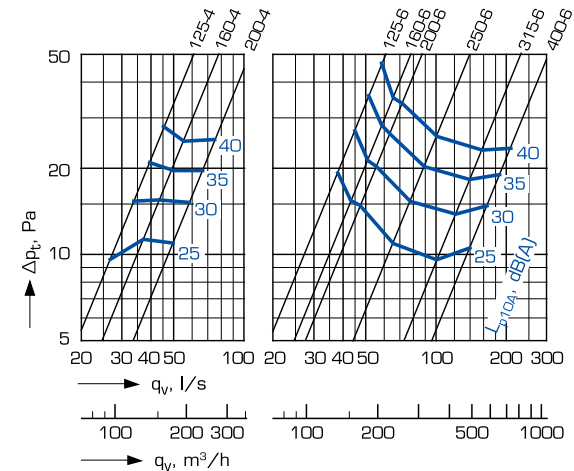
VSKB-250-3-6 (595x595) - with 0 mm slot
[VSKH-400-6 + ATTD-250-400-1]



VSKB-315-2-6 (595x595) - with 0 mm slot
[VSKH-400-6 + ATTD-315-400-1]



Swirl diffuser VSKH with 0 mm slot
4-way diffusion



*) adjustment position

---- Min. airflow required to obtain sufficient measuring pressure.

Sound power level L_w

Supply air unit VSKB with 0 mm slot, 1:3 plenum box

VSKB-	Correction of sound level K (dB)							
	63	125	250	500	1000	2000	4000	8000
100-3-4	3	11	5	0	-6	-6	-9	-7
100-3-6	6	12	6	-1	-5	-5	-9	-7
125-3-4	13	9	5	1	-4	-9	-10	-6
125-3-6	9	8	6	0	-4	-8	-10	-7
160-3-6	1	10	6	0	-4	-8	-10	-6
200-3-6	5	9	6	0	-2	-9	-12	-7
250-3-6	10	11	4	0	-3	-8	-11	-7
Tolerance ±	6	3	2	2	2	2	2	3

Sound attenuation ΔL

Supply air unit VSKB with 0 mm slot, 1:3 plenum box

VSKB-	Sound attenuation (dB)							
	63	125	250	500	1000	2000	4000	8000
100-3-4	20	12	9	14	23	14	15	14
100-3-6	21	9	10	16	22	13	13	14
125-3-4	18	10	5	17	12	15	12	16
125-3-6	18	10	5	17	9	15	12	14
160-3-6	16	6	4	13	11	9	11	14
200-3-6	12	6	7	10	10	9	14	16
250-3-6	9	4	5	8	10	9	12	15
Tolerance ±	6	3	2	2	2	2	2	3

Supply air unit VSKB with 0 mm slot, 1:2 plenum box

VSKB-	Correction of sound level K (dB)							
	63	125	250	500	1000	2000	4000	8000
100-2-4	7	11	2	1	-4	-7	-10	-6
100-2-6	10	11	3	-2	-5	-6	-7	-5
125-2-4	12	9	4	2	-4	-9	-9	-6
125-2-6	17	8	5	1	-5	-8	-9	-6
160-2-4	3	10	3	1	-1	-10	-11	-7
160-2-6	8	9	5	1	-4	-7	-9	-6
200-2-6	5	10	4	1	-2	-9	-13	-7
250-2-6	6	7	3	0	-1	-7	-10	-6
315-2-6	4	8	3	2	0	-11	-14	-8
Tolerance ±	6	3	2	2	2	2	2	3

Supply air unit VSKB with 0 mm slot, 1:2 plenum box

VSKB-	Sound attenuation (dB)							
	63	125	250	500	1000	2000	4000	8000
100-2-4	20	11	12	14	24	16	15	12
100-2-6	20	11	11	16	24	15	14	15
125-2-4	18	10	7	18	16	18	14	18
125-2-6	18	10	7	19	13	18	12	16
160-2-4	14	7	7	16	14	11	15	16
160-2-6	15	7	6	17	13	10	14	15
200-2-6	11	7	7	11	11	11	14	17
250-2-6	10	5	6	10	12	11	13	17
315-2-6	8	4	7	7	10	11	13	15
Tolerance ±	6	3	2	2	2	2	2	3

Swirl diffuser VSKH with 0 mm slot

VSKH-	Correction of sound level K (dB)							
	63	125	250	500	1000	2000	4000	8000
125-4	2	3	-1	2	0	-9	-13	-8
125-6	5	-1	3	4	-1	-11	-13	-8
160-4	2	5	1	2	1	-11	-14	-8
160-6	2	4	2	3	-1	-12	-13	-8
200-4	1	1	2	2	1	-11	-14	-8
200-6	6	1	1	3	0	-11	-13	-8
250-6	2	4	3	3	0	-11	-14	-8
315-6	-1	4	3	3	0	-13	-15	-8
400-6	6	-3	4	3	0	-12	-14	-8
Tolerance ±	6	3	2	2	2	2	2	3

Swirl diffuser VSKH with 0 mm slot

VSKH-	Sound attenuation (dB)							
	63	125	250	500	1000	2000	4000	8000
125-4	18	14	6	2	4	5	4	5
125-6	20	13	5	3	1	2	1	3
160-4	18	11	5	1	3	2	5	5
160-6	17	11	4	3	1	0	3	3
200-4	16	11	4	1	3	4	5	5
200-6	15	10	4	2	1	2	3	4
250-6	13	7	2	1	1	2	4	4
315-6	12	7	2	0	1	2	3	4
400-6	10	6	1	-1	1	2	3	5
Tolerance ±	6	3	2	2	2	2	2	3

Sound power levels by octave bands are obtained by adding to total sound pressure level L_{p10A} , dB(A), the correction K_{oct} presented in the table according to the following formula:

$$L_w = L_{p10A} + K_{oct}$$

Correction K_{oct} is average value in range of use of the device.

Effect of the plenum box's lower profile on sound level (ATTD-aaa-bbb-3)

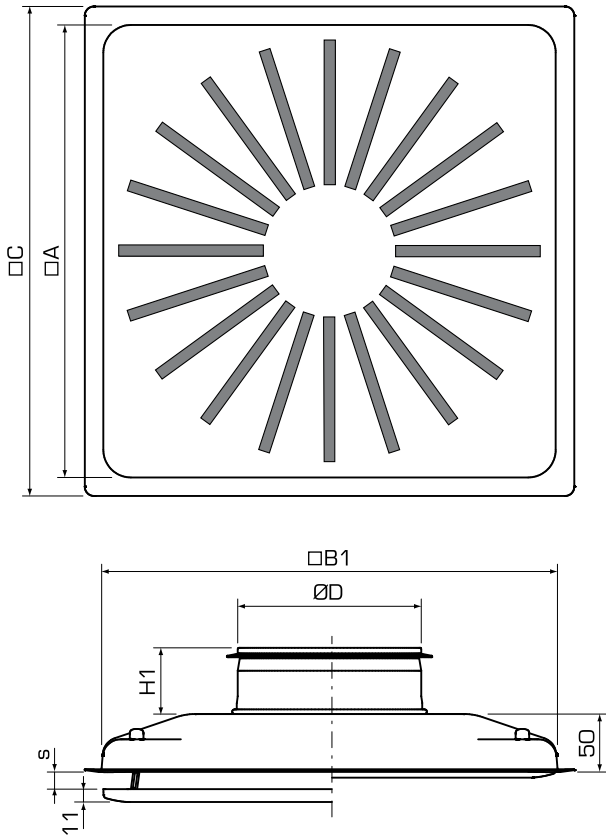
Size (duct connection)	Sound pressure level L_{p10A}
100-315	+5 dB(A)

The average sound attenuation ΔL from duct to room including the orifice attenuation of the connecting duct in ceiling installation, is obtained in the table above.

More technical data can be found in our selection tool. Contact our nearest sales office for further information.

Dimensions and weights

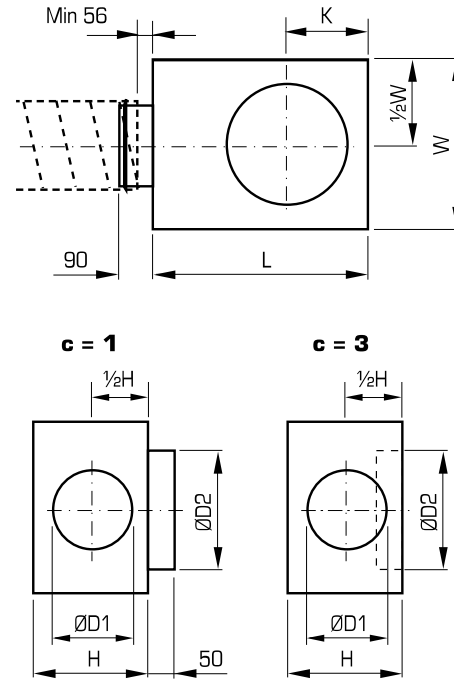
Swirl diffuser VSKH



s = 0 or 12 mm

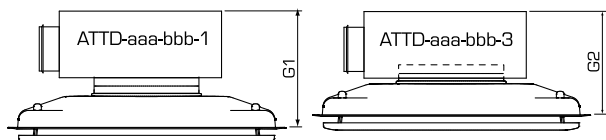
Size	A	B	C	ØD	H	Läpiv.	Weight
	mm	mm	mm	mm	mm	mm	kg
125-4	395	399	425	124.3	58	410	2.4
125-6	565	569	595	124.3	58	580	4.5
160-4	395	399	425	159.3	58	410	2.4
160-6	565	569	595	159.3	58	580	4.5
200-4	395	399	425	199.3	58	410	2.1
200-6	565	569	595	199.3	58	580	4.5
250-6	565	569	595	249.3	58	580	4.4
315-6	565	569	595	314.3	58	580	4.3
400-6	565	569	595	399.3	66	580	4.3

Plenum box ATTD



Size	ØD1	ØD2	H	L	W	K	Weight
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
100-125	99.3	125	170	350	320	132	2.5
100-160	99.3	160	170	350	320	132	2.3
125-160	124.3	160	170	450	320	152	3.0
125-200	124.3	200	170	450	320	152	2.9
160-200	159.3	200	205	480	440	177	4.0
160-250	159.3	250	205	480	440	177	4.0
200-250	199.3	250	245	630	480	210	5.5
200-315	199.3	315	245	630	480	210	5.4
250-315	249.3	315	295	680	570	252	6.9
250-400	249.3	400	295	680	570	252	6.9
315-400	314.3	400	360	680	570	252	8.0

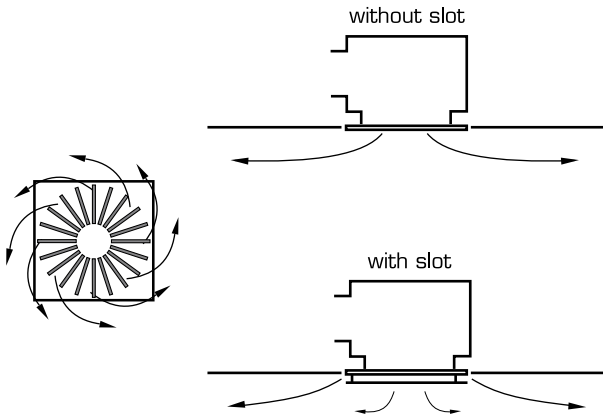
Supply air unit VSKB



VSKB	G1min	G1max	G2min	G2max	
	[mm]	[mm]	[mm]	[mm]	
100-2-4	100-3-4	270	300	220	250
100-2-6	100-3-6	270	300	220	250
125-2-4	125-3-4	270	300	220	250
125-2-6	125-3-6	270	300	220	250
160-2-4	-	305	335	255	285
160-2-6	160-3-6	305	335	255	285
200-2-6	200-3-6	345	375	295	325
250-2-6	250-3-6	395	425	345	375
315-2-6	-	460	490	410	440

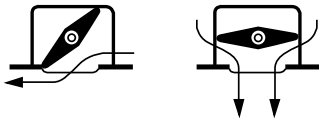
Air stream deflection, execution and function

Air stream deflection



Adjustable pattern of diffusion

VSKH has adjustable air deflectors and can be adjusted as follows.



Execution and function

The VSKB is a ceiling-mounted supply air unit that consists of a swirl diffuser, VSKH, and a plenum box, ATTd. The design of the diffuser provides very good mixing of the supply air with the air in the premises (high induction rate). This keeps the indoor climate pleasant even with supply air temperatures considerably below the room air temperature. The swirl diffuser VSKH has adjustable deflectors. The slot height of the diffuser can be set at 0 or 12 mm. This supply air unit is suitable for both suspended ceiling systems and false ceilings built on site.

The ATTd plenum box features an extremely quiet patented measurement and adjustment damper for multipoint measuring with balanced and accurate values. The adjustment handle of the measurement and adjustment damper has a position indicator and a locking device. The measurement and adjustment damper can be easily removed for inspection and cleaning without changing the setting or removing the sound attenuation elements. The sound attenuation elements (made of polyester fibre) are designed to direct the air flow in order to provide an air distribution that is as uniform as possible. The diffuser connection collar is either outwards or inwards in the plenum box – in the latter case, the plenum box needs less space. The ATTd plenum box is applicable for supply and exhaust air alike. In exhaust air use, the position of the measuring hose is changed to the measuring connector inside the box. The unit is also available with the extremely compact plenum box ATTS – please see the plenum box technical catalogues for more details.

General

Material and surface finish

Both the diffuser and the plenum box are made from steel sheet.

The diffuser is powder-coated for a high surface finish.

The standard colour is RAL 9010. Other diffuser colours and CleanVent coating are available on special order.

The deflectors are made of black plastic.

Installation, adjustment and maintenance

The instructions for installation, adjustment and maintenance are available at www.flaktgroup.com. The k-factors for supply air are also provided on the plenum box.

Technical data and design

For complete design details, please see the FlaktGroup product selection program. The program can be found on the Internet at www.flaktgroup.com.

Product description

The VSKB supply air unit by Flakt Group consists of a square swirl diffuser, VSKH, and a plenum box, ATTd. The VSKH diffuser has adjustable deflectors and can be set to provide an air slot of 0 or 12 mm. The ATTd plenum box includes a quiet, easily removable measurement and adjustment damper (ZAEF). The effective sound attenuation elements of the ATTd box direct the air flow in order to provide an air distribution that is as uniform as possible.

Product code and accessories

Product code

Swirl diffuser	VSKH-aaa-b
Swirl diffuser, CleanVent	VSKH-aaa-b-C
Swirl diffuser, special colour	VSKH-aaa-b-E

Size (aaa)

125, 160, 200, 250, 315, 400 (diffuser connection)

Body size (b)

4 = 425 x 425

6 = 595 x 595

CleanVent coated (C)

Special colour (E)

Plenum box	ATTD-aaa-bbb-c
------------	----------------

Duct connection in mm (aaa)

Diffuser connection in mm (bbb)

Type (c)

1 = collar outwards

3 = low, collar inwards (only 1:2 model)

Bundle codes for example for design:

Supply air unit	VSKB-aaa-b-c
Supply air unit, CleanVent	VSKB-aaa-b-c-C

(includes diffuser and plenum box)

Size (aaa)

100, 125, 160, 200, 250, 315 (duct connection)

Plenum box model (b)

2 = 1:2 collar outwards

3 = 1:3 collar outwards

4 = 1:2 low, collar inwards

Body size of diffuser (c)

4 = 425 x 425

6 = 595 x 595

CleanVent coated diffuser (C)

Accessories

False ceiling plate	UTKZ-395
---------------------	----------

for sizes 125-4, 160-4 and 200-4

(body size of diffuser 425 x 425)

Diffuser plate	VSKZ-a
----------------	--------

Body size of diffuser (a)

4 = 425 x 425

6 = 595 x 595

Includes painted diffuser plate with two safety strings, adjustable air deflectors and four springs.

Order example

Bundle code is **VSKB-200-2-6**.

Size indication in the code refers to the size of the supply air duct.

Diffuser and plenum box are ordered separately:

Swirl diffuser	VSKH-250-6
Plenum box	ATTD-200-250-1

duct connection (200)

diffuser connection (250)

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