



Wall diffuser

CHM**TROX SE**

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Product overview

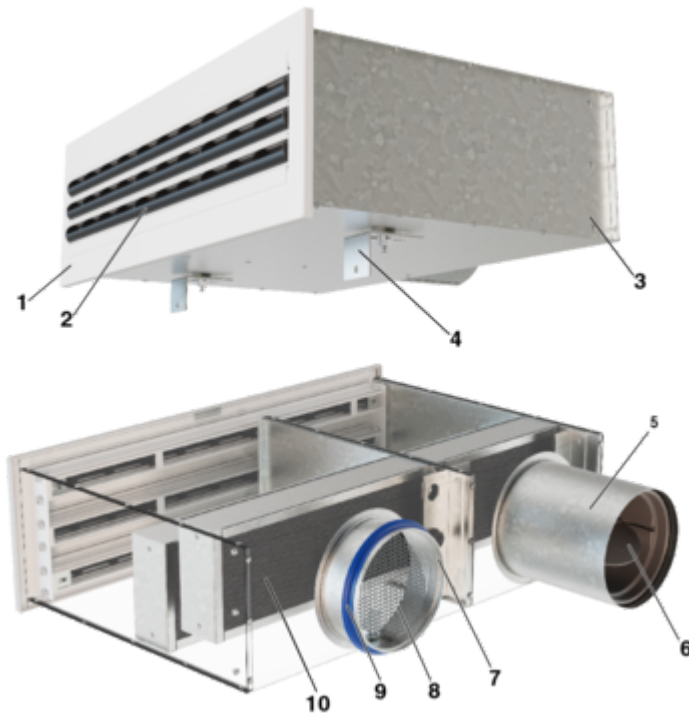


Fig. 1: Schematic illustration, CHM-35-* as supply air/extract air combination

- | | | | |
|---|--|----|---|
| 1 | Diffuser face consisting of front plate and front rails | 6 | Volume flow limiter type VFL (to be ordered separately) |
| 2 | Adjustable air control blade | 7 | Standard spigot |
| 3 | Plenum box | 8 | Damper blade |
| 4 | Mounting brackets for wall mounting (wall thickness 90 – 130 mm) | 9 | Lip seal |
| 5 | Spigot, prepared for the installation of a volume flow limiter | 10 | Splitters (removable from room side) |

General

Information on this manual

This manual is intended for use by fitting and installation companies, in-house technicians, technical staff, instructed persons, and qualified electricians or air conditioning technicians.

The personnel must have carefully read and understood this manual before starting any work. The basic prerequisite for safe working is to comply with all safety notes and instructions in this manual.

The local regulations for health and safety at work and the general safety regulations for the area of application of the ventilation unit also apply.

This manual must be given to the system owner when handing over the system. The system owner must include the manual with the system documentation. This manual must be kept in a place that is accessible at all times.

Illustrations in this manual are mainly for information and may differ from the actual design.

Other applicable documentation

- Project-specific documents (if any)
- Product data sheet

Explanation of symbols

Safety notes

Symbols are used in this manual to alert readers to areas of potential hazard. Signal words express the degree of the hazard.

Comply with all safety instructions and proceed carefully to avoid accidents, injuries and damage to property.



DANGER!

Imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING!

Potentially hazardous situation which, if not avoided, may result in death or serious injury.



CAUTION!

Potentially hazardous situation which, if not avoided, may result in minor or moderate injury.



NOTICE!

Potentially hazardous situation which, if not avoided, may result in property damage.



ENVIRONMENT!

Environmental pollution hazard.

Tips and recommendations



Useful tips and recommendations as well as information for efficient and fault-free operation.

Safety notes in the operating instructions

Safety notes can refer to specific, individual instructions. Such safety instructions are embedded in the instructions so that they do not interrupt the flow of reading when carrying out the task. The above listed signal words will be used.

Example:

1 ▶ Loosen the screw.

2 ▶



CAUTION!





Risk of jamming on the lid!

2 ▶ Close the lid carefully.

3 ▶ Tighten the screw.

Additional markers

In order to highlight instructions, results, lists, references and other elements, the following markers are used in this manual:

Marker	Explanation
 1., 2., 3. ...	Step-by-step instructions
	Results of actions
	References to sections in this manual and to other applicable documents
	Lists without a defined sequence
[Switch]	Operating elements (e.g. push buttons, switches), display elements (e.g. LEDs)
'Display'	Screen elements (e.g. buttons or menus)

TROX Contact information

To ensure that your request is processed as quickly as possible, please have the following information available:

- Product name
- TROX order number and line number
- Delivery date
- Brief description of fault or issue

Please refer to your local TROX website for the latest contact information.

Claims for material defects

The provisions of the respective General Terms and Conditions of Delivery apply to claims for material defects. For purchase orders placed with TROX SE, see "Section VI Warranty Claims," of the Delivery and Payment Terms of TROX SE, www.trox.de/en/.

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This applies in particular to:

- Publication
- Reproduction
- Translation
- Saving and processing in electronic systems

Safety

Intended use

Wall diffusers are used to ventilate rooms in industrial and comfort zones. For this purpose, the air diffusers are connected to an on-site supply air or extract air system, which is usually connected to a central air handling unit. Integrated sound insulation material reduces sound transmission through the wall diffuser into the on-site duct system.

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 of air diffusers in humid rooms, areas with potentially explosive atmospheres, or rooms with dust-laden or aggressive air must be assessed individually.

Personnel

Qualification

HVAC technician

HVAC technicians are individuals who have sufficient professional or technical training in the field they are working in to enable them to carry out their assigned duties at the level of responsibility allocated to them and in compliance with the relevant guidelines, safety regulations and instructions. HVAC technicians are individuals who have in-depth knowledge and skills related to HVAC systems; they are also responsible for the professional completion of the work under consideration.

HVAC technicians are individuals who have sufficient professional or technical training, knowledge and actual experience to enable them to work on HVAC systems, understand any potential hazards related to the work under consideration, and recognise and avoid any risks involved.

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 may 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 device 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

Unless otherwise specified, fixing and installation materials are not included in the delivery and must be provided by the client, in accordance with the respective installation situation.

**Factory setting**

The air control blades are factory-set to a certain position. Adjusting the air control blades leads to increased efforts during commissioning. Therefore, avoid moving the air control blades during on-site transport, unpacking and installation.

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

Sharp edges, sharp corners and thin-walled sheet metal parts can cause abrasions and cuts to the skin.

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

Observe 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

Observe the following points 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

After unpacking, properly dispose of packaging material.

Installation**General installation information**

Observe during installation:

- For room heights up to 4 m (lower edge of ceiling)
- Wall installation in lightweight partition wall
- For cleaning purposes, the air diffusers must be easily accessible after installation.
- Fixing material provided by the manufacturer and additional material for sound insulation.
- The devices must be installed with sound insulation. Sealing tapes for sound insulation must be provided by the client to suit the installation situation.
- Suitable fixing material must be provided by the client depending on the local conditions.

**Protect the device from 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 devices or take other precautions to protect them from contamination. In this case, make sure the device is not in operation. Ensure that all components are clean before you install them. Clean thoroughly if necessary. When interrupting the installation procedure, protect all device openings from the ingress of dust or humidity.

Installation wall diffuser

Install wall diffuser

Personnel:

- Trained personnel

Protective equipment:

- Industrial safety helmet
- Protective gloves
- Safety shoes

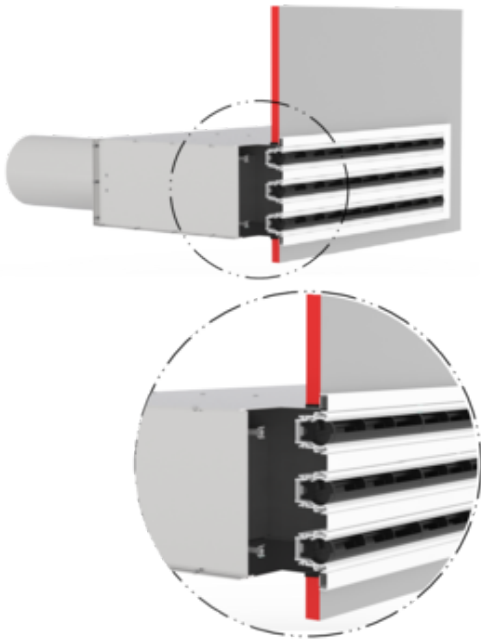
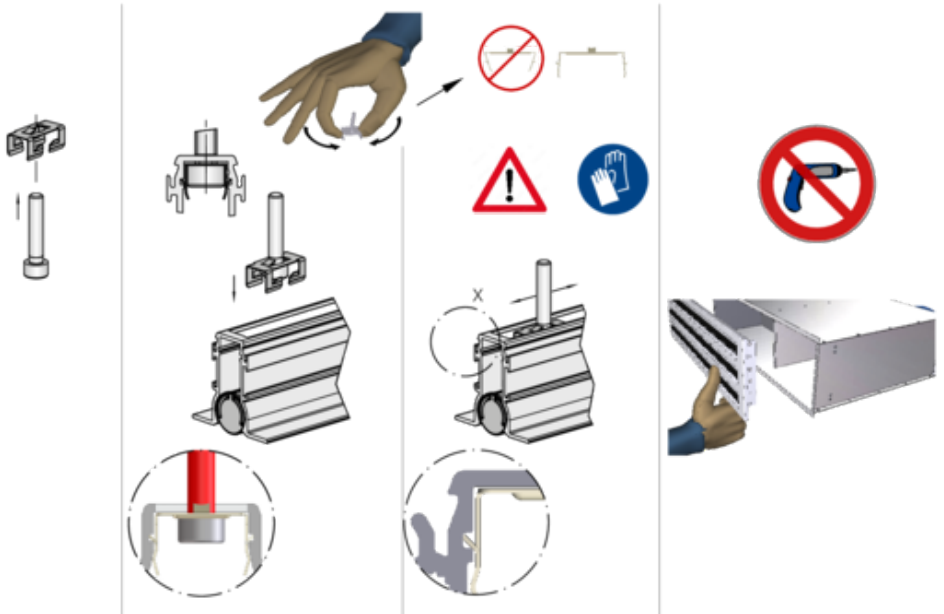


Fig. 2: Plenum box

- 1 ▶ The device with protective foil is inserted into the drywall.

The wall is completed with panels etc. and sanded. The protective foil remains on the device until the final coating of the wall to prevent soiling.



2 ▶ Installation front plate

- Mount the loose fixing material as shown.
- Insert into front rail.
- Caution, do not squeeze the clamp too tightly!
- Ensure correct fit!
- Position it lengthwise.
- Insert the front rail together with the screws into the fixing holes on the plenum box.

Note:

Using an Allen key (SW4) simplifies the fixing procedure.

3 ▶ Mount the front plate in the plenum box

Installation in lightweight partition walls and ceiling bulkhead

Installation in lightweight partition walls

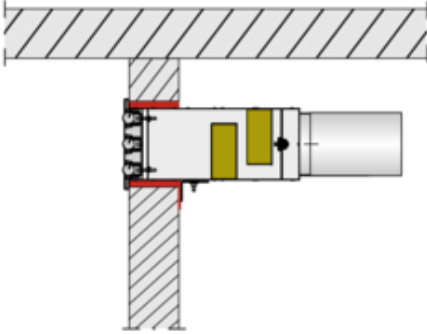


Fig. 3: Installation in lightweight partition walls (wall thickness 90 to 130 mm), incl. on-site sound insulation, to be provided by the client (thick, red lines)

Installation into ceiling bulkheads

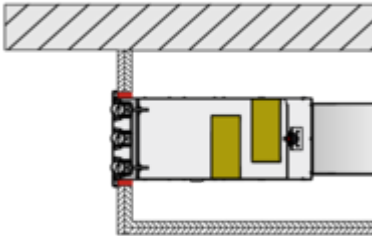


Fig. 4: Installation in ceiling bulkhead, incl. on-site sound insulation, to be provided by the client (thick, red lines)

Technical data

Dimensions and weights

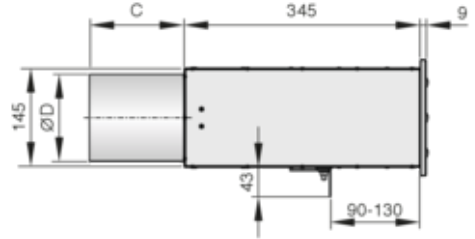
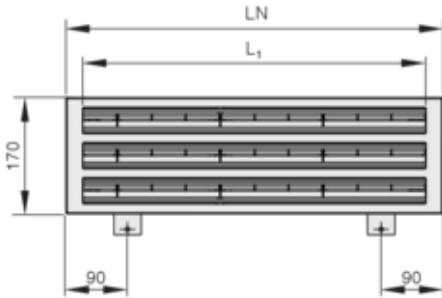


Fig. 5: CHM - variant with mounting bracket for wall installation

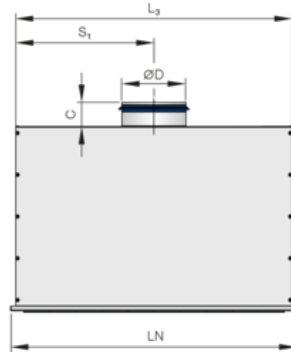
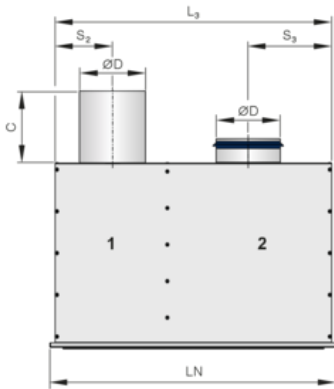


Fig. 6: CHM - Variance - Number of spigots

- 1 Supply air
- 2 Extract air

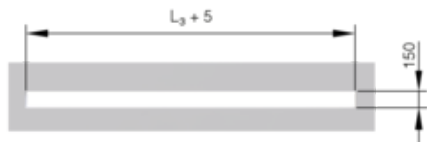


Fig. 7: Installation opening in lightweight partition walls

CHM

L_N	L_1	L_3	S_1	S_2 (supply air)	S_3 (extract air)
550	500	530	265	110	160
850	800	830	415	185	235
1000	950	980	490	235	260
1175	1125	1155	578	272	310

CHM Spigot

DN	without VFL		prepared for VFL	
	ØD	C	ØD	C
100	98	50	102	240
125	123	48	127	260

CHM Weights

LN	m [kg]			
	550	850	1000	1175
Plenum box	4.7	6.3	7.0	7.9
Front plate PL35	1.4	2.1	2.4	2.8
Front plate 3PL35	1.8	2.6	3.0	3.5
Front plate 3PL18	1.6	2.3	2.6	3.1
Front plate 2PL50	1.7	2.5	3.0	3.5
Splitter	3.8	4.7	5.1	5.6

Total weight = plenum box + front plate + splitter (if any)

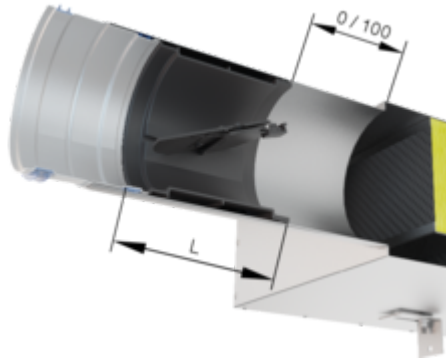
Volume flow limiter

Fig. 8: Positioning the volume flow limiter

CHM volume flow limiter

Nominal size VFL	ØD [mm]	L [mm]	m [kg]
100	98	100	0.15
125	122	118	0.25

Setting the volume flow setpoint

Tool:

- Torx T9 screwdriver (provided by the client)



Fig. 9: Setting the volume flow setpoint

- 1 ▶ Use the Torx screwdriver to set the required volume flow setpoint on the volume flow scale (↺ sticker).



Fig. 10: Cover the slotted hole

- 2 ▶ After setting the volume flow, the slotted hole must be sealed with the enclosed clear sticker for acoustic optimisation

Installing the terminal unit

Personnel:

- HVAC technician

Protective equipment:

- Industrial safety helmet
- Protective gloves
- Safety shoes

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 devices or take other precautions to protect them from contamination. In this case, make sure the device is not in operation. Ensure that all components are clean before you install them. Clean thoroughly if necessary. When interrupting the installation procedure, protect all device openings from the ingress of dust or humidity.

For installation, please note:

- The installed product must be accessible for maintenance and adjustments.

Avoid damage of the terminal unit:

- Handle the device with care.
- Only lift the device by the casing.
- Never lift the device by the control damper, rotary knob or actuator.

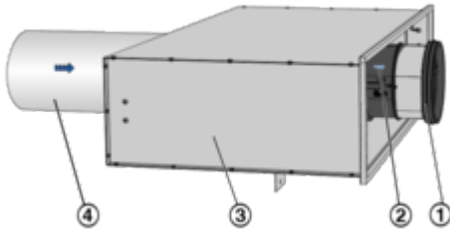


Fig. 11: VFL Installation

- 1 ▶ Set the volume flow setpoint before installation,
- 2 ▶ push the VFL (/1) into the plenum box (/3). The volume flow limiter can sit flush at the end of the spigot (0 mm) or be inserted 100 mm deep into the spigot to improve the acoustics.

Observe the air direction arrow! (/2) .

- 3 ▶ Insert splitters and diffuser face into the plenum box
- 4 ▶ Use the provided stickers to label the volume flow limiters. You can write on the stickers and affix them to the outside air duct (/4)
- 5 ▶ Alternatively, the volume flow limiter can also be inserted directly from the spigot side during initial installation.

Setting the airflow direction

These are only schematic diagrams to illustrate the setting of the air control blades.

The air control blades have notches on the mullions which are used for adjustment. If necessary, we recommend that you use both hands to adjust the air control blades on the notches.

Airflow

Airflow direction	Setting the air control blades
Airflow with ceiling effect	
Direct airflow into the room	

Initial commissioning

General information

Before you start commissioning, check the following points:

- Check that the air diffusers are fitted correctly.
- Remove protective foils, if any.
- Ensure that all air diffusers are clean and free from residues and foreign matter.

For commissioning, see also VDI 6022, Sheet 1 - Hygienic requirements for ventilation and air conditioning systems.

Settings VFL

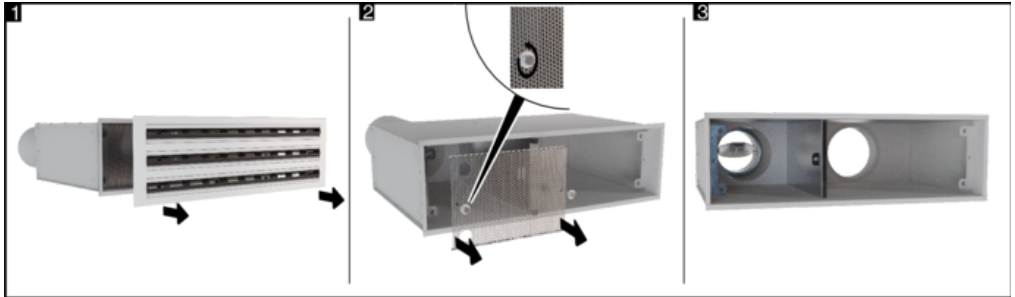


Fig. 12: Removal of perforated plate (only for supply air without splitter)

- 1 Loosen the screws in the front panel and remove the front panel
- 2 Loosen the screws of the perforated plate and remove the perforated plate
- 3 Settings VFL
Assembly in the same order



Fig. 13: Splitter removal

- 1 Loosen the screws in the front panel and remove the front panel
- 2 Using both hands, pull the splitter out of the holder
- 3 Settings VFL
Assembly in the same order

Maintenance

System owner's responsibility



WARNING!

Only authorised specialist personnel may perform the described maintenance measures.

The system owner is responsible for maintenance. With their maintenance management, 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 wall diffuser.
- 2 ▶ Check all screw connections for tightness and retighten them, if necessary.
- 3 ▶ Document the maintenance work.

Repair work

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

Disposal



ENVIRONMENT!

Risk of harm to the environment due to incorrect disposal!

Incorrect disposal may harm the environment.

- 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 wall diffuser must be dismantled for disposal.

If no disposal or return agreements with TROX SE are in place, we recommend disposing of the materials as follows:

Pos.	Component	Material/waste code	Type of disposal
1	Front rail, end angle	Aluminium EWC 170402	Scrap metal recycling
2	Plenum box, spigot, front plate, perforated plate, brackets for splitters	Galvanised steel EWC 170404	Scrap metal recycling
3	Air control blades	Plastic EWC 170203	according to the EWC
4	VFL	Plastic EWC 170203	according to the EWC
5	Insulating mat	Mineral wool EAK 170603	according to the EWC

EWC European Waste Catalogue