

# Floor Diffusers

Type FBA 250



## For Underfloor Air Distribution (UFAD) System

- Size 250 mm diameter face
- Rapture load at the center of the diffuser is 20 KN
- Adjustable between horizontal and vertical discharge

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### Material

The floor diffuser and trim ring are manufactured from aluminum die cast. The swirl plate is made from black ABS plastic and the dirt tray is available either ABS plastic or metal.

The plenum box is made from galvanized formed sheet steel and will be painted matt black (RAL 9005).

### Design variants

The floor diffuser core incorporates a large number of support ribs for structural integrity, capable of withstanding a point load at the center for up to 20 kN. The floor diffuser can be manually adjusted to provide vertical and horizontal supply air discharge, in a swirl pattern.

The dirt tray includes with winged volume control elements is applicable to VF option only. These are used to control the air volume and act as balancing blades during commissioning.

The swirl plate is employed to alter the discharge pattern to create a swirling motion thereby ensuring (available only for adjustable swirl element).

A plenum box may be fitted to the rear is recommended and should be fitted to the underside of the raised floor tile. A floor sealant between the plenum box and floor tile shall be provided and carried out by the installer.

The trim ring flange is used primarily for carpet flooring installations in order to prevent the carpet edges from fraying. The spring clip solution makes the installation easy.

### Installation

The use of trim rings is recommended for installation in false floors with carpeting and can be installed in floor tiles that are at least 10mm thick. The installation openings required for the trim ring version is 270 (-0/ +2) mm diameter.



#### Caution!

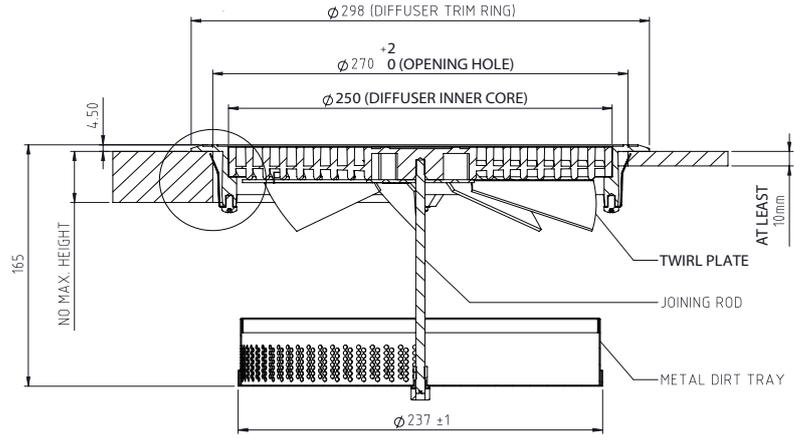
Danger of injury from the spring mechanism.

Fingers may be pinched and crushed.

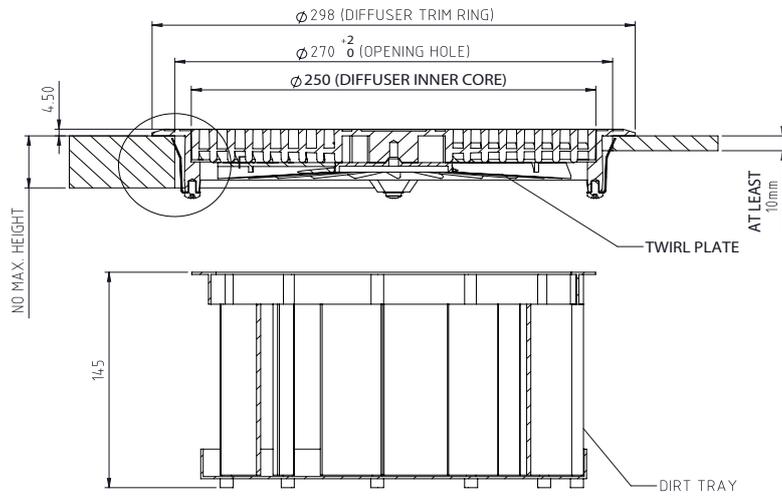
Do not put finger under the trim ring when installing the FBA

Remove the floor diffuser with a suitable tool. E.g. large screwdriver

FBA - V/H Adjustable

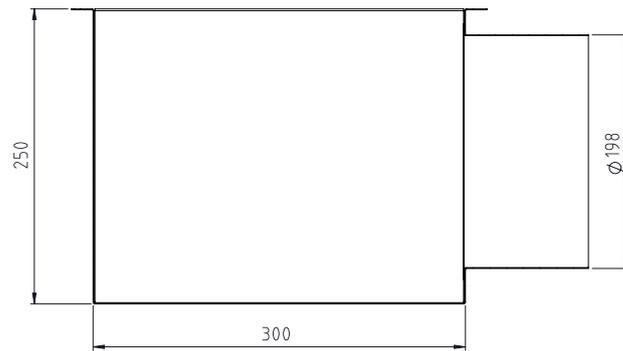


FBA - VF vertical fix



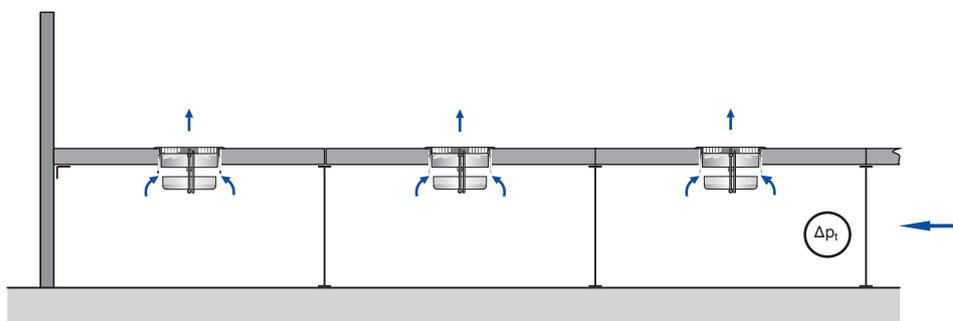
Plenum box

Plenum boxes for installation in floors that are not designed as positive pressure plenum



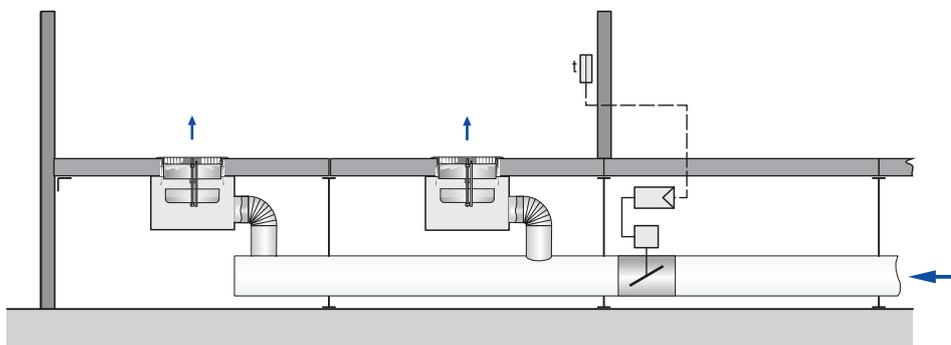
## Positive pressure plenum floors

Positive plenums are preferred for large floor areas. Here, plenum boxes are not required due to the uniform under floor pressure distribution. It is not necessary to balance the air flow to individual diffusers.



## Individual rooms

The use of plenum boxes is recommended for individual room temperature control. This guarantees that air flow rate to each room can be controlled separately, e.g. by room thermostats



## Comment

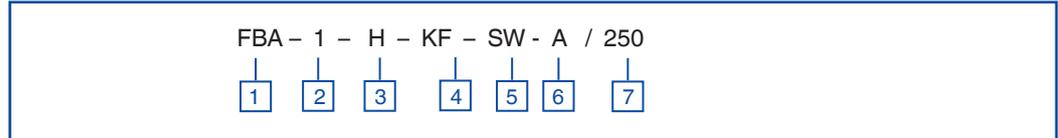
The use of the dirt tray is not absolutely necessary, dependent on the condition within the room or how the room is used.

The aerodynamic performance of the diffuser is not in the room or how the room is used. The aerodynamic performance of the diffuser is not influenced by dirt tray.

Performance data

Pressure drop (Pa)		Vertical (V)		Horizontal (H)		Vertical fixed (VF)	
		With dirt tray (SM)	Without dirt tray	With dirt tray (SM)	Without dirt tray	With dirt tray (SM)	Without dirt tray
10	Flow (l/s)	29	30	17	18	45	45
	Lw; dB (A)	25	25	<20	<20	25	25
20	Flow (l/s)	43	44	29	30	65	64
	Lw; dB (A)	33	34	27	27	35	35
30	Flow (l/s)	52	54	36	38	78	78
	Lw; dB (A)	38	40	32	34	45	45
35	Flow (l/s)	55	57	38	41	85	85
	Lw; dB (A)	40	41	34	36	51	51
40	Flow (l/s)	58	60	41	43	91	91
	Lw; dB (A)	42	43	36	37	57	57
45	Flow (l/s)	60	62	42	45	96	96
	Lw; dB (A)	43	44	37	39	63	63

FBA



**1** Type

**FBA** Floor diffuser

**2** Surface or diffuser core and trim ring

- 1** Die cast, deburred
- 3** Die cast, deburred, stove-enamelled in black face skimmed
- 4** Die cast, deburred, faceskimmed

**3** Swirl element, discharge direction

- H** Horizontal, adjustable
- V** Vertical, adjustable
- VF** Vertical, fixed (without swirl element)  
(Refer to page 3)

**4** Trim ring with spring clips

- O** Without trim ring
- KF** With trim ring

**5** Dirt tray

- O** Without dirt tray
- SW** With dirt tray (with volume adjustment);  
VF : in ABS plastic (only for KF)  
V/H : in metal
- S** With dirt tray  
(without volume adjustment elements,  
not available for V/H option)

**6** Plenum box

- O** Without plenum box
- A** With plenum box

**7** Nominal size

250

**Order example : FBA-1-H-KF-SW-A/250**

Type	FBA
Surface or diffuser core and trim ring	Die cast, deburred
Swirl elements, discharge direction	Horizontal, adjustable
Trim ring with spring clips	With trim ring
Dirt tray	With dirt tray
Plenum box	With plenum box