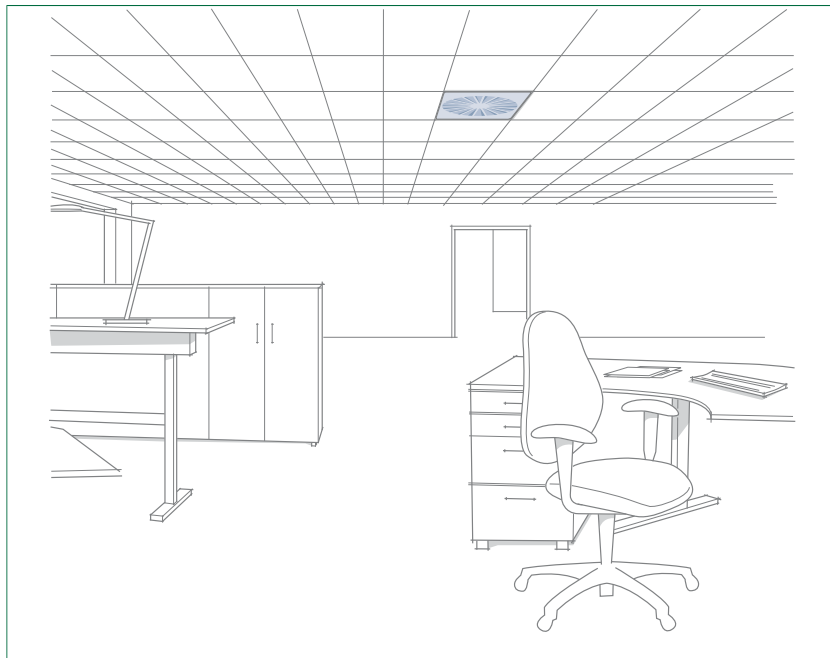


# Swirl diffuser VFKH / Supply air unit VFKB (=VFKH +ATTD)



The VFKB is a quiet, ceiling-mounted supply air unit that consists of a swirl diffuser, VFKH, 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 VFKH has fixed deflectors. The slot height of the diffuser can be set at 0 or 12 mm. Fixed to the diffuser body with magnets, the diffuser plate is easy to open. The VFKH swirl diffuser is also available without the plenum box.

## Quick Selection

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

Supply air unit VFKB-	Diffuser VFKH-	Connection ATTD		Air flow l/s at sound level		
		inlet mm	outlet mm	25 dB(A)	30 dB(A)	35 dB(A)
160-3	250	160	250	66	97	-
200-3	315	200	315	83	107	136
250-3	400	250	400	93	126	160

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

Supply air unit VFKB-	Diffuser VFKH-	Connection ATTD		Air flow l/s at sound level		
		inlet mm	outlet mm	25 dB(A)	30 dB(A)	35 dB(A)
200-2	250	200	250	77	101	124
250-2	315	250	315	103	129	153
315-2	400	315	400	120	160	189

AIRTREND Ltd.  
 Predstavništvo u Beogradu  
 Kumanovska 14  
 11000 Beograd  
 Tel: 011 3836886, 3085740  
 Faks: 011 3444113  
 e-mail: gobrid@eunet.rs  
 web: www.airtrend.rs

## Specifications

- Easy to install and adjust
- Low sound level
- Adjustable air slot 0 or 12 mm
- Fixed deflectors
- High induction rate
- 3 connection sizes
- All connection sizes are suitable for suspended ceiling systems (595x595)
- 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 VFKB-200-3

### Ordering codes:

Swirl diffuser VFKH-315

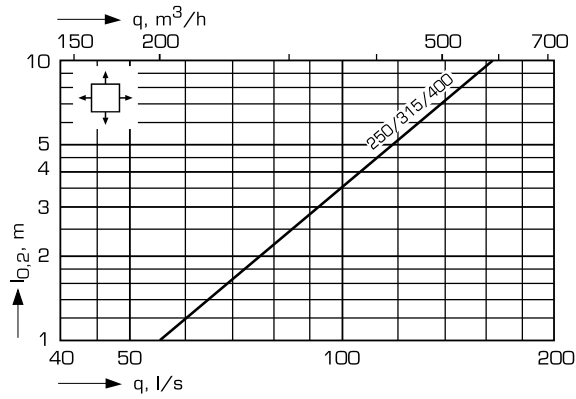
Plenum box ATTD-200-315-1

### Air flow, throw, pressure drop, sound level

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

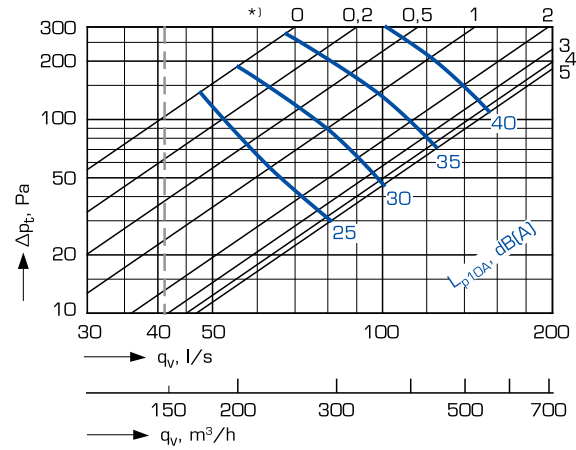
**Throw (isothermal)**

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



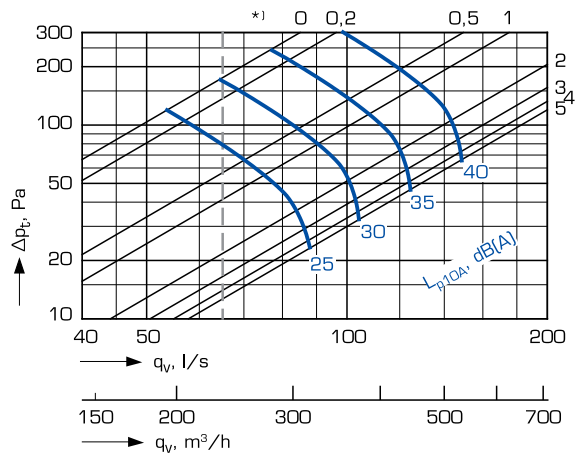
**VFKB-160-3 - with 0 mm slot**

[VFKH-250 + ATTD-160-250-1]



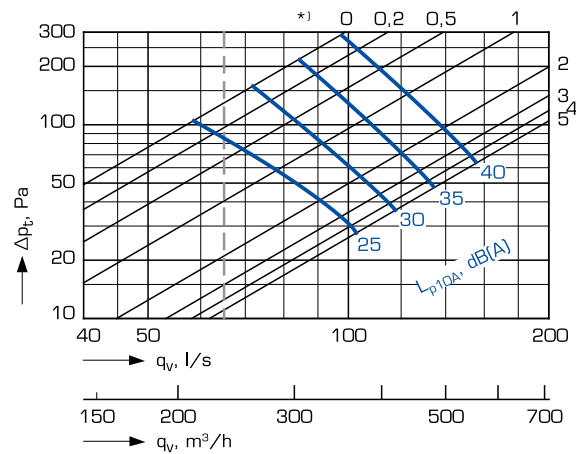
**VFKB-200-2 - with 0 mm slot**

[VFKH-250 + ATTD-200-250-1]



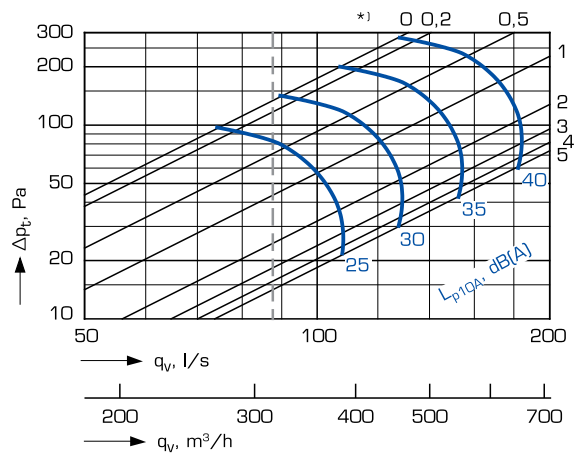
**VFKB-200-3 - with 0 mm slot**

[VFKH-315 + ATTD-200-315-1]



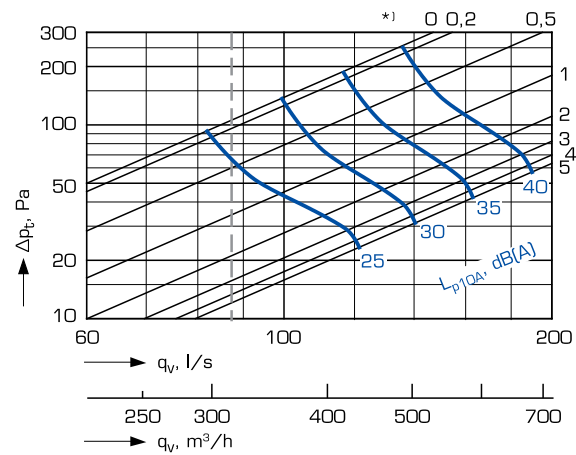
**VFKB-250-2 - with 0 mm slot**

[VFKH-315 + ATTD-250-315-1]



**VFKB-250-3 - with 0 mm slot**

[VFKH-400 + ATTD-250-400-1]



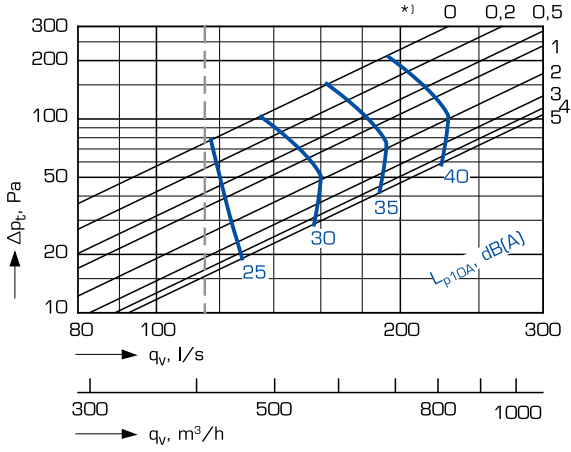
\*) adjustment position

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

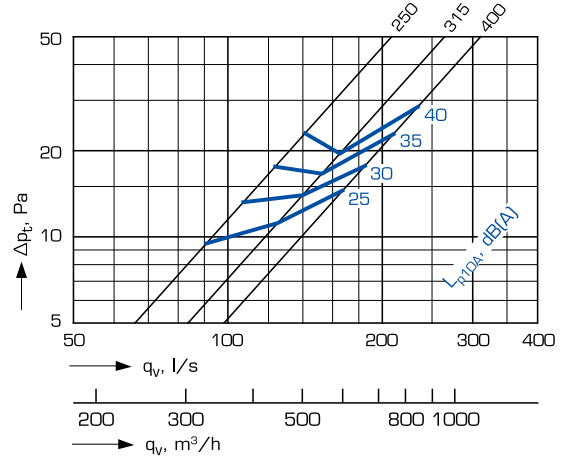
## Air flow, pressure drop, sound level

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

**VFKB-315-2 - with 0 mm slot**  
[VFKH-400 + ATTD-315-400-1]



**Swirl diffuser VFKH with 0 mm slot**  
4-way diffusion



\*) adjustment position

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

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

Size	Sound pressure level $L_{p10A}$
160-315	+5 dB(A)

## Sound power level $L_w$

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

VFKE-	Correction of sound level K (dB)							
	63	125	250	500	1000	2000	4000	8000
160-3	11	6	5	-1	-4	-6	-9	-5
200-3	9	12	5	0	-4	-9	-12	-7
250-3	9	12	4	0	-3	-8	-11	-7
Tolerance $\pm$	6	3	2	2	2	2	2	3

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

VFKE-	Correction of sound level K (dB)							
	63	125	250	500	1000	2000	4000	8000
200-2	2	11	4	2	-3	-10	-13	-7
250-2	6	9	3	1	-2	-8	-11	-6
315-2	6	9	3	2	-1	-9	-13	-8
Tolerance $\pm$	6	3	2	2	2	2	2	3

Swirl diffuser VFKE with 0 mm slot

VFKE-	Correction of sound level K (dB)							
	63	125	250	500	1000	2000	4000	8000
250	4	3	1	2	1	-12	-15	-8
315	2	3	3	2	0	-11	-15	-8
400	10	-2	4	2	0	-10	-14	-8
Tolerance $\pm$	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.

## Sound attenuation $\Delta L$

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

VFKE-	Sound attenuation (dB)							
	63	125	250	500	1000	2000	4000	8000
160-3	16	6	4	13	11	9	11	14
200-3	12	6	7	10	10	9	14	16
250-3	9	4	5	8	10	9	12	15
Tolerance $\pm$	6	3	2	2	2	2	2	3

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

VFKE-	Sound attenuation (dB)							
	63	125	250	500	1000	2000	4000	8000
200-2	11	7	7	11	11	11	14	17
250-2	10	5	6	10	12	11	13	17
315-2	8	4	7	7	10	11	13	15
Tolerance $\pm$	6	3	2	2	2	2	2	3

Swirl diffuser VFKE with 0 mm slot

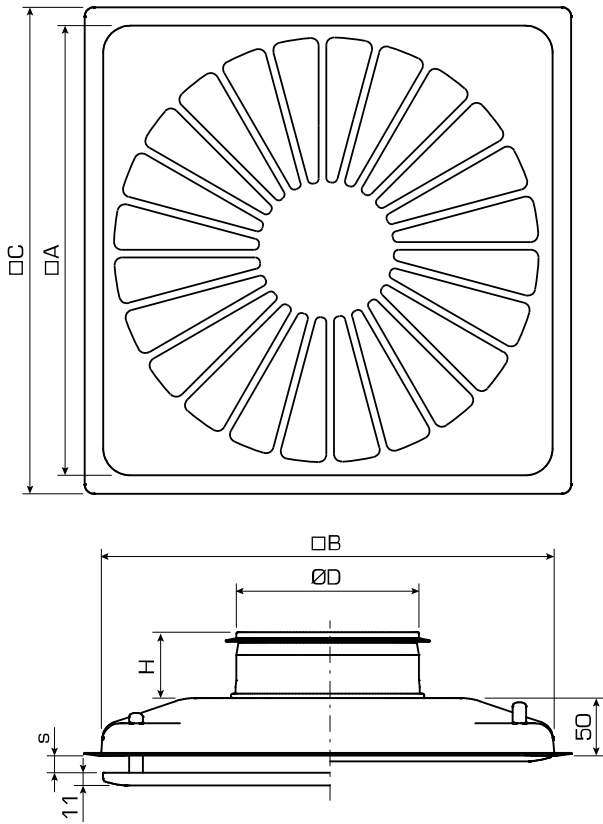
VFKE-	Sound attenuation (dB)							
	63	125	250	500	1000	2000	4000	8000
250	13	7	2	1	1	2	4	4
315	12	7	2	0	1	2	3	4
400	10	6	1	-1	1	2	3	5
Tolerance $\pm$	6	3	2	2	2	2	2	3

The average sound attenuation  $\Delta L$  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

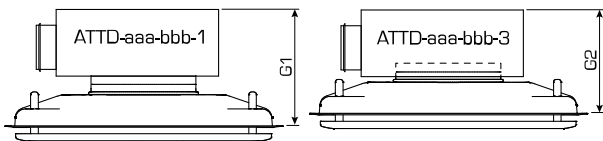
### Swirl diffuser VFKH



s = 0 or 12 mm

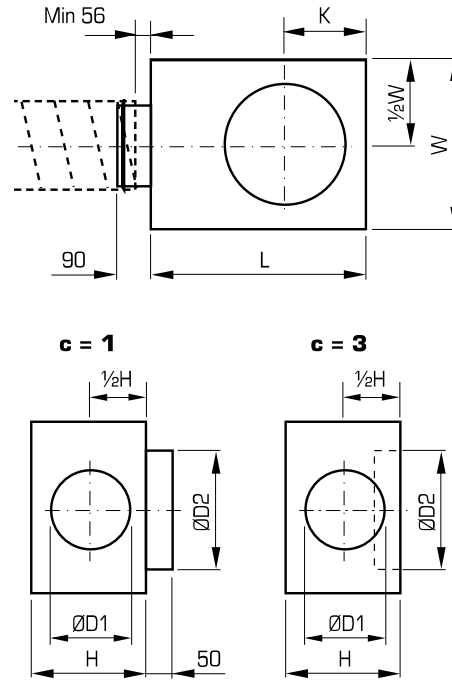
Size	A	B	C	ØD	H	Läpiv.	Weight
	mm	mm	mm	mm	mm	mm	kg
250	565	569	595	249.3	58	580	4.4
315	565	569	595	314.3	58	580	4.3
400	565	569	595	399.3	66	580	4.3

### Supply air unit VFKB



VFKB	G1min	G1max	G2min	G2max
	[mm]	[mm]	[mm]	[mm]
-	160-3	305	335	255
200-2	200-3	345	375	295
250-2	250-3	395	425	345
315-2	-	460	490	410

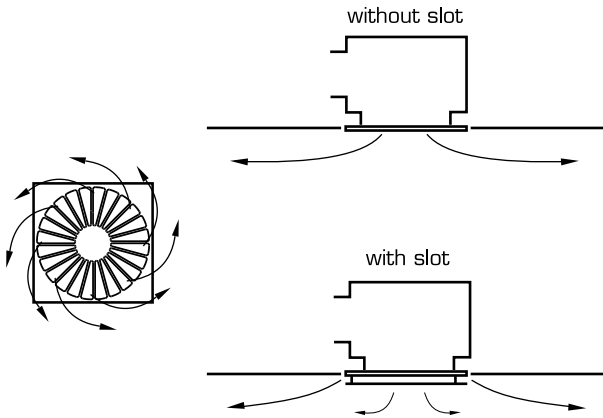
### Plenum box ATTD



Size	ØD1	ØD2	H	L	W	K	Weight
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
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

## Air stream deflection, execution and function

### Air stream deflection



### Execution and function

The VFKB is a ceiling-mounted supply air unit that consists of a swirl diffuser, VFKH, 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 VFKH has fixed deflectors. The slot height of the diffuser can be set at 0 or 12 mm. Fixed to the diffuser body with magnets, the diffuser plate is easy to open. 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.

### Installation, adjustment and maintenance

The instructions for installation, adjustment and maintenance are available at [www.flaktgroup.com](http://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](http://www.flaktgroup.com).

### Product description

The VFKB supply air unit by Flakt Group consists of a square swirl diffuser, VFKH, and a plenum box, ATTD. The VFKH diffuser has fixed deflectors and can be set to provide an air slot of 0 or 12 mm. The diffuser plate, fixed to the diffuser body with magnets, is easy to open. 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	VFKH-aaa
Swirl diffuser, CleanVent	VFKH-aaa-C
Swirl diffuser, special colour	VFKH-aaa-E

#### Size (aaa)

250, 315, 400 (diffuser connection)

#### CleanVent coated (C)

#### Special colour (E)

Plenum box	ATTD-aaa-bbb-c
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#### 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	VFKB-aaa-b
Supply air unit, CleanVent	VFKB-aaa-b-C

(includes diffuser and plenum box)

#### Size (aaa)

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

#### CleanVent pinnoitettu hajotin (C)

## Accessories

Diffuser plate (from 9/2017)	VFKZ-6-B
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Includes painted diffuser plate with fixed deflectors.

## Order example

Bundle code is **VFKB-200-2**.

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

Diffuser and plenum box are ordered separately:

Swirl diffuser	VFKH-250
Plenum box	ATTD-200-250-1

duct connection (200)

diffuser connection (250)