



Underfloor Diffuser

OD-01



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Underfloor Diffusers

OD-01

OD-01 circular floor diffuser suitable for false floor installation.

Diffuser are designed to ensure a swirl air supply with high levels of induction, achieving reduced air velocities and a moderate temperature gradient in the occupied zone.

The diffuser may be used in rooms with a variable or constant air volume.

Specification

- Floor circular diffuser, and frontal punched plate made in steel sheet
- Floor circular diffuser, with swirl function, and frontal perforated plate made in steel sheet (optional)
- Sheet steel dirt trap and swirl unit
- Floor circular diffuser, with swirl function, frontal plate and dirt trap
- High induction model for large airflows.
- High levels of induction
- Simple to clean
- Can be used with connection plenum

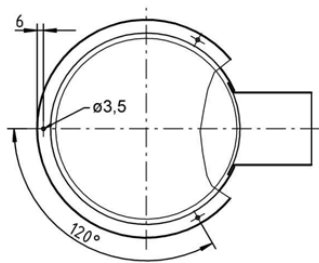
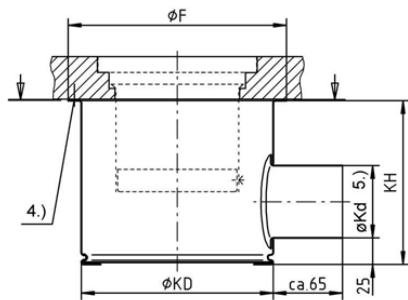
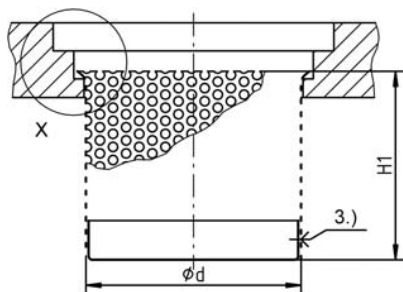
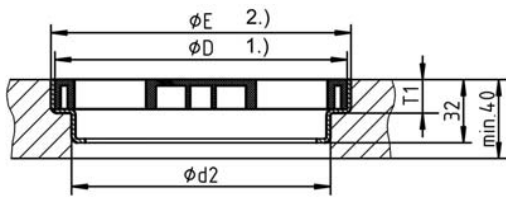
Diffuser Load Capacity



According to the requirements of European test standard
EN 13264:2001.

Size	Load in kN
Ø 150	2,9
Ø 200	2,5

Technical sizes



OD

Type	RA	Ø A	Ø D	Ø E	Ø d2	T1
150	5	161	149	154	132	17
	7	165				
	10	171				
200	10	221	199	204	182	17

OD + Basket

Type	Ø d	Ø d3	H	H1
150	115	117	127	100
200	162	164	143	110

OD + PK Plenum

Type	Ø F	Ø KD	Ø Kd	KH
150	205	180	68	154
200	255	230	123	170

Performance

Q		Size	150			200		
		A _k (m²)	0,00495			0,00945		
(m³/h)	(l/s)	(°C)	-4	-6	-8	-4	-6	-8
30	8,3	h _{0,25} (m)	0,8	0,7	0,6			
		V _k (m/s)		1,7				
		P _{est} (Pa)		6				
		L _w - [dB(A)]		<20				
35	9,7	h _{0,25} (m)	0,9	0,8	0,7			
		V _k (m/s)		2,0				
		P _{est} (Pa)		8				
		L _w - [dB(A)]		22				
40	11,1	h _{0,25} (m)	1,1	0,9	0,8			
		V _k (m/s)		2,2				
		P _{est} (Pa)		11				
		L _w - [dB(A)]		25				
45	12,5	h _{0,25} (m)	1,2	1,0	0,9			
		V _k (m/s)		2,5				
		P _{est} (Pa)		13				
		L _w - [dB(A)]		28				
50	13,9	h _{0,25} (m)	1,3	1,2	1,0	0,7	0,6	0,5
		V _k (m/s)		2,8			1,5	
		P _{est} (Pa)		17			3	
		L _w - [dB(A)]		31			<20	
60	16,7	h _{0,25} (m)	1,6	1,4	1,2	0,8	0,7	0,6
		V _k (m/s)		3,4			1,8	
		P _{est} (Pa)		24			5	
		L _w - [dB(A)]		35			20	
70	19,4	h _{0,25} (m)	1,9	1,6	1,4	0,9	0,8	0,7
		V _k (m/s)		3,9			2,1	
		P _{est} (Pa)		33			7	
		L _w - [dB(A)]		39			24	

Q		Size	150			200		
		A _k (m²)	0,00495			0,00945		
(m³/h)	(l/s)	(°C)	-4	-6	-8	-4	-6	-8
85	23,6	h _{0,25} (m)	2,3	2,0	1,7	1,1	1,0	0,9
		V _k (m/s)		4,8			2,5	
		P _{est} (Pa)		48			10	
		L _w - [dB(A)]		43			29	
100	27,8	h _{0,25} (m)	2,7	2,3	2,0	1,3	1,2	1,0
		V _k (m/s)		5,6			2,9	
		P _{est} (Pa)		67			14	
		L _w - [dB(A)]		47			33	
115	31,9	h _{0,25} (m)				1,5	1,3	1,2
		V _k (m/s)					3,4	
		P _{est} (Pa)					18	
		L _w - [dB(A)]					36	
130	36,1	h _{0,25} (m)				1,7	1,5	1,3
		V _k (m/s)					3,8	
		P _{est} (Pa)					23	
		L _w - [dB(A)]					39	
150	41,7	h _{0,25} (m)				2,0	1,7	1,5
		V _k (m/s)					4,4	
		P _{est} (Pa)					31	
		L _w - [dB(A)]					43	
170	47,2	h _{0,25} (m)				2,3	2,0	1,7
		V _k (m/s)					5,0	
		P _{est} (Pa)					40	
		L _w - [dB(A)]					46	

Technical data in regard to sound power and pressure drop refer to a diffuser without plenum. Technical data for the OD-01 plenum box diffuser can be obtained by adding 4 dB(A) to the sound power level data in the table for the diffuser without a plenum box and increasing the pressure loss by 18%. The remaining data remains unchanged.

- Q (m³/h)

Air flow rate
- AK (m²)

Effective supply area
- ΔT (°C)

Temperature ΔT
- h_{0,25} (m)

Vertical throw for an air velocity of 0,25 m/s
- V_k (m/s)

Effective supply velocity
- ΔP_{est} (Pa)

Pressure drop
- L_w [dB(A)]

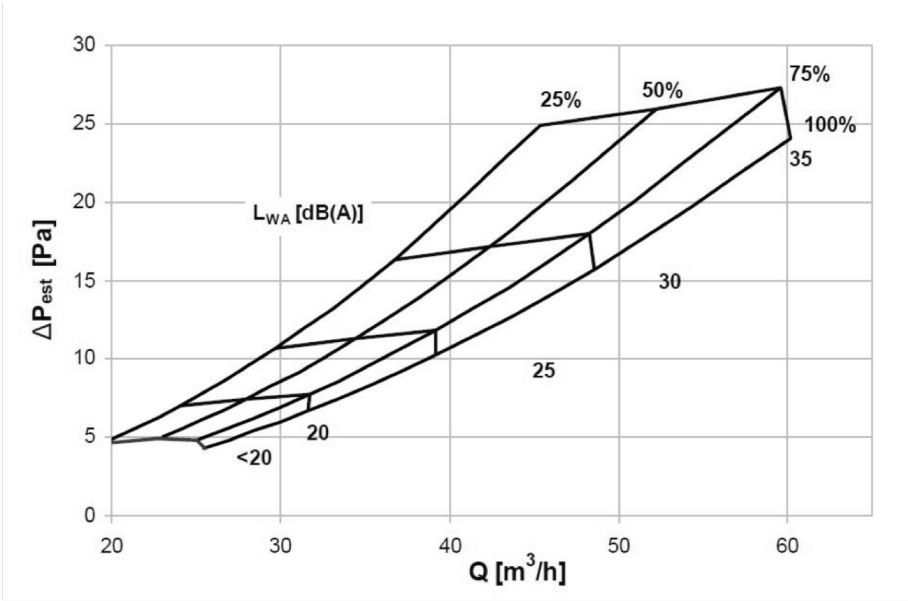
Sound power

Performance

Size 150 (without plenum)

Sound power
% (Dirt trap opening percentage)

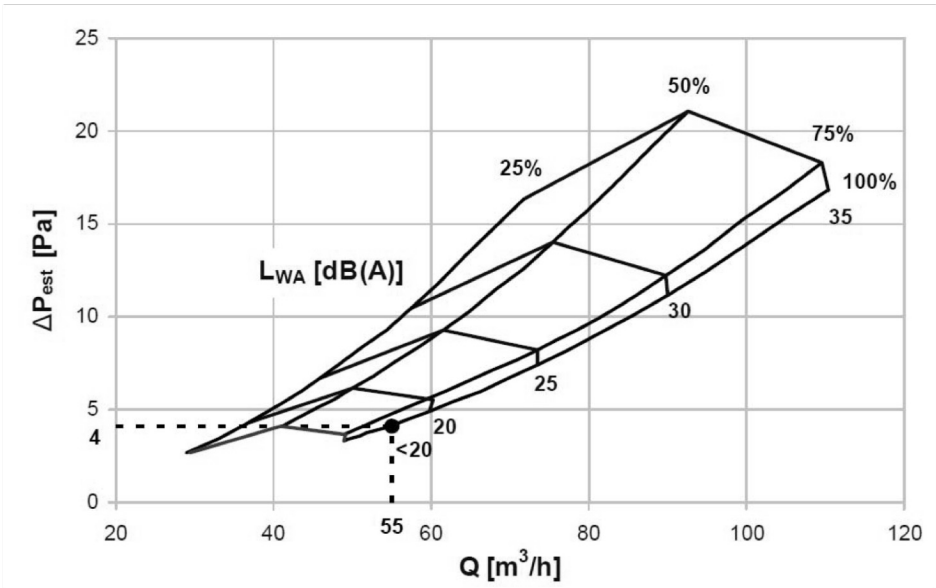
Graph 1



Size 200 (without plenum)

Sound power
% (Dirt trap opening percentage)

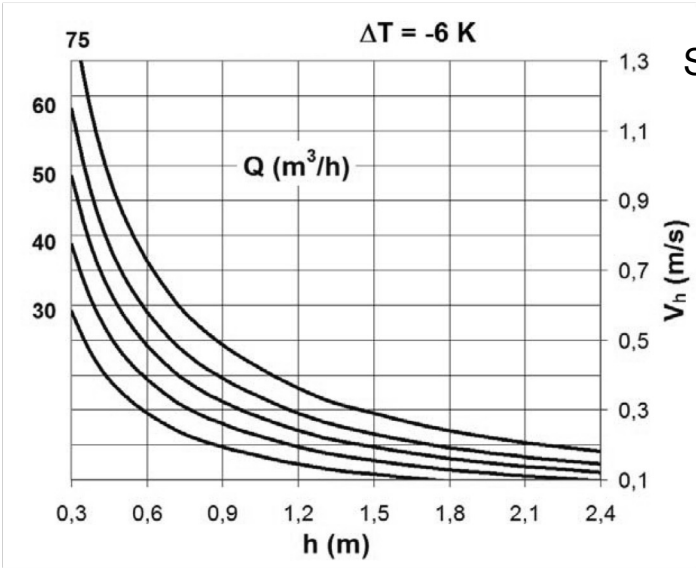
Graph 2



Performance

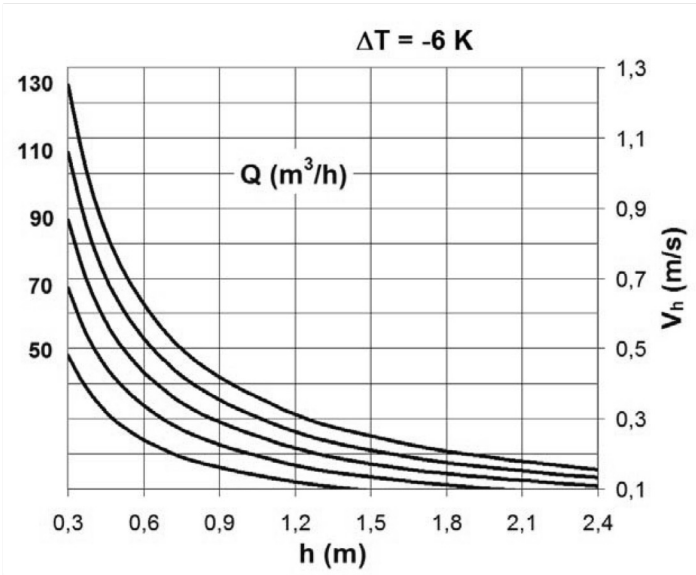
Graphs showing the duct air velocity at different heights account for a possible difference between supply air temperature and room temperature of - 6 K; for a different differential, we must apply the coefficients shown in the table below, using the corresponding formula.

Graph 3



Graph 4

Size 200



Coefficient correction table

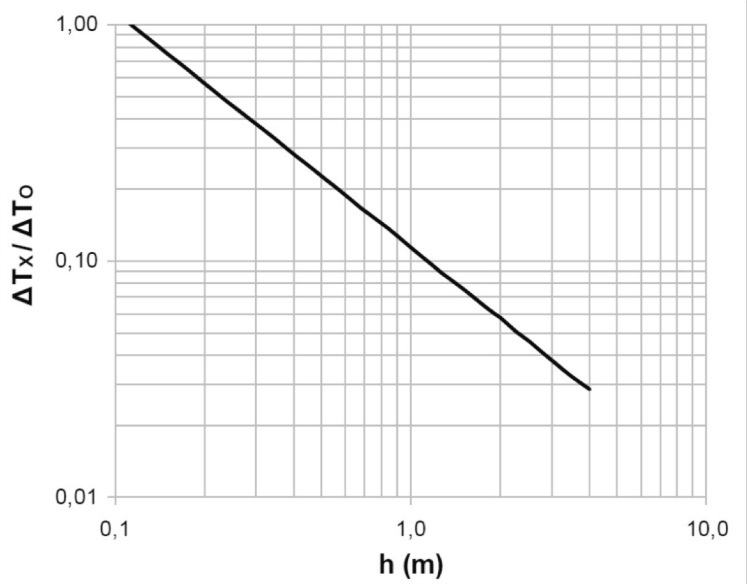
ΔT (K)	-4	-6	-8	-10
C	1,15	1	0,87	0,76

$$V_h = V_{h \text{ graph}} \times C$$

Performance

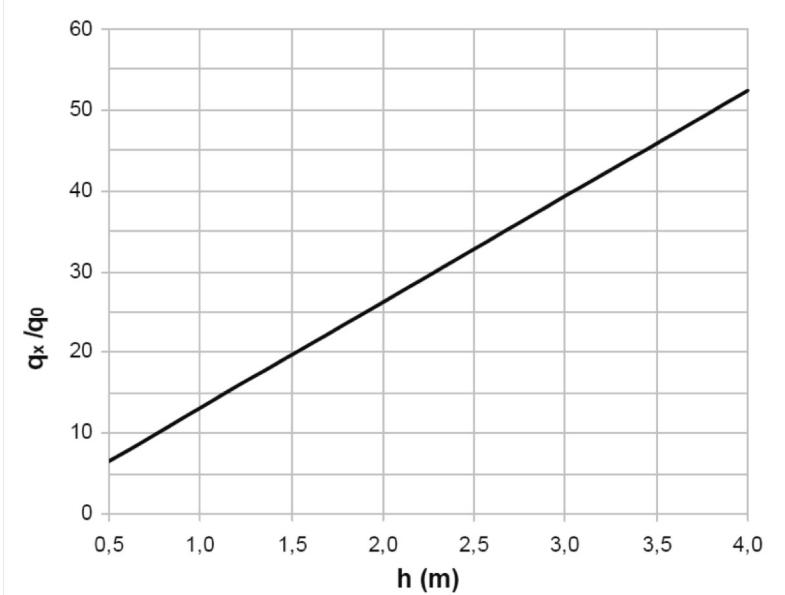
Temperature quotient

Graph 5



Induction rate

Graph 6



Design and construction



Front plate



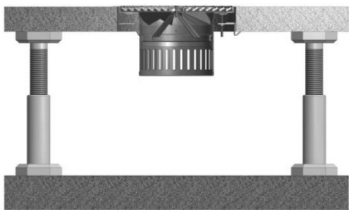
Diffuser part



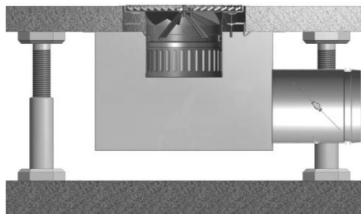
Dirt trap with damper

Installation options

Air supply direct from the plenum created by the raised floor



Air supply direct to the individual diffuser using a plenum box with ducted connection





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