

Air diffusers

Floor diffusers FBK

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Product overview

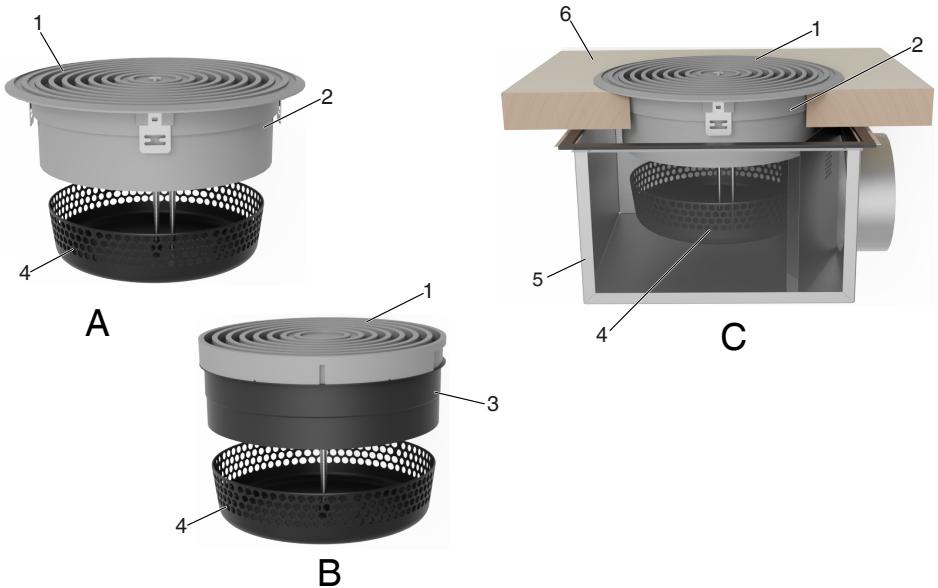


Fig. 1: Schematic illustration, example FB-K

A FBK-...-KF

B FBK

C FBK-...-KF-A

1 Diffuser face

2 Casing with trim ring and spring clips

3 Spacing ring

4 Dirt trap

5 Plenum box with seal to the base plate

6 Base plate (on-site)

Important notes

Information on the installation manual

This manual enables operating or service personnel to correctly install the product described below and to use it safely and efficiently.

It is essential that these individuals read and fully understand this manual before starting any work. The basic prerequisite for safe working is to comply with the safety notes and all instructions in this manual.

The local regulations for health and safety at work and general safety regulations also apply.

Other applicable documentation

In addition to these instructions, the following documents must be observed:

- Product data sheets

Limitation of liability

The information in this manual has been compiled with reference to the applicable standards and guidelines, the state of the art, and our expertise and experience of many years.

The manufacturer does not accept any liability for damages resulting from:

- Non-compliance with this manual
- Incorrect use
- Operation or handling by untrained individuals
- Unauthorised modifications

The actual scope of delivery may differ from the explanations and illustrations provided in this manual for special versions, the use of additional order options or as a result of recent technical changes.

Safety

Correct use

Floor diffusers are used to ventilate rooms in comfort zones. For this purpose, the air diffusers are connected to an on-site supply air system, which is usually connected to a central air handling unit.

Air diffusers are used to supply cooled or heated air to rooms (within the specified supply air to room air temperature differences).

Depending on the area of application, special hygiene requirements must be observed during installation, operation, and maintenance.

Possible installation in humid rooms, areas with potentially explosive atmospheres, or rooms with dust-laden or aggressive air must be checked individually.

Staff

Qualification

Trained personnel

Trained personnel are individuals who have sufficient professional or technical training, knowledge and actual experience to enable them to carry out their assigned duties, understand any potential hazards related to the work under consideration, and recognise and avoid any risks involved.

Personal protective equipment

Personal protective equipment must be worn for any work in order to reduce health or safety hazards to the minimum.

The appropriate protective equipment for a job must be worn for as long as the job takes.

Industrial safety helmet



Industrial safety helmets protect the head from falling objects, suspended loads, and the effects of striking the head against stationary objects.

Protective gloves



Protective gloves protect hands from friction, abrasions, punctures, deep cuts, and direct contact with hot surfaces.

Safety shoes

Safety shoes protect the feet from crushing, falling parts and prevent slipping on a slippery floor.

Repair and replacement parts

Only qualified personnel must repair the products, and they have to use genuine replacement parts.

Transport and storage**Delivery check**

After delivery, carefully remove the packaging and check the product for any transport damage and completeness. In case of transport damage or incomplete delivery, inform the forwarding agent and the supplier immediately. After inspection of the goods, put the product back into its packaging to protect it from dust and contamination.

**Fixing and installation material**

Fixing and installation material is not part of the supply package (unless stated otherwise), but has to be provided by others; it has to be suitable for the installation situation.

Transport on site**CAUTION!****Danger of injury from sharp edges, sharp corners and thin sheet metal parts!**

Sharp edges, sharp corners and thin sheet metal parts may cause cuts or grazes.

- Be careful when carrying out any work.
- Wear protective gloves, safety shoes and a hard hat.

Please note the following points during transport:

- Be careful when unloading or moving the product on site, and pay attention to the symbols and information on the packaging.
- If possible, take the product in its transport packaging up to the installation location.
- Use only lifting and transport gear designed for the required load.
- During transport, always secure the load against tipping and falling.
- Bulky equipment should be transported by at least two people to prevent injury and damage.

Storage

Please note for storage:

- Store the product only in its original packaging
- Protect the product from the effects of weather
- Protect the product from humidity, dust and contamination
- Storage temperature: -10 °C to 90 °C
- relative humidity: 80 % maximum, no condensation

Packaging

Properly dispose of packaging material.

General installation information

Observe during installation:

- Installation in raised floors without plenum box if it is constructed as a pressurised floor
- Installation in raised floors with plenum box
- Floor diffusers must be accessible for cleaning work after installation.
- Fastening material provided by the manufacturer.

i Protect the device from dust and contamination

Before installation, ensure that the air-ducting components cannot be contaminated by construction activities (VDI 6022). If this is not possible, at least cover the unit or take other precautions to protect it from contamination. In this case, make sure the unit is not in operation.

Ensure that all components are clean before you install them. If necessary, clean them thoroughly. When interrupting the installation procedure, protect all unit openings from the ingress of dust or humidity.

Installation floor diffuser

Installation floor diffuser

Personnel:

- Trained personnel

Protective equipment:

- Industrial safety helmet
- Protective gloves
- Safety shoes

⚠ CAUTION!

Danger of injury from spring force.

Fingers may be pinched and crushed.

- Do not reach under the trim ring when inserting the floor diffuser
- Remove the floor diffuser with a suitable tool, e.g. large screwdriver!

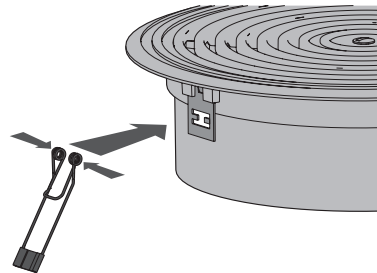


Fig. 2: Spring clip loose

The spring clips are supplied loosely in a bag and must be fitted to the floor diffuser before installation. .

There are 4 spring clips for every diffuser.
Assemble as follows:

1. ▶ Compress the spring clips at the grommets.

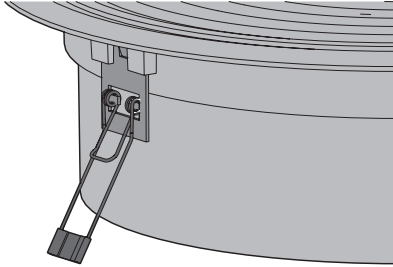
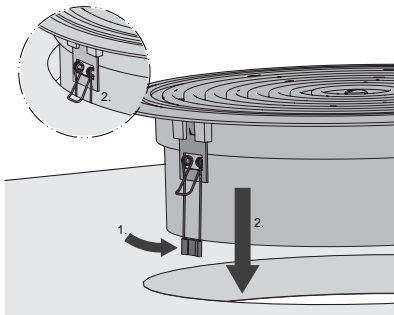


Fig. 3: Spring clip fixing

2. ▶ Attach the spring clip to the retaining plate.

Insert floor diffuser

The floor diffuser is installed in the floor tile as a complete unit, including spring clips, dirt trap if required, and other components.



3. ▶ Installation floor diffuser

- Hold all 4 spring clips vertically.
- Insert floor diffuser into the installation opening from above.
- Caution: The short legs of the spring clips must rest on the floor.
- Hold the floor diffuser from above and push into the installation opening with even pressure.
- Installation situation 1 b: Spring clip is located on the wall of the installation opening
- Installation situation 2 c: Spring clip presses under the base plate

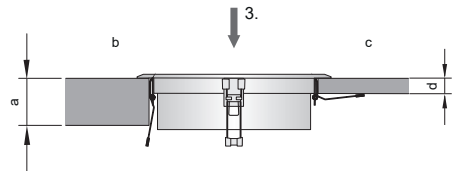


Fig. 4: Installation situations

4. ▶
 - a. Height > 10 mm
 - b. Installation situation 1
 - c. Installation situation 2
 - d. max. 10 mm

Dismantling

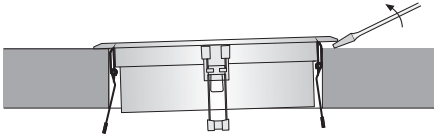


Fig. 5: Removal spring clip fixing

1. ▶ Use a tool such as a screwdriver to lever out the floor diffuser in several places.

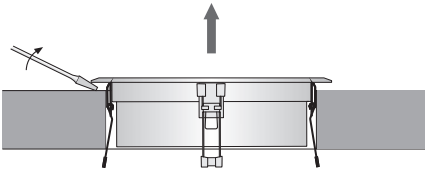


Fig. 6: Removal spring clip fixing

2. ▶ ■ Pull the floor diffuser out of the installation opening.

**WARNING!**

Reach between the spring clips to avoid injuries caused by springs bouncing back.

Technical data
Dimensions and weights

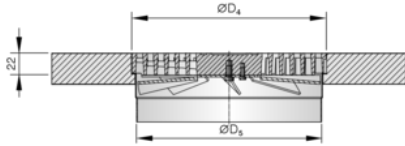


Fig. 7: Installation with spacing ring

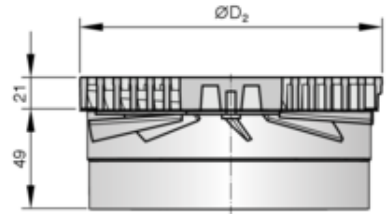


Fig. 10: Variant FB*

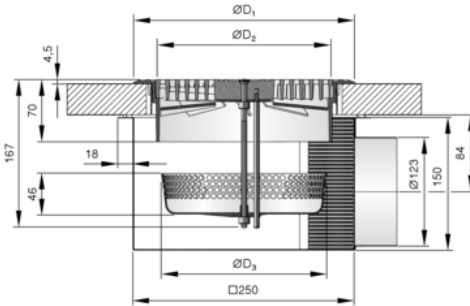


Fig. 8: FB-KF-SV-A

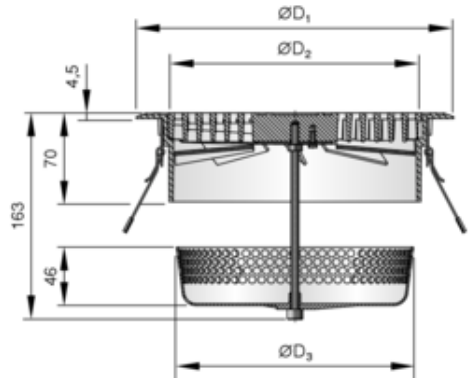


Fig. 11: Variant trim ring and dirt trap with rear adjustment

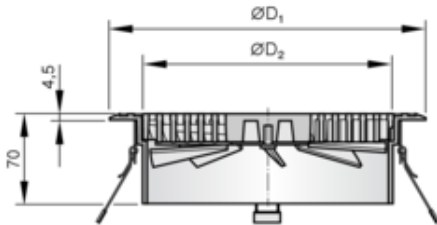


Fig. 9: Variant FB*....-KF

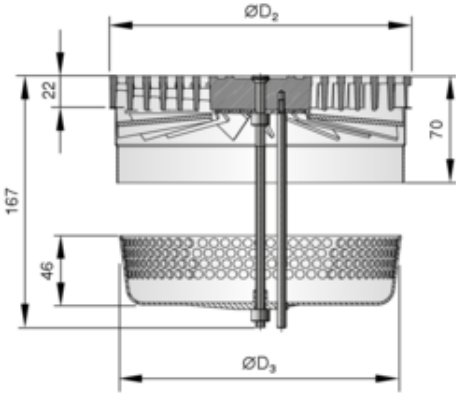


Fig. 12: Variant spacing ring and dirt trap with front adjustment

NS	Outer diameter of trim ring	Outer diameter of grille core	Outer diameter of dirt trap	Installation opening with spacing ring		Installation opening with trim ring
	ØD ₁	ØD ₂	ØD ₃	ØD ₄	ØD ₅	ØD ₆
150	200	150	137	151	143	170-180
200	250	200	187	201	193	220-230


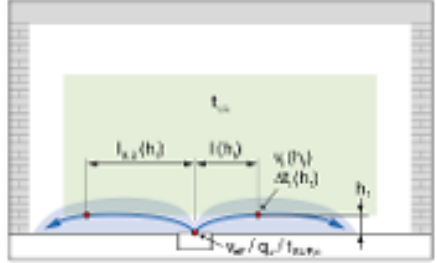

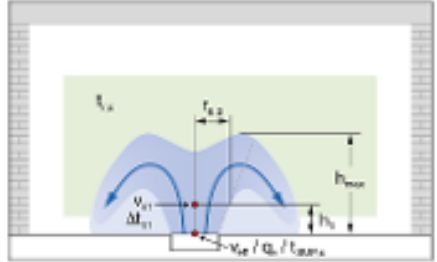
Weight m [kg]

NS	150	200
Grille core	0.3	0.4
Trim ring	0.2	0.2
Dirt trap	0.1	0.1

Setting the airflow direction

The schematic diagrams are provided to illustrate installation details.

Airflow

Airflow direction	Setting the air control blades
<p>Air flow with horizontally adjusted swirl blade</p> 	
<p>Airflow with vertically adjusted swirl blade</p> 	

Volume flow rate balancing

Dirt trap adjustment for volume flow balancing

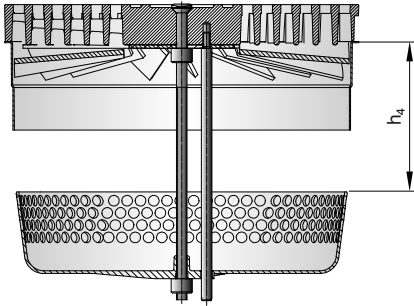


Fig. 13: FBA-SV

For volume flow balancing (setting the throttling), the height h_4 between the upper edge of the dirt trap and the lower edge of the floor grille is changed.

Initial commissioning

Maintenance

System owner's responsibility



WARNING!

Only authorised specialist personnel are allowed to perform the described maintenance measures.

Disposal



ENVIRONMENT!

Risk of harm to the environment due to incorrect disposal!

Incorrect disposal may harm the environment.

The system owner is responsible for maintenance. The system owner is responsible for creating a maintenance plan, for defining the maintenance goals, and for the functional reliability of the equipment.

The legal regulations must be observed during maintenance, e.g. the system owner is responsible for hygienic operation in accordance with VDI 6022.

Maintenance and cleaning

During cleaning, the following points must be observed:

- The cleaning intervals given in the VDI 6022 standard apply.
- Clean surfaces with a damp cloth.
- Use only common household cleaners, do not use any aggressive cleaning agents.
- Do not use cleaning agents that contain chlorine.
- Do not use equipment for removing stubborn contamination, e.g., scrubbing sponges or scouring cream, as it may damage the surfaces.

Inspection measures

1. ▶ Remove contamination that affects the function of the floor diffuser.
2. ▶ Document the maintenance work.

Repair

Repair work is only allowed to be carried out by specialist personnel or by the manufacturer. Only genuine replacement parts must be used.

- Be sure to comply with the relevant national guidelines and regulations.
- In case of doubt, contact your local authorities or a specialist disposal company.

Note: The floor diffuser must be dismantled for disposal.

If no disposal or return agreement with TROX GmbH is in place, we recommend disposing of the materials as follows:

Pos.	Component	Material/waste code	Type of disposal
1	Spring clip	Stainless steel EWC 14310	Scrap and metal recycling
2	Plenum box, threaded rods, retaining plate	galvanised steel EWC 170404	Scrap and metal recycling
3	Dirt trap, swirl blade, spacing ring	Plastic EWC 170203	according to EWC
4	Grille core, trim ring	Plastic EWC 170203	according to EWC

EWC European Waste Catalogue