



## **Chapter 3.3**

# **Floor and displacement diffusers**

**Chapter 3.3**  
**Floor and displacement diffusers**  
**Displacement ventilation**



**RFB**  
**Supply**  
**Floor-mounted**

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Available diffusers, information and prices on request.

**Comfort**

	Round		LKO		LDO		
	Half-round		LKH			LHI	
	Quarter-round		LKV				
	Arc		LKB		LKB-L		
	Surface-mounted		LDR			LGR	
	Build-in		LDI				LGI
			BPK			GIK	
	Plinth		GIR			GSO	

**Industry**

	Round		LDO		LSO	
	Half-round		LDH		LSH	
	Surface-mounted		LDR			LGR
	Build-in		LGI		LXI	



## RFB

**Displacement diffuser**  
**Supply, round**  
**Floor-mounted**  
**Rotating discharge pattern**

### Available types

**RFBTF C**

- R** displacement diffuser
- F** supply, round, floor-mounted
- B** rotating discharge pattern
- T** mounting ring
- F** fixed volume unit + dust tray
- C** mounting clip

### Use

The RFB displacement diffuser is suitable for supplying cooled air with a low entry velocity. The diffuser is designed to be built into raised floors. The raised floor operates as the pressure plenum.

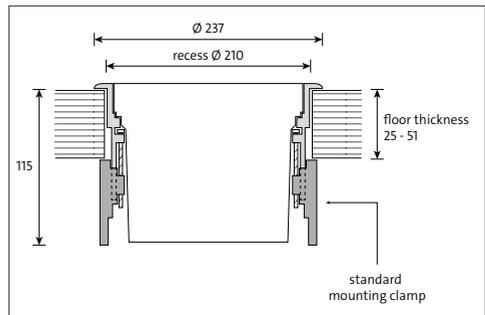
### Characteristics

Undertemperature: up to 8 K  
 Overtemperature: not applicable  
 Capacity: up to approx. 0.055 m<sup>3</sup>/s

### Version

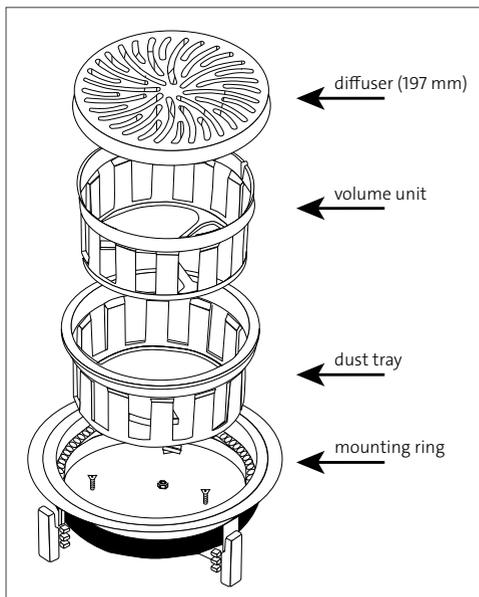
Displacement diffuser  
 Material: polycarbonate ABS  
 Colour: black or grey

### Dimensions



### Note

- The listed dimensions are in mm.



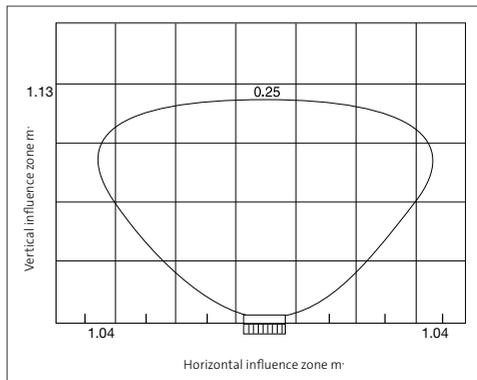
### General

- The influence zone details are based on a room that is 2.7 m high, with a  $\Delta T$  of 5 °C between room and supply air.
- The values apply to a diffuser including a fully-opened volume unit and a dust tray.
- Static pressure loss  $P_s$  in Pa.
- The assumed room attenuation is 10 dB.
- Sound pressure  $L_p$  in dB(A).
- It is permitted to interpolate the interim values.

### Correction factor for different $\Delta T$

$\Delta T$	3	4	5	6	7	8
<b>vertical influence zone</b>	x 1.33	x 1.11	x 1.00	x 0.96	x 0.92	x 0.91
<b>horizontal influence zone</b>	x 0.87	x 0.94	x 1.00	x 1.06	x 1.11	x 1.16

### Velocity profile



The velocity profile is given for an air velocity of 0.25 m/s at 144 m<sup>3</sup>/h and a  $\Delta T$  of 5 °C.

### Selection details

RFB

m <sup>3</sup> /s	m <sup>3</sup> /h	velocity isovel m/s	discharge pattern		$P_s$	$L_p$
			vertical	horizontal		
			m	m		
0.030	108	0.75	0.33	-	9	-
		0.50	0.43	-	9	-
		0.25	0.86	0.64	9	-
0.035	126	0.75	0.40	-	12	-
		0.50	0.52	-	12	-
		0.25	1.07	0.95	12	-
0.040	144	0.75	0.43	-	15	18
		0.50	0.55	-	15	18
		0.25	1.13	1.04	15	18
0.045	162	0.75	0.49	-	20	20
		0.50	0.64	-	20	20
		0.25	1.34	1.13	20	20
0.050	180	0.75	0.61	-	25	23
		0.50	0.77	-	25	23
		0.25	1.53	1.22	25	23
0.055	198	0.75	0.61	-	30	26
		0.50	0.80	-	30	26
		0.25	1.65	1.31	30	26