



Air diffusers

Ventilation grille X-GRILLE Basic

TROX SE

Heinrich-Trox-Platz

47506 Neukirchen-Vluyn

Germany

Phone: +49 (0) 2845 202-0

Fax: +49 (0) 2845 202-265

E-Mail: trox-de@troxgroup.com

<http://www.troxgroup.com>

Product overview

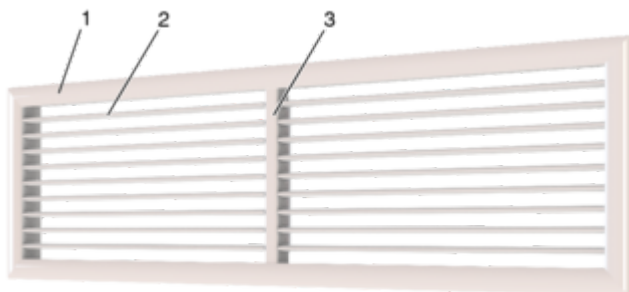


Fig. 1: Schematic diagram of X-GRILLE Basic

- 1 Front border
- 2 Longitudinal blades
- 3 Centre mullion

Important notes

Information on the installation manual

These instructions enable correct installation as well as safe and efficient handling.

Personnel must have read and understood these instructions carefully 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 general safety regulations also apply.

Other applicable documentation

In addition to this manual, the following documents must be observed:

- Product data sheets

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.

Limitation of liability

All information and instructions in this manual have been compiled taking into account the applicable standards and regulations, the state of the art and our many years of knowledge and experience.

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

- Non-compliance with this manual
- Unintended or improper 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

Intended use

Air diffusers are used for the ventilation of rooms in industrial and comfort areas. The air diffusers are connected to a supply air or extract air system (provided by the client), which is typically 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 assessed individually.

Personnel

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 against crushing, falling parts, and slipping on slippery ground.

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.

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 80 °C
- Relative humidity: 80 % maximum, no condensation

Packaging

After unpacking, properly dispose of packaging material.

Installation

General installation information

Personnel:

- Trained personnel

Protective equipment:

- Industrial safety helmet
- Protective gloves
- Safety shoes

Observe during installation:

- Fix the product only to load-bearing structural elements.
- Only load suspension with the device's own weight. Adjacent components and connecting air ducts must be supported separately.
- Use only approved and adequately sized fixing material (fixing material is not included in the supply package).
- For cleaning purposes, the air diffusers must be easily accessible after installation.
- Installation and sealing materials provided by the manufacturer are usually enclosed in a bag in the package.



Protect the device from dust and contamination

Before installation, ensure that the air-ducting components cannot be contaminated by construction activities (VDI, SWKI, Ö-norm). If this is not possible, as a minimum cover the device or take other precautions to protect it 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.

Safety instructions for installation



CAUTION!

Risk of injury due to incorrect installation!

Ventilation grilles can weigh up to 30 kg, depending on size and attachments. If they fall, there is a high risk of personal injury or damage to property. Depending on the installation situation, it must be ensured that suitable measures are taken to prevent falling.

For ceiling installation or installation at great heights, additional safety measures may be required in addition to a suitable type of fastening (screw connection) to prevent the device from falling down.

Technical data

Dimensions and weights

Installation opening

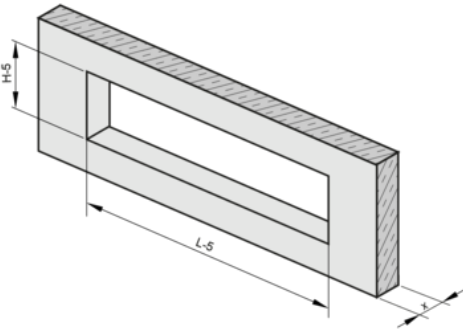


Fig. 2: Installation opening for SP fixing

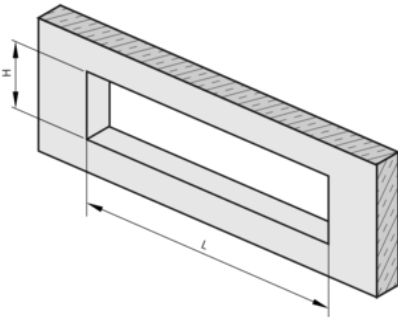


Fig. 3: Installation opening for VS fixing

L= Order length ventilation grille L
H= Order height ventilation grille H
x = Wall thickness x

Installation opening no fixing

L = ventilation grille, order length: L - 15 mm

H = ventilation grille, order height: H - 15 mm

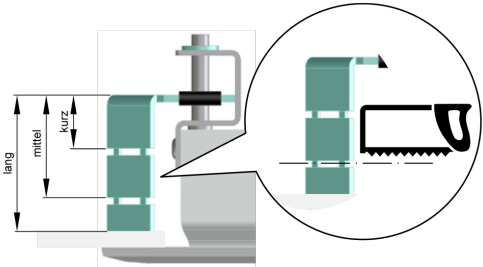
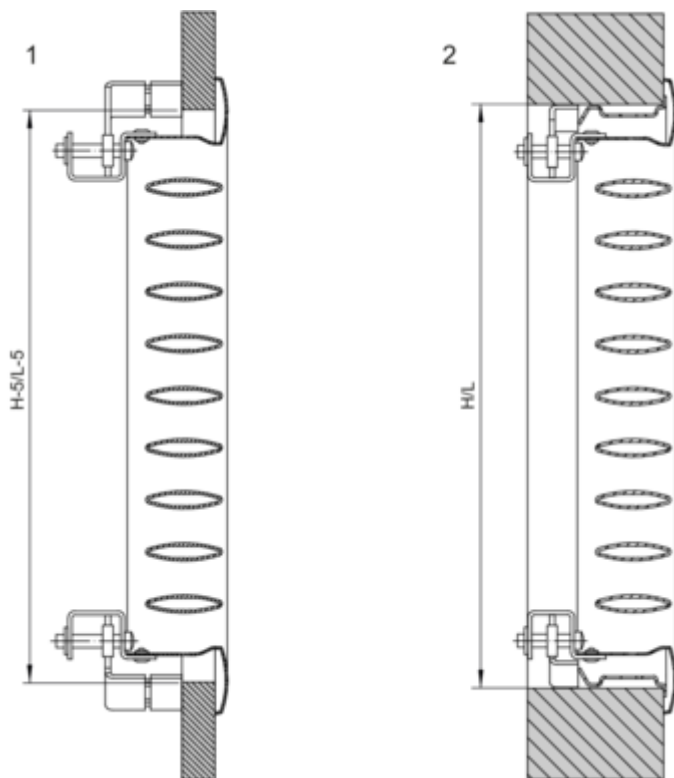


Fig. 4: Clamping ranges X-GRILLE Basic SP fixing (dimension X)

Sash fastener	min.	max.
long	0	10
medium	10	24
short	24	38

You can increase the clamping range by shortening the sash fastener at the marking.



- 1 Installation X-GRILLE Basic without installation subframe with SP fixing
- 2 Installation X-GRILLE Basic with installation subframe and VS fixing



Fig. 5: Fixing SP



Fig. 6: Fixing VS

Fixings

Height (H) [mm]	Length (L) [mm]													
	Standard grille										Linear run section			
											End section		Middle section	
	225	325	425	525	625	825	1025	1225	> 1225 up to 2025	up to 1225	> 1225	up to 1225 (special)	> 1225	
125	2	2	2	2	2	2	2	2	4	3	5	4	6	
225	2	2	2	2	2	2	2	2	4	3	5	4	6	
325	2	2	2	2	2	2	2	2	4	3	5	4	6	
425	4	4	4	4	4	4	4	4	-	-	-	-	-	
525	4	4	4	4	4	4	4	4	-	-	-	-	-	

2 Number of concealed screw fixings (depending on the grille size)

Weights [kg]

Height H [mm]	Length (L) [mm]							
	225	325	425	525	625	825	1025	1225
125	0.5	0.6	0.8	0.9	1.1	1.4	1.7	2.0
225	0.8	1.0	1.2	1.5	1.7	2.2	2.7	3.1
325	1.0	1.4	1.7	2.0	2.3	3.0	3.7	4.3
425	1.4	1.8	2.2	2.6	3.0	3.9	4.7	5.5
525	1.7	2.1	2.6	3.1	3.6	4.8	5.7	6.7

Weights attachment D [kg]

H/L	225	325	425	525	625	825	1025	1225	1425	1625	1825	2025
125	0.3	0.4	0.5	0.6	0.7	0.9	1.2	1.4	1.5	1.7	2.0	2.3
225	0.4	0.6	0.7	0.9	1.0	1.4	1.7	2.0	2.2	2.6	3.0	3.3
325		0.7	0.9	1.2	1.4	1.8	2.2	2.7	3.0	3.4	3.8	4.2
425					1.7	2.3	2.8	3.3	3.7	4.3	4.9	5.4
525							3.3	4.0	4.4	5.1	5.7	6.3

Weights attachment AG [kg]

H/L	225	325	425	525	625	825	1025	1225	1425	1625	1825	2025
125	0.5	0.6	0.8	1.0	1.2	1.5	1.9	2.3	2.6	2.9	3.2	3.6
225	0.7	0.9	1.1	1.4	1.6	2.1	2.5	3.0	3.5	4.0	4.4	4.8
325		1.2	1.4	1.7	2.0	2.6	3.2	3.8	4.3	4.9	5.5	6.1
425					2.5	3.2	3.9	4.6	5.4	6.1	6.8	7.5
525							4.5	5.3	6.4	7.1	7.8	8.6

Weights attachment DG [kg]

H/L	225	325	425	525	625	825	1025	1225	1425	1625	1825	2025
125	0.6	0.8	1.0	1.2	1.5	1.9	2.4	2.8	3.2	3.6	4.1	4.6
225	0.8	1.2	1.5	1.8	2.2	2.8	3.5	4.1	4.7	5.3	6.0	6.7
325		1.6	2.0	2.4	2.9	3.7	4.6	5.5	6.2	7.0	7.9	8.8
425					3.6	4.6	5.7	6.8	7.7	8.7	8.8	10.9
525							6.8	8.1	9.1	10.1	11.4	12.9

Weights attachment AS [kg]

H/L	225	325	425	525	625	825	1025	1225	1425	1625	1825	2025
125	0.4	0.6	0.8	0.9	1.1	1.4	1.8	2.1	2.4	2.7	3.0	3.4
225	0.8	1.0	1.3	1.6	1.9	2.5	3.0	3.6	4.1	4.7	5.3	5.8
325		1.5	1.9	2.3	2.7	3.5	4.3	5.1	5.8	6.6	7.4	8.2
425					3.8	4.9	6.0	7.2	8.2	9.3	10.4	11.5
525							7.3	8.7	10.5	11.8	13.0	14.1

Installation of linear run sections

The individual parts of the linear run section are screwed together.

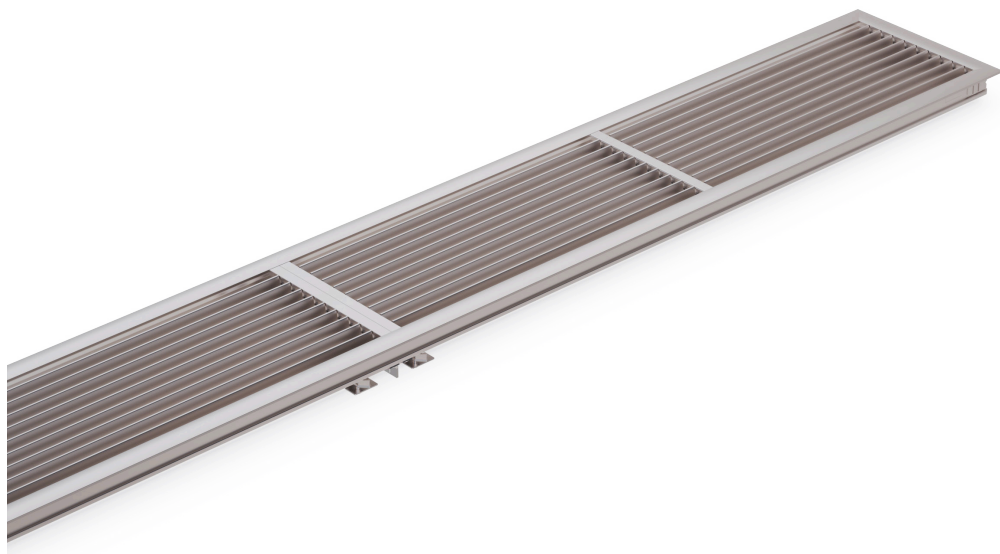
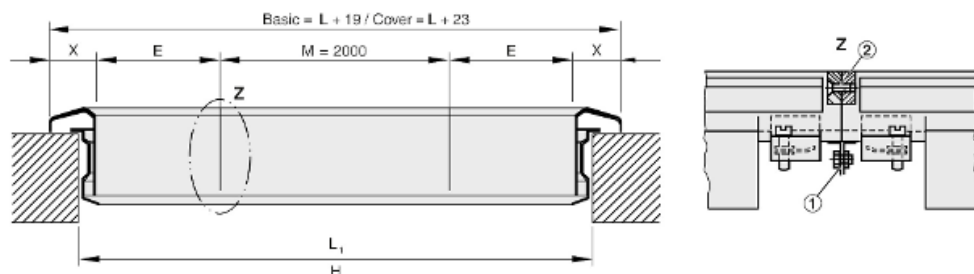
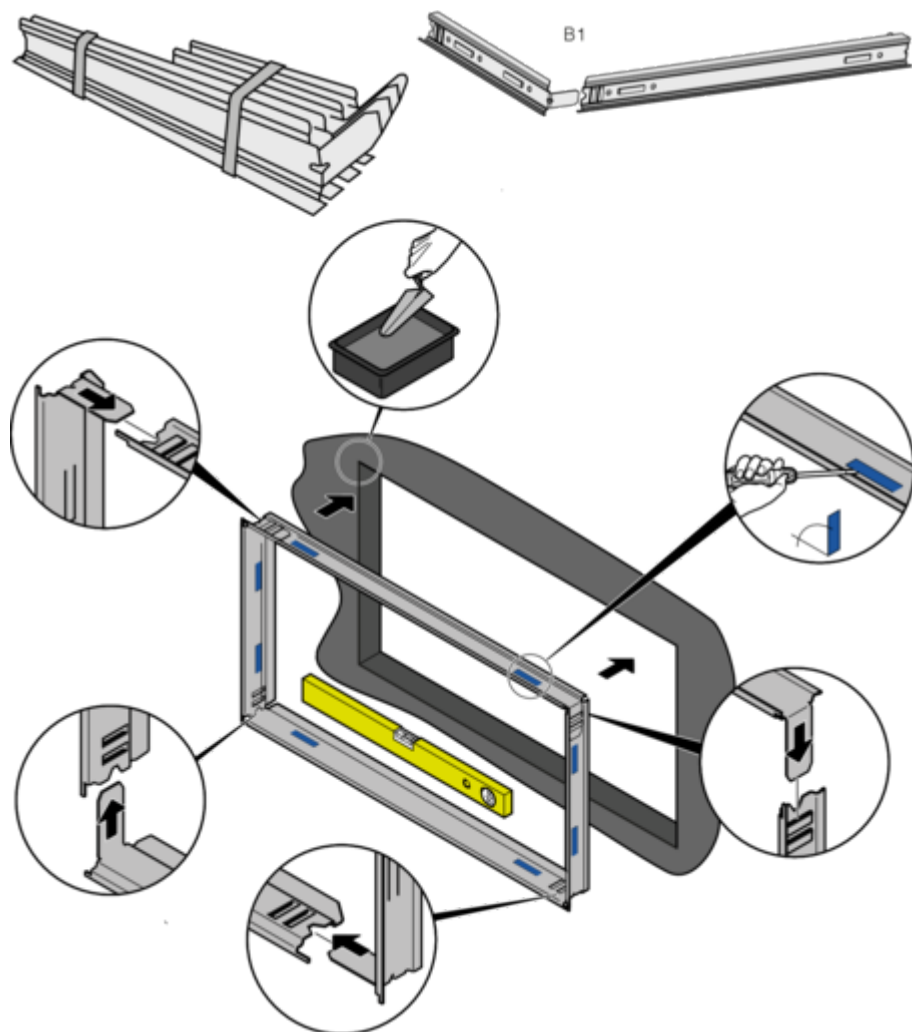


Fig. 7: Installation of linear run sections



- | | | | |
|-------|--|-------|--------------------------------------|
| 1 | Screw connection of installation subframes | L_1 | without installation subframe: |
| 2 | Screw connection of ventilation grilles | | $2E + (n \times M) + 13$ |
| L_1 | with installation subframe: $2E + (n \times M) + 28$ | x | Basic $x = 26$ mm; Cover $x = 28$ mm |

Installation subframe

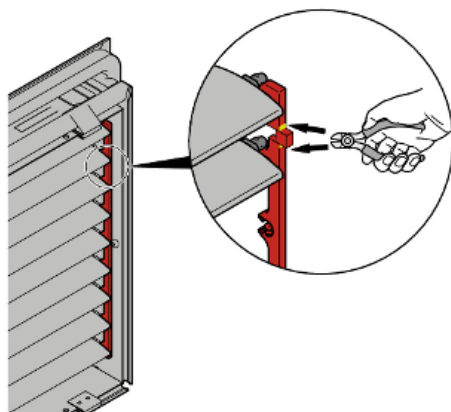


Installation subframe B1

- The installation subframe consists of four frame sections
- Push the frame sections together
- For wall installation: spread the wall fixing tabs, then mortar them in
- Alternatively: Fixing to different building structures with screws or rivets
- Installation in plasterboard wall with installation subframe - use the installation subframe, provide the installation opening with a circumferential bevelled edge of approx. 5 mm
- Install the grille in the centre of the installation opening

Installation details

Cutting the blade linkage (optional)



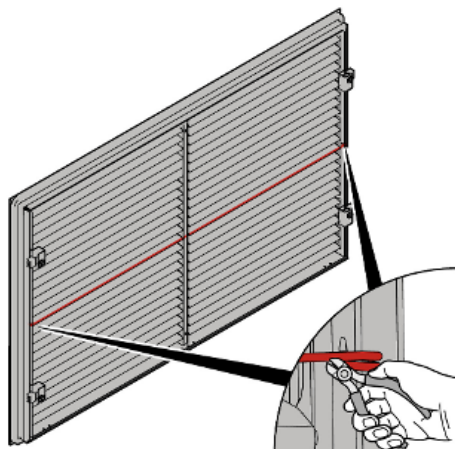
The blades are linked so that they can be adjusted in groups. Up to 9 blades are interconnected. If differing blade settings are required, the blade linkage at the rear must be cut.

! NOTICE!

Cutting the blade linkage cannot be reversed!

Removing the transport lock

Remove the transport lock at the back of the grille (only for X-GRILLE Basic from size 325)



Inserting the grille

Basic, concealed screw fixing

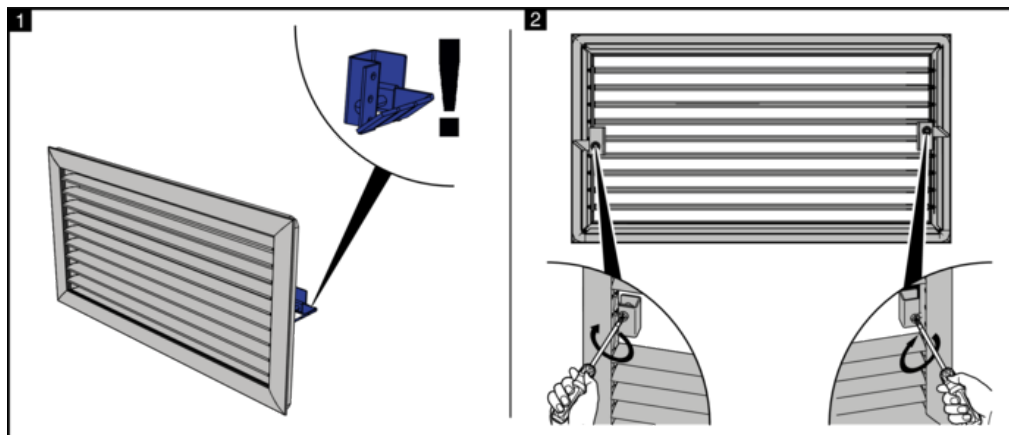


Fig. 8: Frame fixing SP

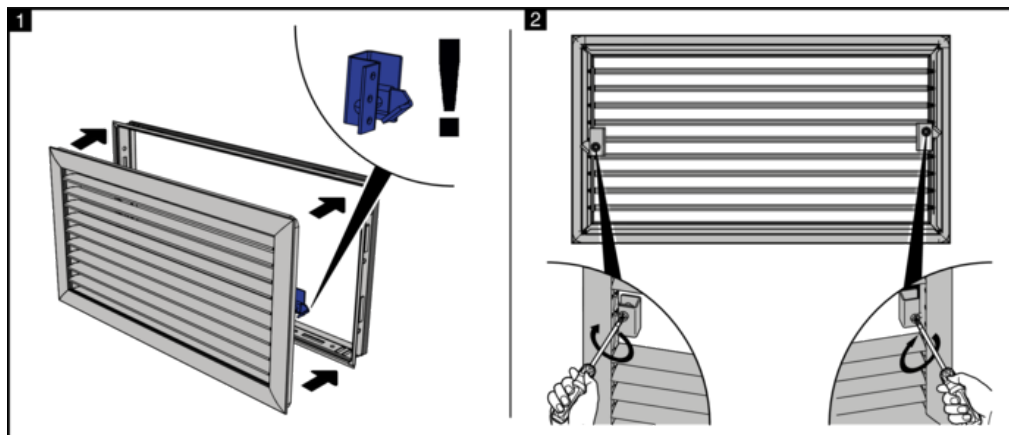


Fig. 9: Frame fixing VS

Air connection

Ventilation grilles do not have an air connection, they are installed directly into air ducts or similar.

Initial commissioning

General information

Grilles with a width ≥ 625 mm are designed with several attachments.

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.
- Check electrical connections (if any) for correct installation.
- Check proper fastening and connection with air duct

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

Volume flow balancing

When several ventilation grilles are connected to just one volume flow controller, it may be necessary to balance the volume flows.

Carefully turn the screw in (clockwise) and out (anti-clockwise) to adjust or fasten the hit and miss damper. Screw can be loosened with TX25 socket spanner.

- AG: By manual adjustment or lever
- AS/SAS with screwdriver with blade length (shaft length) = 150 mm

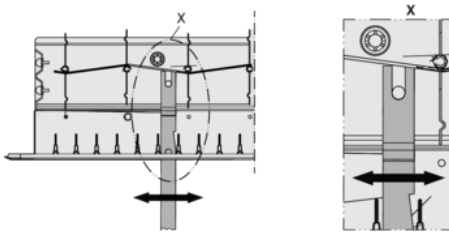


Fig. 10: Attachments -AG, -DG

Damper element with opposed action blades, adjustable

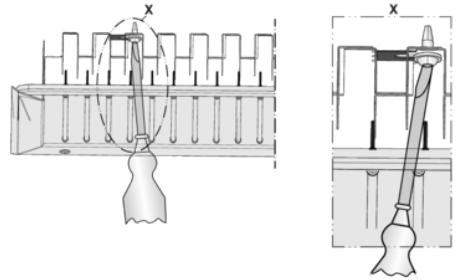


Fig. 11: Attachment parts -AS, -SAS

Damper element adjustable with hit and miss damper, secured with a locking screw

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.

Decommissioning

Once the device has reached the end of its service life, it must be dismantled and disposed of in an environmentally friendly manner.

Safety

Personnel

- Disassembly may only be carried out by specially trained personnel.
- Only trained and qualified electricians may work on the electrical system.



WARNING!

Risk of injury due to incorrect disassembly!

Stored residual energy, sharp-edged components, sharp points and corners on and in the appliance or on the required tools can cause injuries. Therefore:

- Make sure there is sufficient space before starting work.
- Handle all open, sharp-edged components with care.
- Disassemble components professionally. Be aware that some components are very heavy. Use lifting gear if necessary.
- Secure components to prevent them from falling or toppling.
- When in doubt, contact the manufacturer.

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 grille must be dismantled for disposal. If no disposal or return agreement with TROX is in place, we recommend disposing of the materials as follows:

Pos.	Component	Material/waste code	Type of disposal
1	Front grille,	Aluminium	Scrap metal recycling
2	Front border	Galvanised steel EWC 170404	Scrap metal recycling
3	Attachment AG blades	Aluminium	Scrap metal recycling
4	Attachment AS/SAS	Aluminium	Scrap metal recycling

EWC European Waste Catalogue