

Displacement unit for
exposed installation

KC (OPEH)



Description

The **KC (OPEH)** (semi-circular) displacement unit is designed for floor and corner mounted installation, and are suitable for all types of applications, such as offices, restaurants, etc. **KC (OPEH)** transfer the draught free air directly to the occupied zone. The fix internal air deflectors guarantees an even air distribution across the entire surface of the perforated diffuser front plate.

Recommended $\Delta t = -3-6^{\circ}\text{C}$.

Size

100, 125, 160, 200, 250, 315 and 400 mm

Air flow range

80 - 3.500 m³/h (20-1000 l/s)

Materials

KC (OPEH) is made of sheet steel and powder coated in standard white RAL 9003.

Main features

- Delivered ready for installation
- Low air velocities
- Integrated air deflectors
- Mounted on the floor against a corner
- Low sound levels
- Front plate easy to open for cleaning

Accessories

IK: duct cover - variable lengths

LP: sound attenuator

ZMS: commissioning damper

GS: bottom part

Sound data

The sound level is applicable at an equivalent sound absorption area of 10 m².

Sound power level: L_W [dB]

Sound level: L_A [dB(A)] see diagram 1.

Correction factor: K_O [dB]

Correction factor K_O [dB] from table 2.

$$L_W = L_{PA} + K_O$$

T.1. Sound level, L_{PA}

Room volume capacity (m ³)	Room type	Correction (dB)
25	hard	+2
25	attenuated	-2
150	hard	-3
150	normal	-5
150	attenuated	-7

The sound pressure level L_{PA} dB(A) applies to an equivalent surface of 10 m², which corresponds to an attenuation of 4 dB in a 25 m³ room with normal attenuation. Please see the chart to the right for correction examples of different room types.

T.3. Sound attenuation, KC (OPEH) ΔL_p [dB]

Type	Medium frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
100	17	14	12	8	4	6	6	5
125	16	13	11	7	3	4	4	4
160	15	12	9	5	2	3	3	3
200	13	10	8	5	1	3	3	3
250	10	8	7	4	2	2	2	2
315	10	7	5	3	1	2	2	2
400	6	5	2	2	1	1	1	1

Tol. ±3 dB

T.2. Correction, KC (OPEH) K_O [dB]

Type	Medium frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
100	+1	+1	+2	+1	+1	-3	-16	-21
125	+1	+1	+2	+2	+1	-3	-16	-20
160	+1	+1	+2	+2	+1	-4	-16	-19
200	+1	+1	+2	+2	+1	-4	-15	-18
250	+2	+2	+3	+3	+2	-5	-16	-18
315	+3	+3	+3	+4	+2	-6	-17	-19
400	-	+4	+4	+4	+2	-5	-19	-

Tol. ±3 dB

T.4. Sound attenuation, LP ΔL_p [dB]

Type	Medium frequency (Hz)						
	125	250	500	1000	2000	4000	8000
100	9	14	26	36	42	30	19
125	9	13	24	34	38	27	17
160	8	12	22	31	36	25	16
200	7	11	19	28	30	20	15
250	7	11	18	25	26	18	15
315	5	8	15	21	19	13	12
400	4	7	14	18	16	12	11

Tol. ±3 dB

Near zone

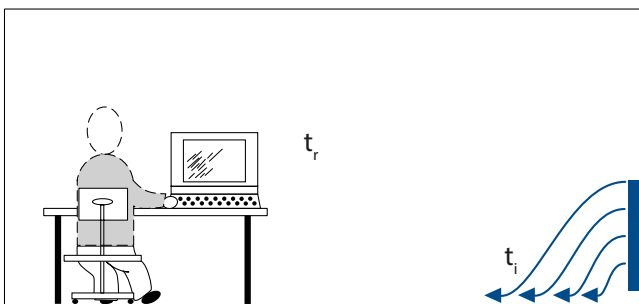
The area around the unit where the air velocity is greater than 0,2 m/s is called the near zone.

t_i is the temperature of the supply air [°C]

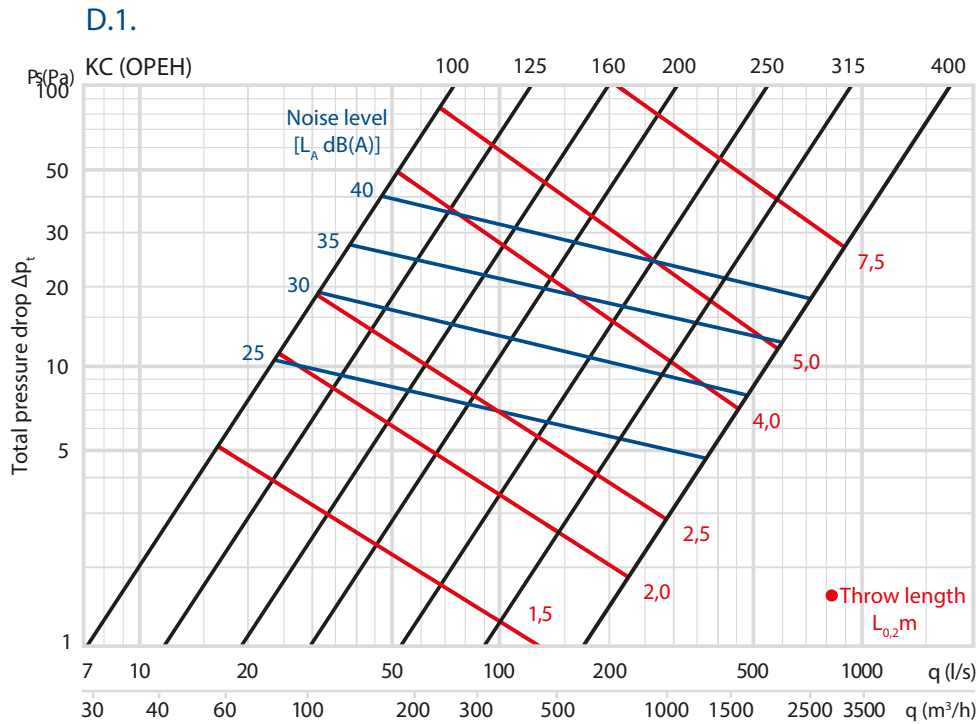
t_r is the temperature of the room (1,1 m above floor level) [°C]

The size of the near zone is given at a temperature difference of $\Delta t = t_r - t_i = 3K$ (Figure 1.)

Figure 1.

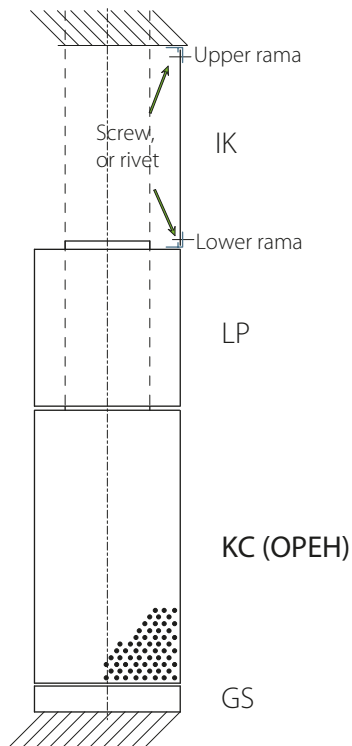


Diagram



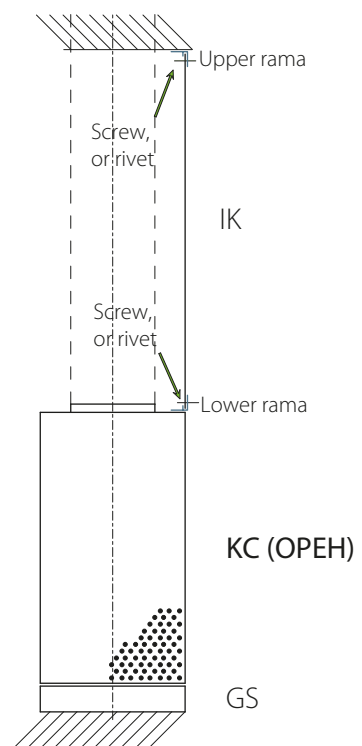
Assembly

with sound attenuator



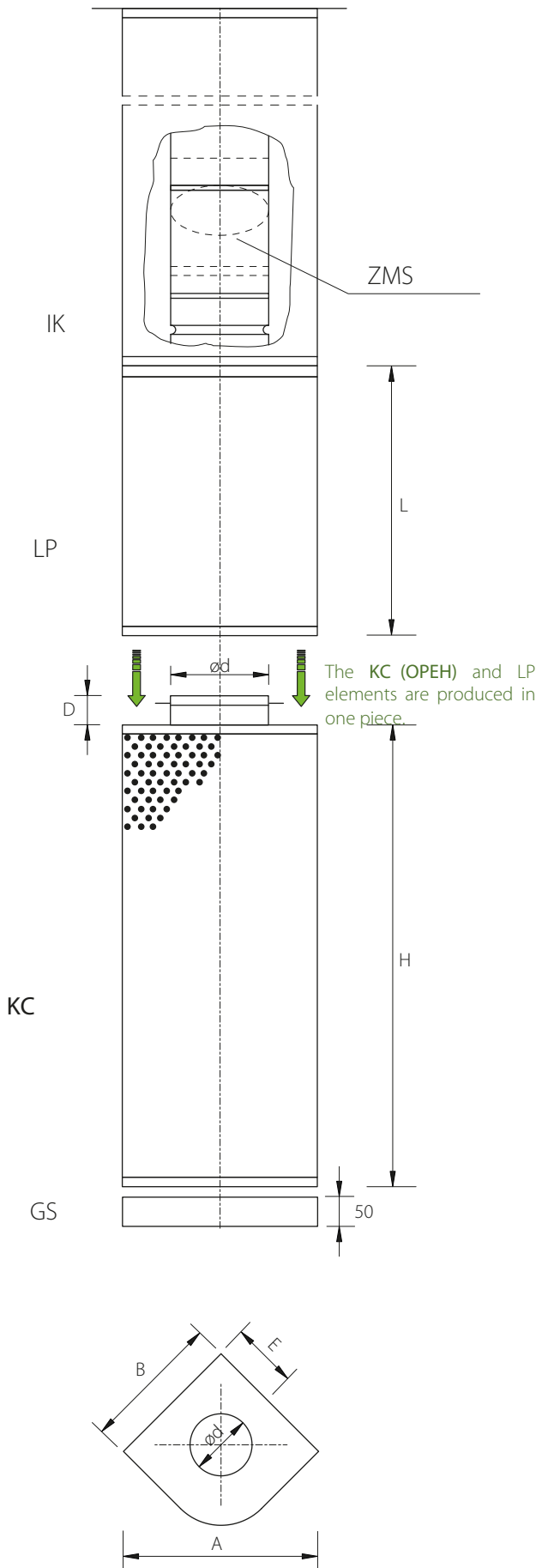
IK - KC (OPEH)

without sound attenuator



IK- KC (OPEH)

Dimensions



ZMS circular commissioning damper

ZMS is a circular damper which is suitable for controlling the air volume by turning the blade. The damper blade is non-perforated. It is designed to be mounted behind the IK cover of the displacement unit, because of this the manual adjusting of the damper blade is only possible with strings. To make the air pressure measurement easier ZMS is equipped with extended plastic tubes so that the measurement and adjustment can be done from one place. It can be used in places that are less easily accessible. Measurement accuracy: $\pm 5\%$

LP attenuator

LP attenuator, as an option, can be ordered for the displacement unit. In case of ordering the two products together, they will be joint permanently which means that during delivery and installation they cannot be dismantled. The figure on the left shows them separately for better illustration. The attenuator can be ordered separately for the displacement unit, in those cases the two items can be easily assembled together.

T.5. KC (OPEH)

Type	A	B	D*	E	H	ød	L
100	333	236	35	110	400	99	300
125	372	263	35	123	500	124	300
160	424	300	35	140	700	159	400
200	485	343	35	160	800	199	400
250	560	396	57	185	900	249	500
315	659	466	57	218	1000	314	600
400	788	557	75	260	1250	399	700

The indicated sizes in mm. Other dimensions are available to order. *D size tolerance: 35 (+5/-1), 57 (+5/-5), 75 (+10/-10)

Specification

Ordering code:	KC (OPEH)	XXX	XX
Product acronym:	KC (OPEH)		
Size:		100	
		125	
		160	
		200	
		250	
		315	
		400	
Duct cover:			IK*
Bottom part:			GS
Commissioning damper:			ZMS
Sound attenuator:			LP

Example: KC (OPEH) 100 IK 2700 GS ZMS LP

*The length of the IK duct cover depends on the internal height of the building and needs to be given in mm.