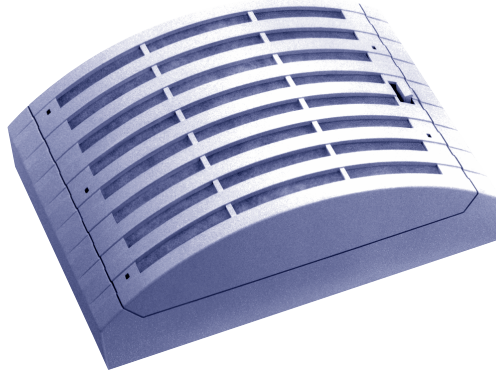


# Installation manual

## Automatic extract air valve Type HFA



**TROX<sup>®</sup> / TECHNIK**



The art of handling air

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# Installation manual for automatic extract air valve

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1. General information

This installation manual describes the automatic extract air valve type:

HFA

To ensure correct functioning of the automatic extract air valve, it is essential to read the provided installation manual before starting any work, and to comply with it. The manufacturer does not accept any liability for any malfunction or damage resulting from non-compliance with these instructions or non-compliance with relevant statutory regulations. This installation manual is intended for specialist consultants, developers, and owners of the ventilation systems in which the automatic extract air valve is to be installed. This installation manual is also intended for people conducting the following work:

- Transport and storage
- Installation
- Electrical connection
- Commissioning
- Maintenance
- Cleaning

For details on HFA, see:

- Brochure L-07-2-01d

The installation manual and the brochure can be downloaded from [www.troxhesco.com](http://www.troxhesco.com).

# Installation manual for automatic extract air valve

## 2. Safety and correct use

### General safety notes



#### **VORSICHT!**

**Verletzungsgefahr an scharfen Kanten, Graten, spitzen Ecken und dünnwandigen Blechteilen!**

- Bei allen Arbeiten vorsichtig vorgehen.
- Schutzhandschuhe, Sicherheitsschuhe und Schutzhelm tragen.



#### **GEFAHR!**

**Stromschlag beim Berühren spannungsführender Teile. Elektrische Ausrüstungen stehen unter gefährlicher elektrischer Spannung. Nichtbeachtung kann Tod, schwere Körperschäden oder Sachschaden verursachen!**

- An den elektrischen Komponenten dürfen nur Elektrofachkräfte arbeiten.
- Vor Arbeiten an der Elektrik die Versorgungsspannung ausschalten.



#### **WARNUNG!**

**Verletzungsgefahr bei unzureichender Qualifikation!**

Unsachgemässer Umgang kann zu erheblichen Personen- und Sachschäden führen.

- Alle Tätigkeiten nur durch dafür qualifiziertes Personal in der Gebäudetechnik-Branche durchführen lassen.



#### **WARNUNG!**

**Gefahr durch Fehlgebrauch! Fehlgebrauch des Produktes kann zu gefährlichen Situationen führen.**

Das Produkt darf nicht eingesetzt werden:

- in Ex-Bereichen.
- im Freien ohne ausreichenden Schutz gegen Witterungseinflüsse.
- in Atmosphären, die planmässig oder ausserplanmässig aufgrund chemischer Reaktionen eine schädigende und/oder Korrosion verursachende Wirkung auf das Produkt ausüben.



#### **VORSICHT!**

**Beschädigung des Produktes durch unsachgemässe Behandlung! Gerät vor Inbetriebnahme auf Schäden und Verunreinigung prüfen und beheben!**

Unsachgemässer Umgang kann zu erheblichen Sachschäden am Produkt führen.

- Keine säurehaltigen oder scheuernden Reinigungsmittel verwenden.
- Klebstoffe von Klebebändern können Farbschäden verursachen.
- Unverhältnismässige Feuchtigkeit kann zu Farbschäden und Korrosion führen.
- Nur ausdrücklich spezifizierte Reinigungsmittel, Fette und Öle benutzen.

# Installation manual for automatic extract air valve

## Standards and guidelines

For all work on the automatic extract air valve, the following provisions and guidelines among others must be observed

- Product Safety Law (PrSG)
- EKAS provisions

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

## Repair and replacement parts

To maintain the function, use only original TROX HESCO Schweiz AG replacement parts.

## Environmental protection / disposal

To protect the environment keep the following in mind:

- Dispose of packaging for the automatic extract air valve in an environmentally sound manner.
- The automatic extract air valve must be disposed of properly- by an authorised agent after its final decommissioning.
- Dispose of electronic components according - to the national electronic waste regulations.

## Qualified staff

### Skilled qualified electrician

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

### Specialist personnel

Specialist 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.

## 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 of these instructions
- Improper use
- Operation or handling by untrained individuals
- Unauthorised modifications

The actual supply package may differ from the information in this manual for special versions, additional order options or as a result of recent technical changes.

## 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 protective equipment, suspended loads, stationary objects.

Protection from falling objects.

### Protective gloves



Protective gloves protect against cuts, abrasions, punctures, deep cuts, and

sharp edges, abrasions, punctures, and sharp surfaces.

### Safety shoes



Safety shoes protect against falling parts and from slipping.

Protection against falling parts,

### Correct use

The automatic extract air valve is used for central, energy-saving extract air systems.

## Installation manual for automatic extract air valve

### 3. Transport, storage and packaging

#### Delivery check

Upon delivery, carefully remove the packaging and check the unit for transport damage and completeness. In case of any damage or an incomplete shipment, contact the shipping company and your supplier immediately. Put the product back into its packaging after the delivery check to protect it from dust and contamination.



#### **Befestigungs- und Montagematerial**

Befestigungs- und Montagematerialien sind, soweit nicht anders angegeben, kein Bestandteil der Lieferung und müssen bauseits, abgestimmt auf die jeweilige Einbausituation beigestellt werden.

#### Transport on site

##### Please note:

- When unloading the delivery and transporting on-site, proceed with care and observe the symbols and notices on the packaging.
- Devices should preferably be transported to the installation location in their original packaging.
- Use only lifting and transport gear designed for the required load.
- Always secure the load against tipping and falling.
- Cumbersome equipment should be transported with at least two people to prevent injury and damage.

#### Storage

##### Please note:

- 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 +30 °C..
- Relative humidity: 95 % max., no condensation

#### Packaging

Properly dispose of packaging material.

# Installation manual for automatic extract air valve

## 4. product description

### Functional description

The automatic extract air valve HFA works with two volume flow rates:

$\dot{V}_0$

#### Basic volume flow rate

When the room to be ventilated is not in use, the damper remains closed and only the basic volume flow rate  $\dot{V}_0$  is extracted. This basic volume flow rate  $\dot{V}_0$  can be increased by breaking out one or more plastic plugs in the damper.

#### Required volume flow rate $\dot{V}_r$

When the room to be ventilated is in use and the electro-thermal damper actuator is activated by a switch contact typical for this room, e.g. a light switch, the damper opens to the set damper limit A, B, C or D in approx. 2-3 minutes. The volume flow rate is thereby increased to the volume required. Once the switch contact is interrupted, the damper remains open for approx. 5-10 minutes to ensure proper follow-up ventilation. The damper then returns to its initial position and only the previously selected basic volume flow rate is extracted.

- Depending on the building, heating energy can be reduced by 10 – 30% in terms of total consumption.
- The heating system can be designed to smaller dimensions.
- The automatic extract air valve HFA is suitable for use in all buildings with central extract air systems.
- The automatic extract air valve HFA works with two volume flow rates:

$\dot{V}_0$

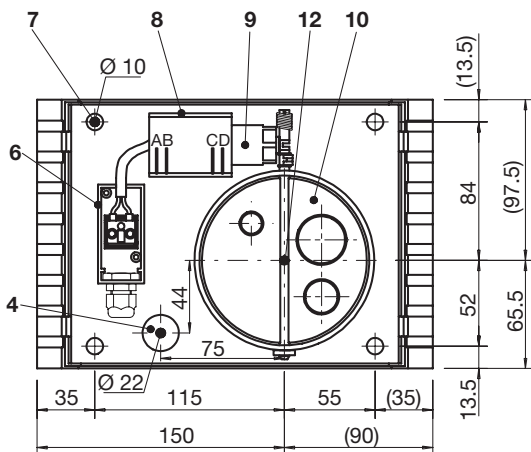
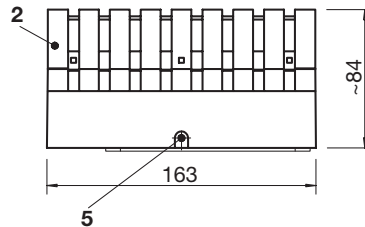
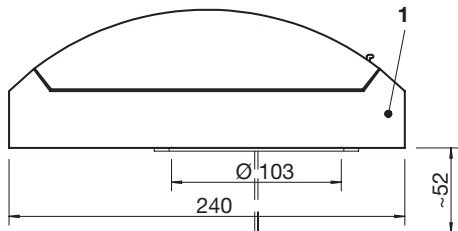
Basic volume flow rate (can be selected)

$\dot{V}_r$

Required volume flow rate (can be set)

- If required, the damper opens via an electro-thermal actuator with an automatic delay (2-3 min.)
- To prevent contamination of the exhaust duct, there is a fitted filter pad that can be easily replaced (commercially available filter).
- Assembly of the automatic extract air valve HFA is simple.

### Dimensions



- 1 Main housing
- 2 Cover
- 4 Cable penetration (for flush mounting)
- 5 Cable feed-through (for surface mounting)
- 6 Electrical socket
- 7 Fixing holes
- 8 Junction box
- 9 Electro-thermal actuator
- 10 Damper with volume flow rate plugs
- 12 Pressure tap

### Special features of the HFA

## Installation manual for automatic extract air valve

### 5. Technical data

Dimensions	Length: Width: Height:	240 mm 163 mm 84 mm
Basic volume flow rate that can be expected	depending on the negative pressure and number of remaining plugs	Approx. 7-30m <sup>3</sup> /h
Required volume flow rate that can be set	depending on the negative pressure and damper limit	Approx. 30-100m <sup>3</sup> /h
Negative pressure range		20 to 100 Pa
Nominal voltage		230V~, 50Hz
Nominal power		8W



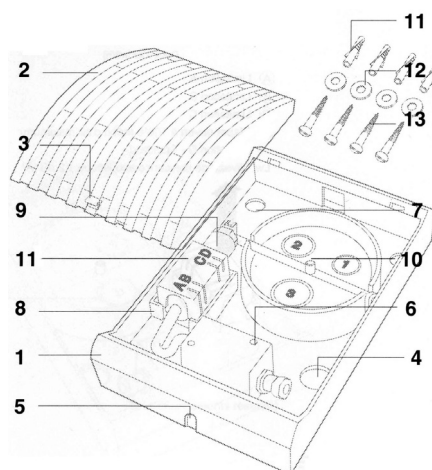
Note

The automatic extract air valve HFA can be connected to pipes of Ø100 mm.

### 6. Installation

#### Components

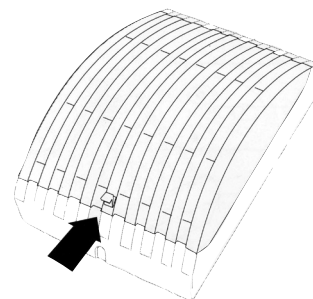
- 1 Main housing
- 2 Cover with integrated filter
- 3 Snap-fastener
- 4 Cable penetration (for flush mounting)
- 5 Cable feed-through (for surface mounting)
- 6 Electrical socket
- 7 Fixing holes Ø10
- 8 Junction box
- 9 Electro-thermal actuator
- 10 Damper with volume flow rate plugs
- 11 4 plastic dowels Nr.5 x 25
- 12 4 washers Ø4.3 x 14
- 13 4 cross-head screws Ø3.5 x 32



#### Installation

##### Opening the cover

Press the snap-fastener and lift the cover out of the main housing. Store safely so that it can later be placed in its original packaging.



##### Fixing the automatic extract air valve

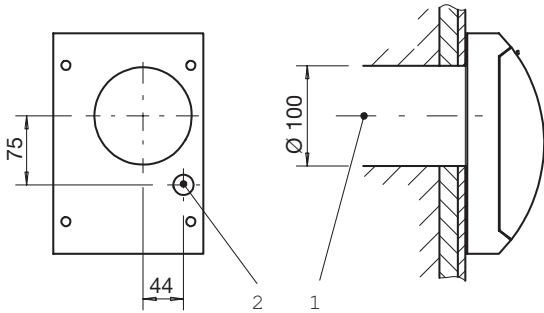
Fix the automatic extract air valve to the wall or ceiling using the corresponding screws. Hole diameters of 10 mm in the main housing enable precise positioning.

Drill hole plan > see packaging.

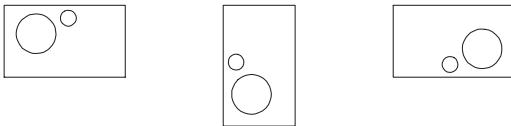
The automatic extract air valve can be mounted anywhere for surface mounting electrification.

# Installation manual for automatic extract air valve

## On-site precautions



1 Recess for HFA connection in frame wall



2 The position of the hole for the cable penetration depends on the installation orientation of the

7. Electrical installation



**GEFAHR!**

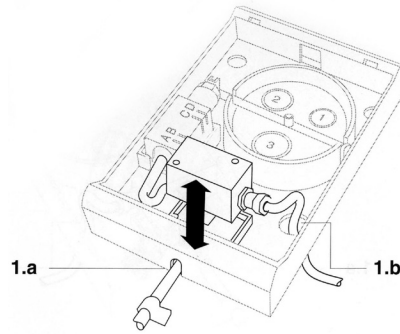
**Stromschlag beim Berühren spannungsführender Teile. Elektrische Ausrüstungen stehen unter gefährlicher elektrischer Spannung. Nichtbeachtung kann Tod, schwere Körperschäden oder Sachschaden verursachen!**

- An den elektrischen Komponenten dürfen nur Elektrofachkräfte arbeiten.
- Vor Arbeiten an der Elektrik die Versorgungsspannung ausschalten.

## Electrical connection

The automatic extract air valve works with an electro-thermal actuator, which has to be connected with a 2-pin cable to 230V/50Hz.

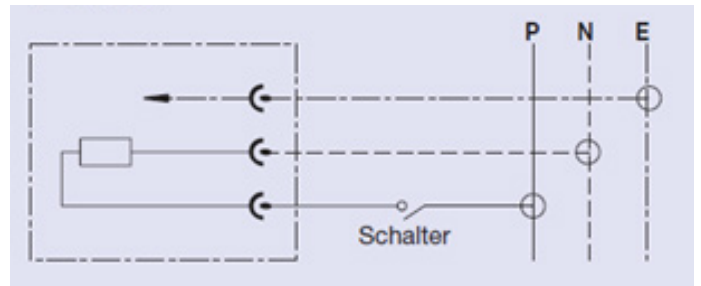
- 1.a For surface mounting: open the cable feed-through with pliers.
- 1.b For flush mounting: feed the cable through this opening.
2. Loosen the electrical socket.
3. Loosen the grommet nut from the electrical socket.
4. Pull the cable through the grommet nut, then screw this back into the electrical socket.
5. Connect the cable to the luster terminal.
6. Screw the electrical socket back on again.



It must be possible to disconnect the unit from the mains after installation, unless the unit is equipped with a switch to 24.3. This can be done by making the plug accessible or by fitting a switch into the fixed installation in compliance with the installation regulations.

Connection diagram

P = Phase  
N = Neutral  
E = Earth



Note

The automatic extract air valve can be controlled with a separate switch or coupled with the light switch.



# Installation manual for automatic extract air valve

## 8. Commissioning

### Setting the volume flow rates

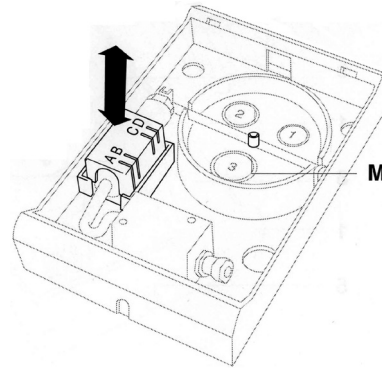
Selecting the basic volume flow rate  $\dot{V}_0$  the automatic extract air valve

The basic volume flow rate  $\dot{V}_0$  can be increased by removing the plastic plugs (from position 0 to position 1, 2, 3 or 4). This can particularly be required in large rooms. For individual bathrooms and  $\dot{V}_0$ , however, the volume flow rate is usually not increased, i.e. no plug removed (position 0).

Setting the required volume flow rate of the automatic extract air valve

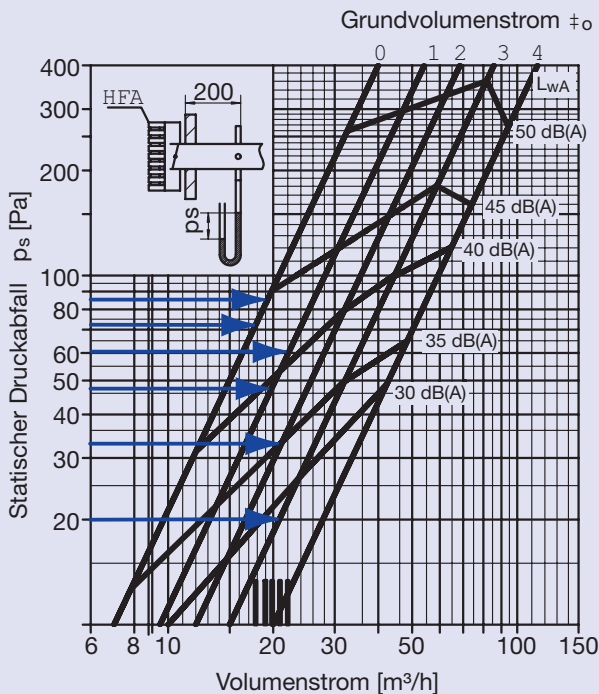
The required volume flow rate  $\dot{V}_e$  can be restricted if needed. The limits A, B, C or D can be selected according to the following diagram.

### Performance diagram HFA



Note

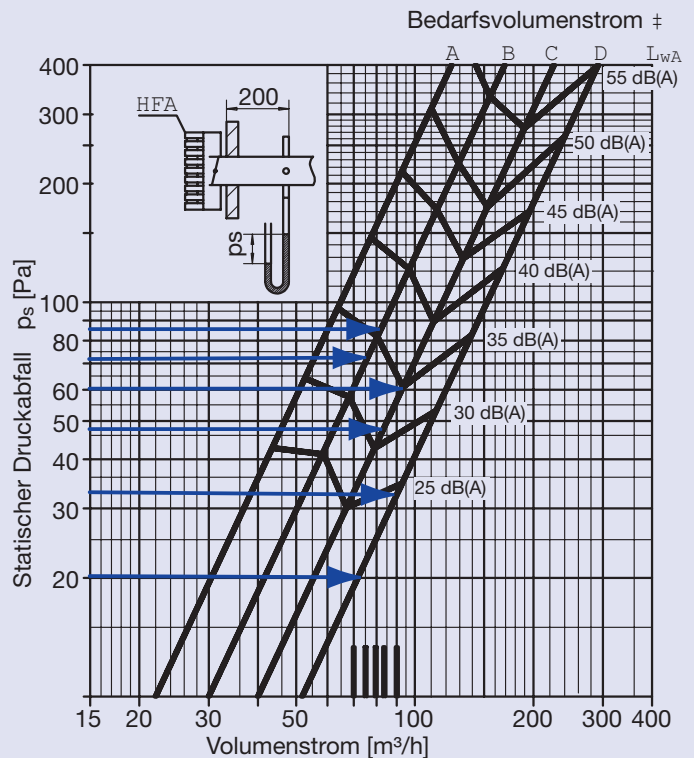
To simply measure the existing negative pressure, the valve disc of the automatic extract air valve is equipped with a pressure tap (M).



### Legend

- 0 = Damper closed, all plugs in place
- 1 = Damper closed, smallest plug removed
- 2 = Damper closed, medium plug removed
- 3 = Damper closed, largest plug removed
- 4 = Damper closed, all plugs removed

$L_{wA}$  = sound power level tolerance  $\pm 2dB[A]$



### Legend

- A = Limit A
- B = Limit B
- C = Limit C
- D = Damper 100% open (largest volume flow rate)

Limit D - Standard

$L_{wA}$  = sound power level tolerance  $\pm 2dB[A]$

## Installation manual for automatic extract air valve

### 9. Maintenance



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- An den elektrischen Komponenten dürfen nur Elektrofachkräfte arbeiten.
- Vor Arbeiten an der Elektrik die Versorgungsspannung ausschalten.

#### Maintenance and cleaning

Please note:

- Clean surfaces with a damp cloth.
- Only use commercially available, non-corrosive cleaning agents
- Do not use cleaning agents that contain chlorine.
- The use of cleaning tools for removing persistent contamination, e.g. scrubbing sponges and scouring agents, can damage the surface and is not permitted.
- Contaminated filter elements need to be replaced. Cleaning by vacuuming or washing is not permitted for hygiene reasons.
- All technical components can be replaced if defective.