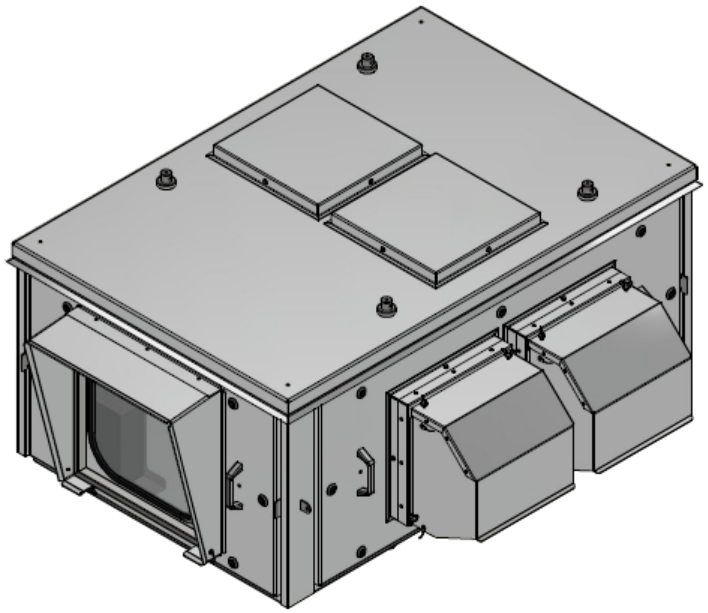
Projector Outdoor Housing

POH-XL
POH-M
POH-S



Manual Version 1.2

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1. Introduction

Our outdoor enclosures for projectors, hereinafter referred to as POH, are designed and manufactured with the utmost care. Improper handling, however, may lead to damage and pose a risk to your safety. Therefore, please read the following instructions carefully before installing and using the product.

2. Safety Instructions

2.1 Warning

This manual must be handed to the installer and individuals operating or installing the product. Please read the manual and all instructions carefully. Ignoring the safety instructions in this manual can result in severe injury to people and poses the risk of accidents with serious consequences or death. Assembly, handling, service, and similar activities must be carried out by qualified individuals. Qualified individuals, hereinafter referred to as "qualified persons," are professionals such as electricians and personnel with equivalent or higher qualifications.

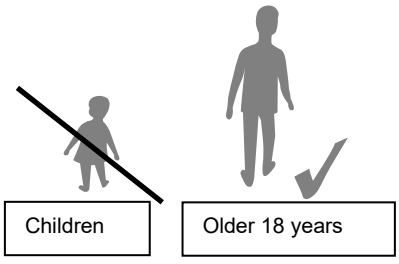
Warning: Danger of electric shock. Open the casing only when the device is disconnected from the power supply. Electrical work should only be carried out by a fully qualified and trained electrician. Follow local laws and regulations.

Warning: Activities such as assembly, installation, initial operation, maintenance, repair, and dismantling/disposal should only be performed by trained, fully qualified personnel, such as professionals in event technology.

Always use appropriate personal protective equipment, such as gloves and safety shoes, during assembly.

Warning: Danger from optical radiation. A projector installed in the POH emits very bright light that can harm the eyes if looked at directly. Never look directly into the lens of the projector through the viewing window of the POH.

Warning: Operation is only permitted by instructed and authorized individuals who are at least 18 years old and in full possession of their mental faculties.



Definition of Personnel Qualification:

Trained/Instructed Person:
A trained/instructed person is someone who has been informed about their assigned tasks and the potential hazards associated with improper behavior, and, if necessary, has received specific training.

Skilled Worker:
A skilled worker is defined as an individual who, due to their professional education, knowledge, and experience, can assess the assigned tasks and identify potential hazards.

- **Ensure that the power cable is connected to a suitable earth connection (PE, Protection Earth). Otherwise, individuals may experience electric shock or injury.**

- **Use only the rated voltage; otherwise, the product may be damaged, or individuals may be injured by electric shock.**

- **Avoid placing heavy objects on the power cable. Be cautious not to damage the power cable with sharp objects by bending, stretching, cutting, or similar actions. Damaged power cables can cause a fire or electric shock.**

- **Never disassemble, repair, or modify the finished assemblies or accessories of the POH. This can lead to serious or fatal accidents. Contact your dealer to discuss possible repairs.**

- **Before each installation, check all mounting threads and the entire housing for defects and ensure correct functionality. If damage or a malfunction is detected, do not continue to use the product and contact your dealer.**

- **If you smell/noticed smoke or hear strange noises or anything unusual, disconnect the device from the power supply, such as by unplugging the power cable, depending on the installation. Subsequently, contact your dealer. Continuing use may result in electric shock or a fire.**

- **Do not let objects fall onto the device and avoid impacts and vibrations. This prevents accidents and product damage.**

- **Place the POH in an open location so that air intake and exhaust are free from obstacles to ensure safe and proper functionality. If ventilation is not functioning correctly, the device may be damaged, and its function impaired.**

- **If water or foreign objects enter the product, immediately disconnect the power supply and contact your dealer. Otherwise, this can lead to a fire or electric shock due to product damage.**

2.2 Risk situations

Risk of injury due to the possibility of falling objects during the installation or dismantling of the POH.

- Protection Objective: Prevent injuries from falling parts.
- Wear appropriate safety shoes, gloves, and a helmet.
- Ensure that the area beneath the product is free of people during installation.

Risk of head injury from bumping into the POH during assembly or disassembly.

- Protection Objective: Avoid head injuries.
- Wear a helmet.

Faulty installation may lead to certain parts of the POH or even the entire device falling.

- Protection Objective: Prevent personal and property damage.
- Check the POH for correct installation.

Inattention or negligence during or after installation may result in certain parts of the POH falling.

- Protection Objective: Prevent personal and property damage.
- Secure dismantled parts to prevent them from falling.
- Do not leave loose parts around after installation.

Insufficient load-bearing capacity of the support structure may cause the POH to fall.

- Protection Objective: Prevent personal and property damage.
- Ensure an appropriate dimensioning of the support structure, capable of bearing the total weight of all attached or suspended devices.
- Ensure that the support structure is correctly installed.

Use only the correct mounting materials to secure the POH to the support structure (ceiling, truss, etc.). Otherwise, parts or the entire system may fall.

- Protection Objective: Prevent personal and property damage.
- Use the right mounting materials based on the given circumstances.

The user's fingers or hand may get trapped between the removable parts of the POH during installation or service activities.

- Protection Objective: Prevent personal injuries.
- During installation, be cautious to avoid injuries. Wear protective gloves.
- Work calmly and attentively**.**

Risk of injury or death from electric shock.

- Protection Objective: Prevent personal injuries or death.
- When the device's casing is open, individuals working on the device may touch parts that can cause an electric shock.
- Always disconnect the power supply before working on the device or opening the casing. Only qualified personnel with appropriate training should open and work on the device. Follow local laws and regulations.

Risk of injury or death from electric shock.

- Protection Objective: Prevent personal injuries or death.
- If the device's casing is damaged, deformed, etc., there is an increased risk that the interior is also damaged. Individuals touching the casing may receive an electric shock. This endangers anyone who could touch a damaged product.
- In case of damage, disconnect the device's power supply by qualified personnel. Contact your seller/service partner.

Risk of injury or death from electric shock.

- Protection Objective: Prevent personal injuries or death.
- In the event of a fault, electrical voltage may be present on the metal casing. Individuals touching the casing may receive an electric shock. This endangers anyone who could touch the faulty product.
- All electrically conductive parts are designed to be grounded. Electrical devices should be tested periodically in accordance with local laws and regulations. The POH is a Class 1 device and requires grounding. It should only be connected to circuits protected by a residual current device (RCD).
- Removable parts are connected by detachable grounding cables. After reattaching the removable parts, the grounding cables must be reattached to the corresponding marked location.

Risk of injury or death from electric shock.

- Protection Objective: Prevent personal injuries or death.
- When passing an electrical cable through a hole in the metal casing, always use the appropriate cable grommets to protect the cable. Otherwise, the cable could be damaged and energize the metal casing. Individuals touching the casing or the damaged cable may receive an electric shock. This endangers anyone who could touch the product.

Risk of injury, product damage, or malfunctions.

- Protection Objective: Prevent personal injuries, product damage, and incorrect functionality.
- The use of non-original replacement parts can lead to malfunctions, device damage, or injuries to people. This endangers individuals near the product who could be injured by falling objects, electric shock, etc.
- Avoid incorrect functionality, product damage, or injuries to individuals by using only original replacement parts.

Risk of injury, product damage, or malfunctions.

- Protection Objective: Prevent personal injuries, product damage, and incorrect functionality.
- Incorrect assembly can lead to malfunctions, device damage, or injuries.
- Avoid incorrect functionality, product damage, or injuries to individuals by assembling the device according to the manufacturer's instructions (user manual).

Disposal

- Protection Objective: Avoid improper disposal and risks to human health and the environment.
- Product disposal must comply with local laws and regulations. Improper disposal poses risks to human health and the environment.

Product damage or injuries due to improper cleaning procedures

- Protection Objective: Avoid personal and product damage.
- Improper cleaning/treatment can lead to injuries and damage to the device.
- The POH can be cleaned with a soft cloth, possibly with a neutral cleaning agent.

Product damage or injuries during incorrect transport

- Protection Objective: Avoid personal and product damage.
- Use only suitable packaging for transport.
- Handle the device with four people or with mechanical lifting assistance whenever possible.
- The center of gravity of the packaged device is not in the middle. Take this into account when handling.

Risk of product damage or injuries due to misuse

- Protection Objective: Avoid personal and product damage.
- The product should only be used for its intended purpose.

3. Scope of Delivery

Note: Please check the delivery immediately upon receipt for completeness and damage. If any parts are missing or damaged, please contact your supplier.

Item	Quantity
Manual	1
Power cable	1
Groundplate incl. Wiring	1
Control unit POH-CU	1
Vertical strut with cable feedthrough	1
Vertical strut without cable feedthrough	3
Front panel with glass window and hood	1
Rear panel with fan (air outlet	1
Cover (hood) air outlet	1
Side panel without fan	1
Side panel without fan (air intake)	1
Cover (hood) air inlet	2
Top panel	1
Temperaturesensor TS22	1
Set of fan extension cables	1
Set of cable entry sealing plugs	1
Air deflector incl. screws 2x M10x12	2

4. Replacement parts and optional accessories (not included)

4.1 High precision tilting-platform

Model number: POH-XL-TILT (for POH-XL and POH-M)
POH-S (for POH-S)

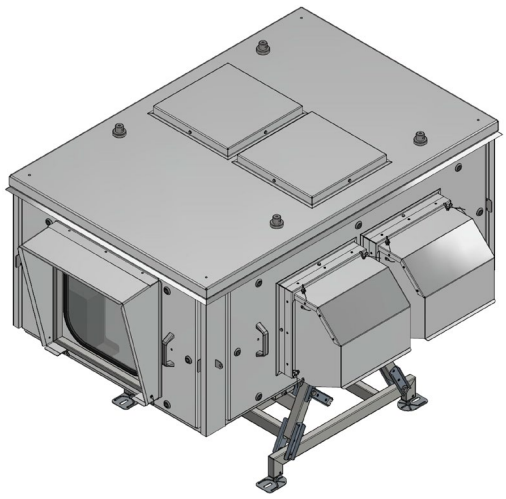


Figure 1 POH-XL-TILT with mounted POH-XL in Landscape mode

Platform with an angle inclination of -10° to +25°. The outdoor enclosures can be directly mounted in landscape mode and secured using screws.

4.4 Replacement filter

Model number:	POH-FILTERINTAKE	Filter kit for air intake, consisting of two assembled filter stages
	POH-FILTERINTAKE-DIY	Filter set for self-assembly for air intake, consisting of two individual stages not pre-assembled.
	POH-FILTEROUTTAKE	5 pcs filter for air outtake

4.5 Spacers for various projector frames

Model number:	POH-XL-ADR-RZ31	Adapter set for mounting PT-RZ31 and similar projectors in POH-XL (Note: POH-XL is designed in height for PT-RQ50 and similar projectors)
	POH-M-ADR-RZ21	Adapter set for mounting PT-RZ21 and similar projectors in POH-M (Note: POH-M is designed in height for PT-RQ35 and similar projectors).

4.6 Control Unit

Model number:	POH-CU	Universal Control Unit, installed in each outdoor enclosure and included

5.1 Intended Use

The POH is designed for weather protection of video projectors. The device is equipped with active ventilation and air circulation. Incoming air is filtered to remove dust and foreign particles. Only use the projector types approved by us, including the frames approved for them. The selected projector frame significantly contributes to the stability of the POH and is an essential component. If you use a projector and/or frame that is not listed under 5.3 Compatible projectors and frames, have us assess its suitability. The POH is designed as a modular system and can be adapted to different projector and frame types accordingly.

The device has IP53 protection rating. The POH is designed for use in public areas and must only be operated within the specifications provided in the user manual. The POH is not intended for private use. Proper functioning depends significantly on correct assembly and installation. We or our partners are available for consultation if you have any questions.

Note: The air pathways must be free and unobstructed to ensure proper functionality. Maintain a minimum distance of 0.5m from obstacles, walls, and floors.

5.2 Specifications

	POH-XL	**POH-M**	**POH-S**
Dimensions approx	1957 x 1271 x 786 [mm] (L x W x H)	TBD	1437 x 1203 x 610 [mm] (L x W x H)
Weight approx (*1)	115,00 kg	TBD	95,5 kg
Operating Temperature	+5°C bis zu +30°C Air Intake Temperature		
Relative Humidity in operaiton	10% – 80% rH (non condension)		
Input Voltage AC	230V @ 50 Hz		
Operating altitude above mean sea level	1750 m		
Power consumption	600 W	600 W	450 W
Noise	56 – 72 dB(A) @1m	54 – 70 dB(A) @1m	51 – 63 dB(A) @1m
Protection class	IP53		
Orientatation standing	Landscape		
Stacking	Max two units stacked in landscape		
Housing Material	Aluminium		
Housing coating	Powder coating, white colour		
Cable Management	Multi-cable input frame, guides cables into the enclosure.		
Control Unit Connections	2 x Ethernet, 1 x powerCON Input, 1 x XLR 3Pin (Button), 1 x XLR 4Pin (Sensor), Ground Connection 3 x powerCON Output (Fans), 3 x XLR 4Pin (Fans)		

*1: Weight without projector, frame, lens etc.

5.3 Compatible projectors and frames

POH-XL	POH-M	POH-S
Panasonic - PT-RQ50 with ET-RFD80 rental frame - PT-RZ31, PT-RQ32 with ET-RFD32 rental frame (*1)	Panasonic - PT-RQ35, PT-RZ34 with EVO-P30 rental frame - PT-RZ21K, PT-RZ12K, PT-RQ13K and similar projectors with EVO-P20 rental frame (*2)	Panasonic - PT-RZ120, PT-RZ970, PT-RZ-660 and similar projectors with EVO-P10 rental frame

*1: Due to the reduced height, PT-RZ31 and PT-RQ32 require additional spacers POH-XL-ADR-RZ31

*2: Due to the reduced height, EVO-P20 frames require additional spacers POH-M-ADR-RZ21

Note: The projector frame significantly contributes to the stability of the POH and is an essential component.

6. Assembly and Commissioning Instructions

Attention: Assembly, handling, and service must be carried out by qualified individuals! Qualified individuals include professionals such as electricians and individuals with equivalent or higher qualifications.

The POH has been carefully inspected and subjected to a functional check before delivery. Even with the utmost care, damages cannot be completely ruled out. Check whether the cables are undamaged. Inspect the seals for any damage or cracks. Verify the completeness of the delivery based on the parts list in Chapter 3. Scope of Delivery

Attention: The device must only be installed with an intact cable. Before installation, check the cables and connectors.

Attention: The used WAGO clamps are designed for a limited usage cycle. Check the clamping effectiveness of the clamps during installation. Replace the clamps at regular intervals (approximately every 5-10 uses)

Attention: The IPX4 rating is present only with the correct assembly. Use the 11. Installation Checklist

Attention: Pay attention to the correct positioning of the seals during assembly. They must fit tightly against the housing. Ensure that side panels are evenly positioned and avoid uneven clearances.

Attention: The used seals must be replaced after 2 years. The replacement must be carried out by a qualified person.

Attention: In case of damage to the seals, they must be replaced. Only original spare parts should be used. Contact your dealer or the manufacturer.

The fully assembled POH-XL weighs approximately 115 kg. Any handling of the devices or components must be done with at least four people, possibly with the assistance of mechanical lifting equipment. Wear rubberized protective gloves to securely hold individual components. Wear safety shoes. Use a lifting aid for a fully assembled POH. Additional personnel may be required during assembly.

Attention: Check the POH for integrity before installation and regularly during operation.

Attention: Ensure that the air inlets and outlets are always uncovered and free from barriers. Sufficient air exchange must be ensured at all times.

6.1 Tools

- 8mm hexagonal screwdriver (for opening the friction fasteners on the removable sides)
- 4mm hexagonal screwdriver (for cable entry)
- Phillips screwdriver PH1/PH2 (for opening the Control Unit)
- 10mm wrench or ratchet with 10mm socket (for changing the fan position)
- Cable ties and side cutters (for any new strain reliefs)

Figure 2 Hexagonal screwdriver (for example)

7. Assembly

Note: The following illustrations depict the POH-XL enclosure with PT-RZ31 for illustrative purposes. The structure is generally comparable for other enclosures and projectors. All directional indications refer to the projection direction.

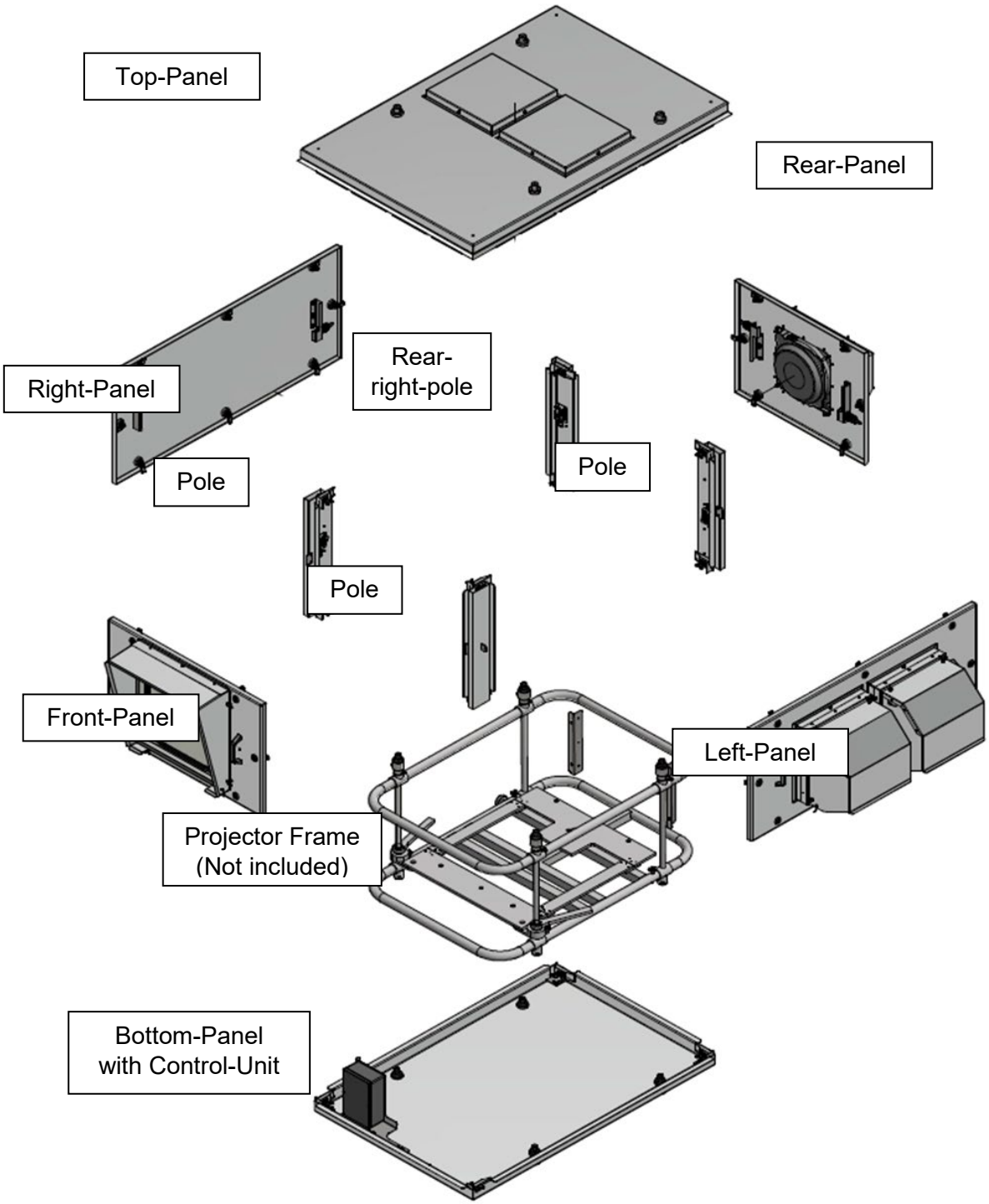


Figure 3 Explodes view of all components

Caution: Risk of injury from pinching body parts such as fingers. Exercise extreme caution during assembly to avoid injuries.

7.1 Installation of the projector with mounted projector frame

- Place the bottom panel on a suitable surface. The surface should be flat, even, clean, and adequately load-bearing.
- Position the projector frame on the four connecting elements of the bottom panel and secure the connecting elements with the ball-lock pins.
- Use mechanical lifting aids if necessary.

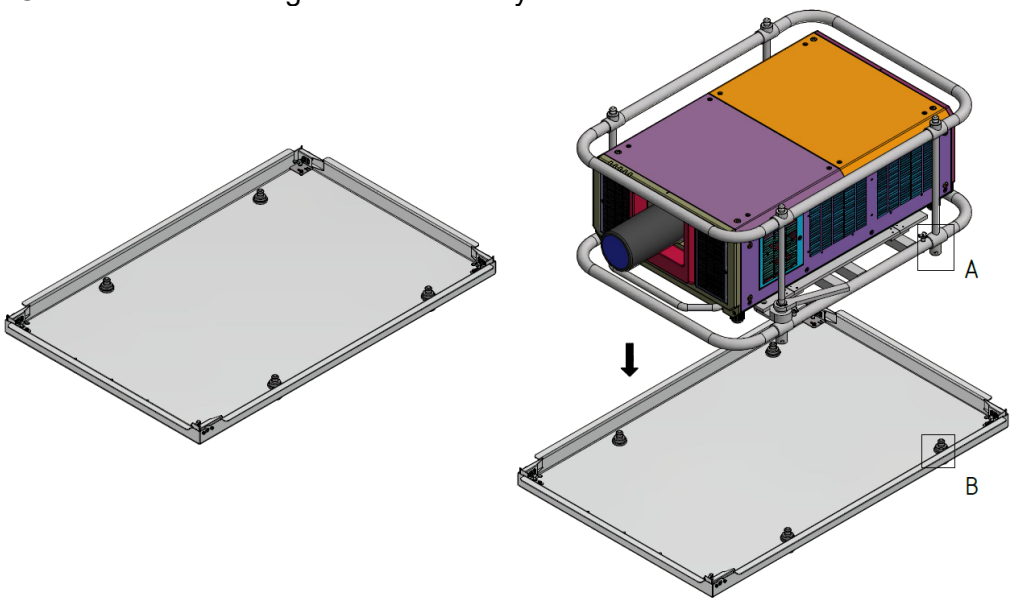


Figure 4 Positioning the projector frame on the connecting elements

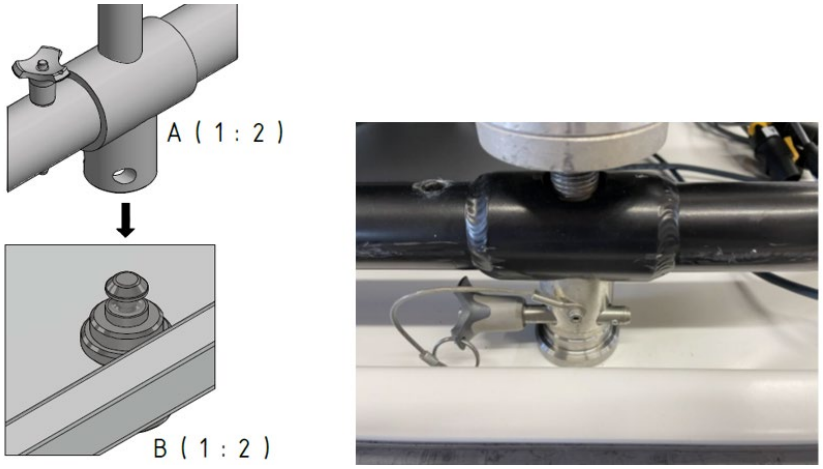


Figure 5 Placing and securing the connecting elements

Caution: Connecting elements must always be secured with the correct ball-lock pins. Failure to do so can result in personal injury and death.

7.2 Installation of the spacers

Note: This step is only necessary for certain projector frames. See for reference. 5.3 Compatible projectors and frames

- Place the four spacers on the upper connecting elements of the projector frame.
- Secure the four spacers with the included ball-lock pins.

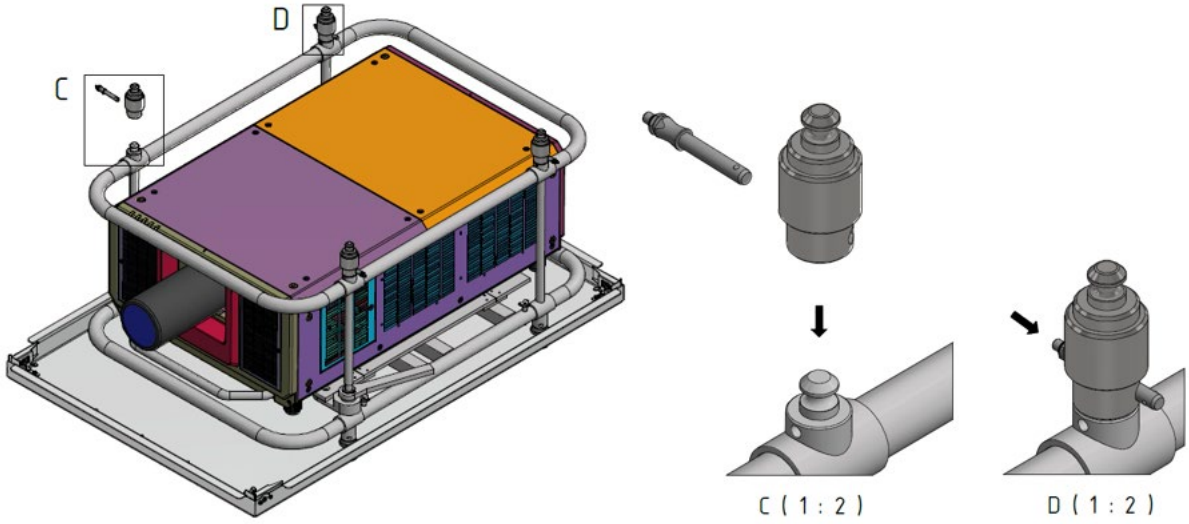


Figure 6 Installation of spacers

Caution: If spacers are prescribed by the manufacturer between the connecting elements of the projector frame and the outdoor enclosure, they must be installed. Without these spacers, the system lacks stability. Failure to comply can result in personal injury and death.

Caution: Connecting elements or spacers must always be secured with the correct ball-lock pins. Failure to do so can result in personal injury and death.

7.3 Installation of Control-Unit (CU)

- The control unit is pre-mounted on the corresponding mounting plate.
- Place the control unit with the mounting plate on the bottom panel. There are mounting bolts in the front area of the bottom panel. Use the supplied wing nuts to secure the mounting plate to the bolts.

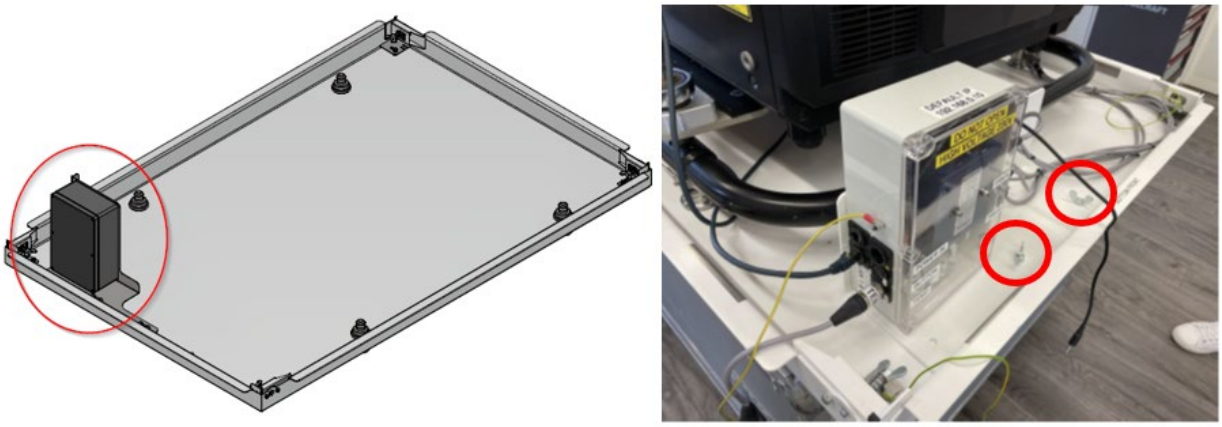


Figure 7 Installation of the CU

7.4 Installation of the rear right column with cable passage

- Place the component Rear-Right-Pole on the rear right corner of the bottom panel.
- Pay attention to the guide pins marked in red in Figure 9 and ensure their correct position.

Figure 8 Installation rear right pole

- Screw the Rear-Right-Pole component using the pre-assembled wing screw shown in Figure 10 and tighten it manually.
- Check the correct positioning and assembly.

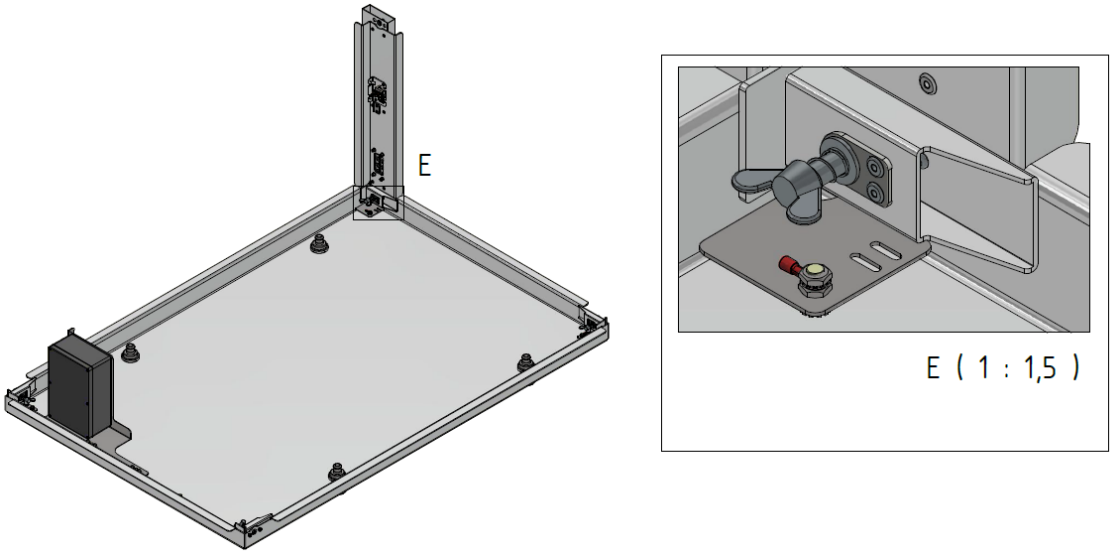
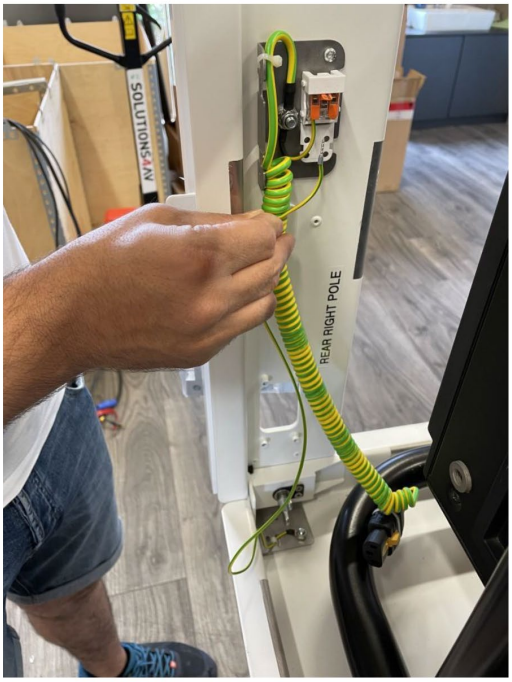


Figure 9 Screw connection *rear right pole*

- Check the correct installation of the grounding cables:
  - Spiral cable with lockable power cable device connector mounted directly on the grounding bolt
  - Single-core cable from WAGO terminal mounted on grounding bolt
  - Single-core cable from grounding bolt to bottom panel on WAGO terminal



Attention: All grounding cables must be correctly connected. Failure to do so can lead to injuries and death in the event of a fault.

7.5 Installation of the remaining columns

- Place the remaining columns on the other three corners of the bottom panel accordingly
- Also, pay attention here to the correct installation of the grounding cables.:
    - Spiral cable with lockable cold device connector mounted directly on grounding bolt.
    - Single-wire conductor from WAGO clamp mounted on grounding bolt.
    - Single-wire conductor from grounding bolt to bottom panel on WAGO clamp.

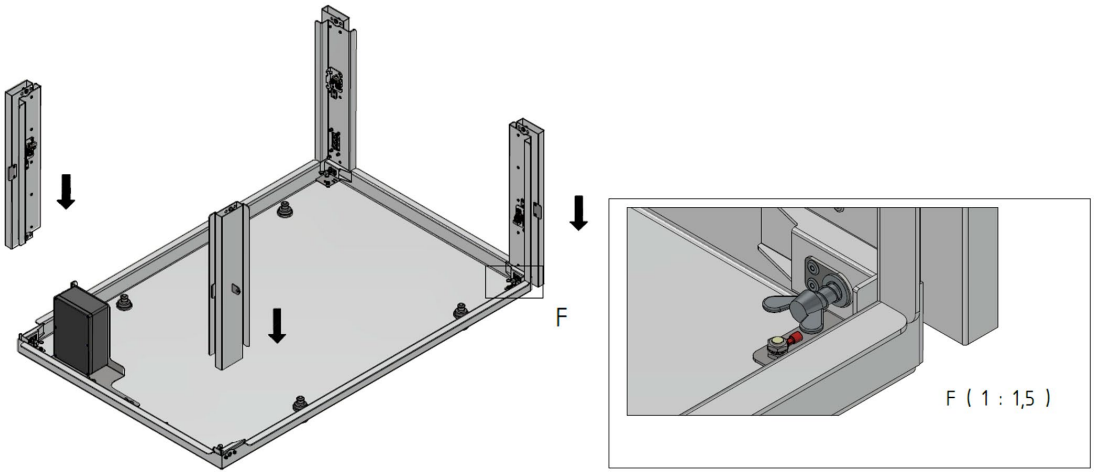


Figure 11: Installation of the remaining vertical columns

- Connect the pre-assembled grounding cable from the control unit to the WAGO clamp of the nearest vertical pole

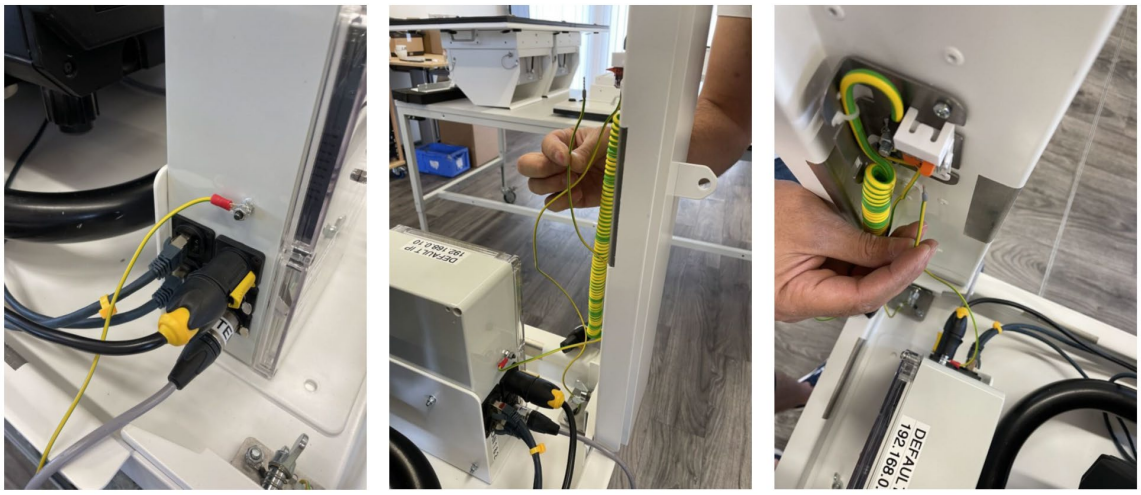


Figure 12: Grounding of the Control Unit

7.6 Installation of the upper cover

- Place the upper cover (top panel) on the four vertical poles and on the connecting elements or spacers of the projector frame.
- Pay attention to the guide pins of the vertical poles and ensure their correct placement.
- Screw the four vertical poles using the pre-assembled wing screws and tighten them manually.
- Secure the four connecting elements of the projector frame or the spacers with the included ball-lock pins.

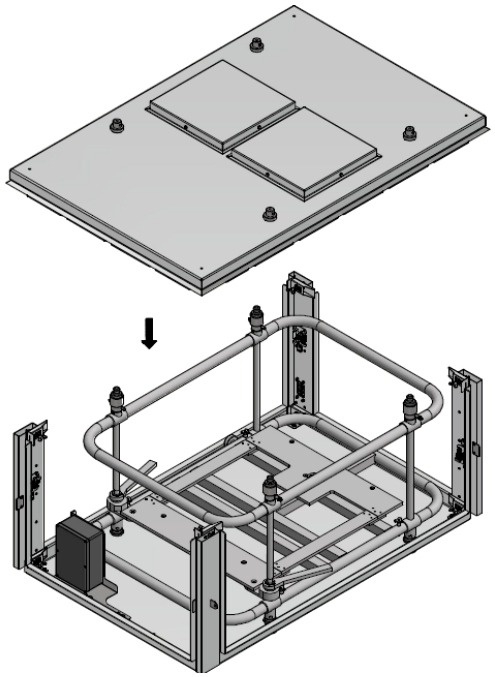


Figure 13: Installation of the upper cover

Caution: If spacers between the connecting elements of the projector frame and the outdoor housing are specified by the manufacturer, they must be installed. Without these connecting elements, the system lacks stability. Failure to comply can result in personal injury and death.

Caution: Connecting elements or spacers must always be secured with the correct ball-lock pins. Failure to comply can result in personal injury and death.

- In the front left corner of the top panel, there is a pre-assembled grounding cable. Connect this cable to the WAGO clamp of the underlying vertical pole.

Figure 14: Connection of the grounding for the upper cover

Caution: All grounding cables must be correctly connected. Failure to comply in case of a fault can result in injuries and death.

7.7 Installation of the external connection cables

- At the rear-right corner, there is a panel for the introduction of connection cables.
- Detach the possibly pre-assembled panel from the housing by removing the four hex screws.
- Open the panel by removing the two lateral hex screws.
- Place the appropriate cable gland sleeves on the cables you are using. Ensure a secure fit and precise fit of the sleeves in relation to the cables used.
- The panel accommodates a total of six cables. Seal unused spaces with the corresponding blanking plugs.
- Included in the delivery are: 4x blanking plugs, 1x sleeve clamping range 14-15mm, 1x sleeve clamping range 11-12mm, 2x sleeve clamping range 8-9mm, 2x sleeve clamping range 5-6mm.

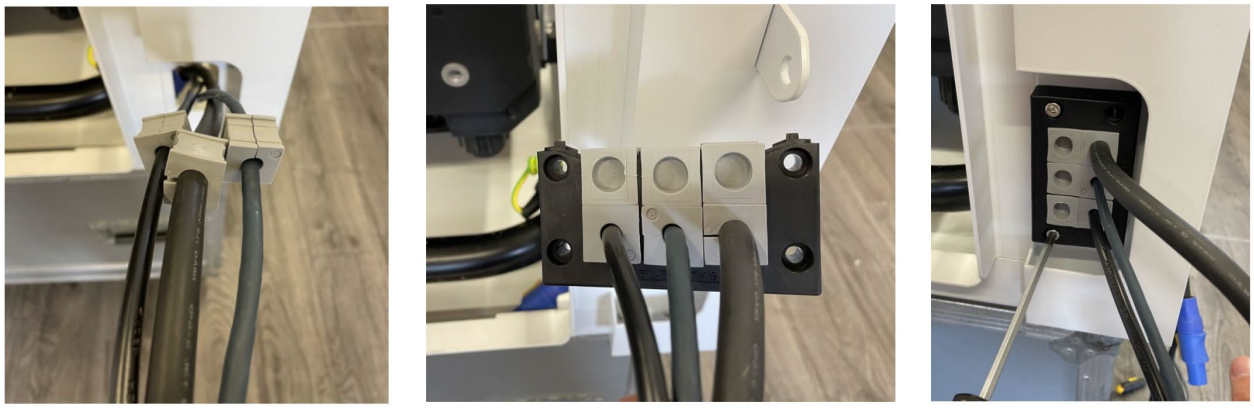


Figure 15: Installation of the connection cables

7.8 Installation of the rear air duct

- Attach the two air duct units to the back of the projector at the respective mounting points (DIN912, M10x12)

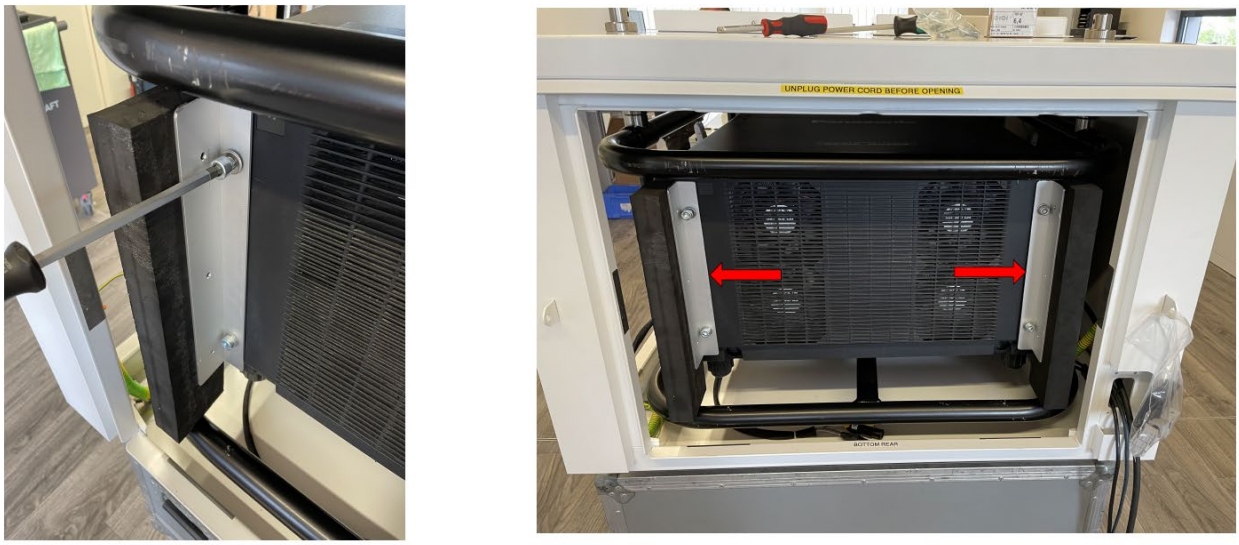


Figure 16: Installation of the rear air duct

7.9 Installation of the front cover including rain cover

- Position the front panel at the front of the housing

Note: The rear grounding connection terminal must be on the right side, from the viewer's perspective, with the button on the left side. Figure 18 shows the back of the front panel. The button is marked in red, and the grounding connection terminal is marked in blue

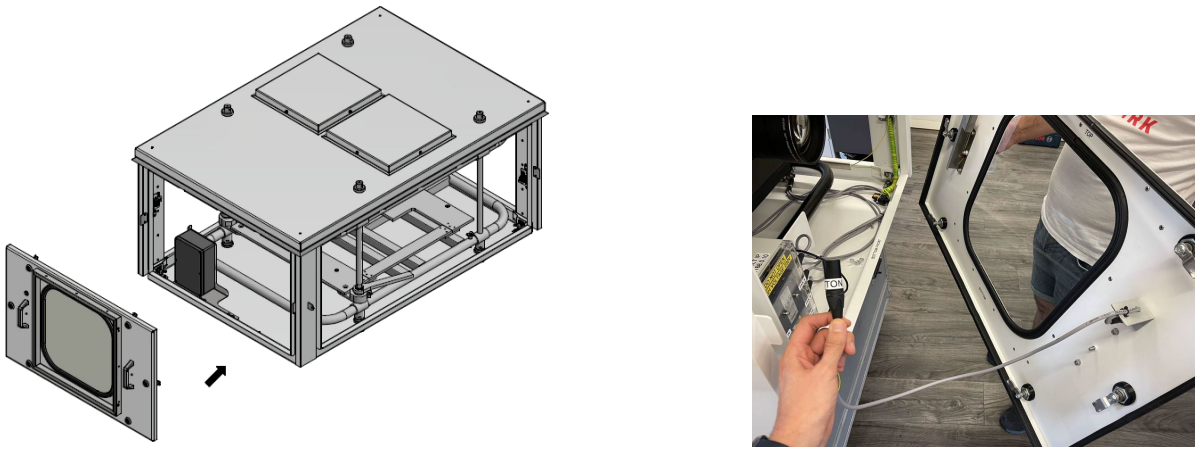


Figure 10 Installation of *Front-Panel* and connection of the button

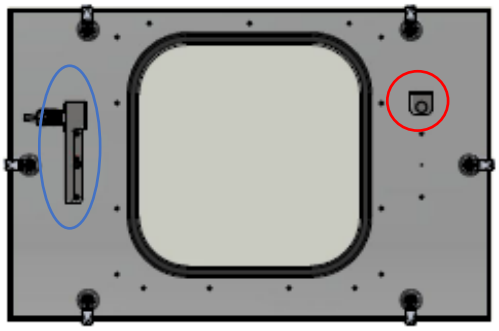


Figure 18: Back of the front panel

- Connect the spiral cable of the grounding from the nearby vertical pole to the connection terminal on the back of the front panel (Figure 19))

Figure 19: Connection of the grounding to the front panel

- Place the front panel on the front side and lock all six locks. The locks are equipped with a marked point indicating the locked position (highlighted in red in Figure 20). Ensure that the marked point faces outward when in the closed position.

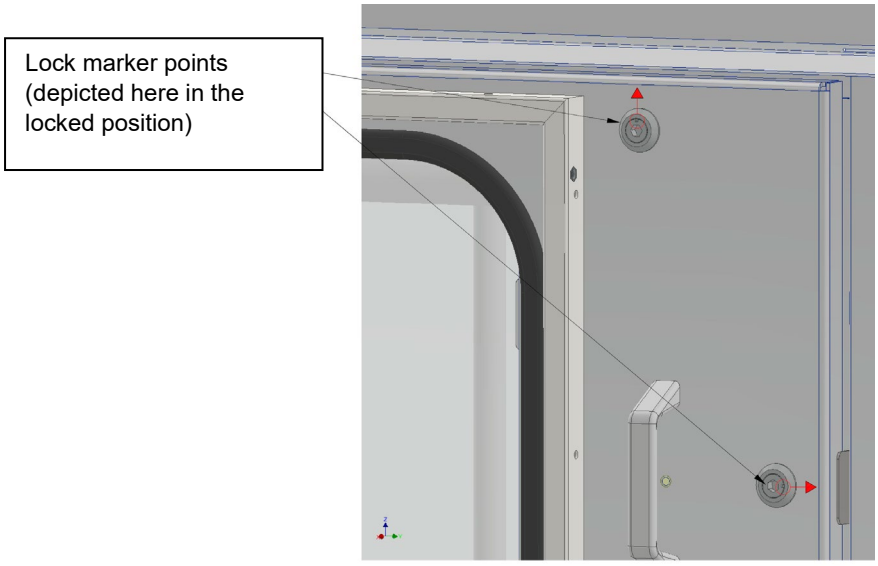


Figure 20: Marker points of the locks.

- Ensure that no cables or similar items are caught between the front panel and the housing.

-Make sure that the locks are completely closed. To achieve this, the tool must be turned clockwise by 180°; only then is the proper sealing effect guaranteed.

-Be cautious to prevent any cables or similar items from getting caught in the locking tabs of the locks.

- Connect the connection cable of the built-in button on the front panel to the corresponding port on the control unit.

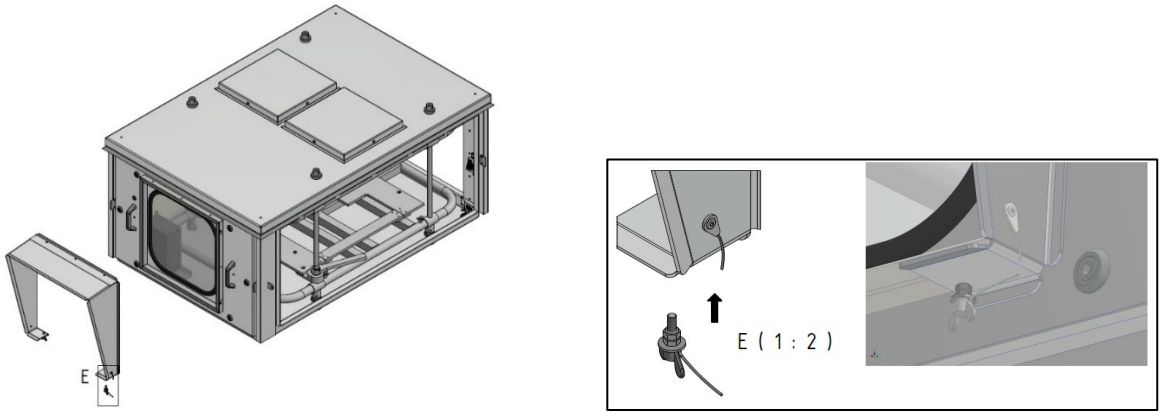


Figure 21: Installation of the rain cover

- Place the rain cover of the front panel on the top of the assembled frame (Figure 21).

- Screw the two wing screws secured by wire on the rain cover at the bottom to achieve a secure connection between the cover and the frame

7.10 Installation of the right cover

- Position the right panel on the right side of the housing.

Note: The rear grounding connection terminal must be on the right side, from the viewer's perspective. See Figure 22: Installation of the Right Panel, with the grounding connection terminal marked in blue.

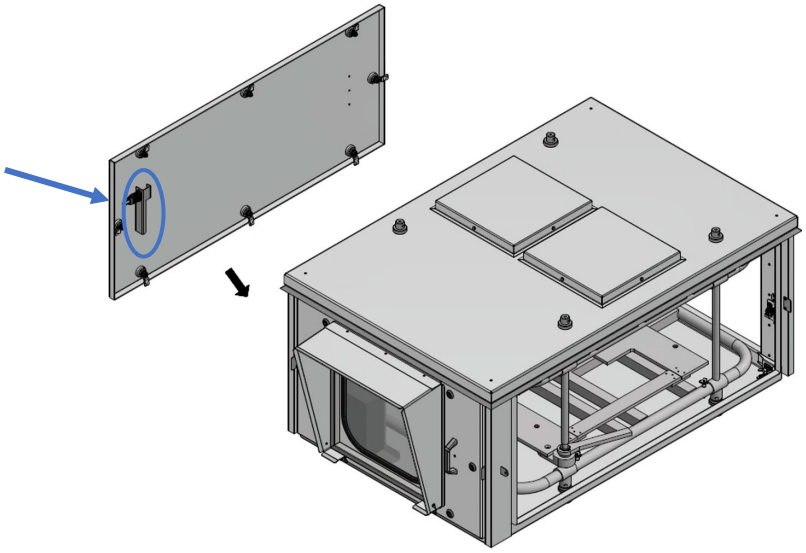


Figure 11 Installation *Right-Panel*

- Connect the spiral cable of the grounding from the nearby vertical pole to the connection terminal on the back of the Right Panel (Figure 23).

Figre12 Connection of the grounding to the Right Panel.

- Place the Right Panel on the right side of the housing and lock all eight locks. The locks are equipped with a marked point indicating the locked position (highlighted in red in Figure 20). - Ensure that the marked point faces outward when in the closed position.

- Be cautious to prevent any cables or similar items from getting caught between the Right Panel and the housing.

- Make sure that the locks are completely closed. To achieve this, the tool must be turned clockwise by 180°; only then is the proper sealing effect guaranteed.

- Be cautious to prevent any cables or similar items from getting caught in the locking tabs of the locks.

7.11 Installation of the rear cover / Air outlet (fan)

- Position the *Rear-Panel* at the rear side of the housing.

Note: The rear grounding connection terminal must be on the right side, from the viewer's perspective. See Figure 24, with the grounding connection terminal marked in blue.

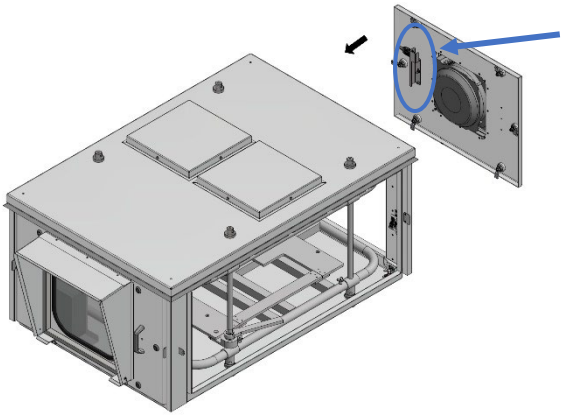


Figure 13 Installation *Rear-Panel*

- Connect the spiral cable of the grounding from the nearby vertical pole to the connection terminal on the back of the Rear Panel (Figure 25).

Figure 25: Connection of the grounding to the Rear Panel

- Connect the built-in fan (FAN A) in the Rear Panel to the pre-installed wiring harness (PowerCon and XLR 4 Pin)

Figure 26: Connection of FAN A.

- Place the Rear Panel on the rear side of the housing (see also Figure 4) and lock all six locks. The locks are equipped with a marked point indicating the locked position (highlighted in red in Figure 20). Ensure that the marked point faces outward when in the closed position.

-Be cautious to prevent any cables or similar items from getting caught between the Rear Panel and the housing.

-Make sure that the locks are completely closed. To achieve this, the tool must be turned clockwise by 180°; only then is the proper sealing effect guaranteed.

-Be cautious to prevent any cables or similar items from getting caught in the locking tabs of the locks.

-Finally, place the rain cover on and secure it with the four wing screws, which are secured by steel cables (see Figure 27)

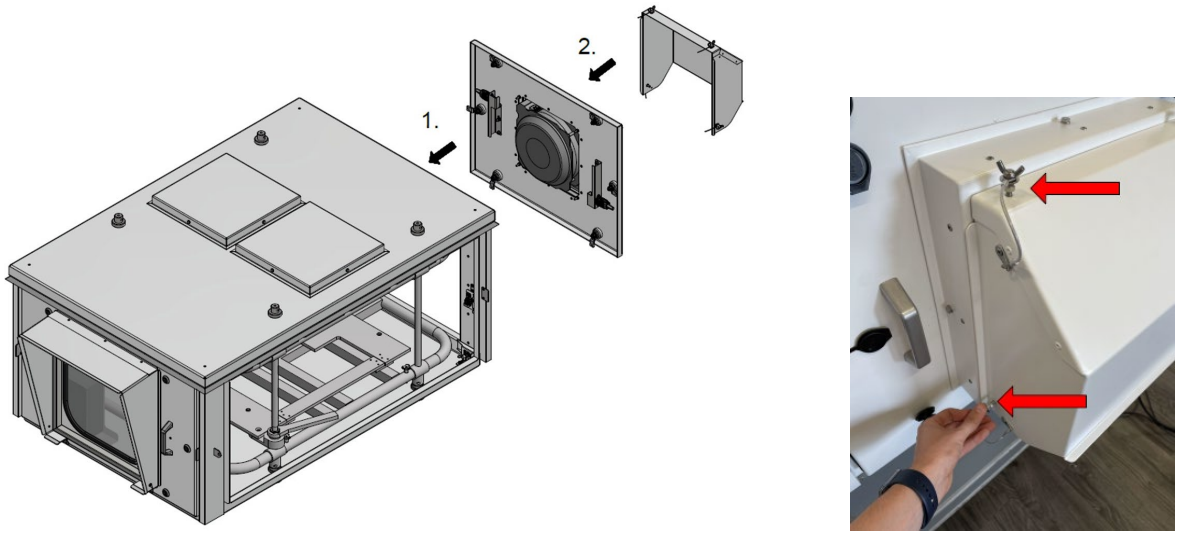


Figure 27: Installation of the rain cover on the Rear Panel.

Note: Use the flatter rain cover for the Rear Panel. Figure 28 depicts the two types, with the taller covers intended for use on the Left Panel.

Figure 14 Filter Cover

Note: Make sure that the correct fleece filter is installed.

7.12 Installation of the left cover / Air intake (fan)

- Position the *Left-Panel* at the left side of the housing.

Note: The rear grounding connection terminal must be on the right side, from the viewer's perspective

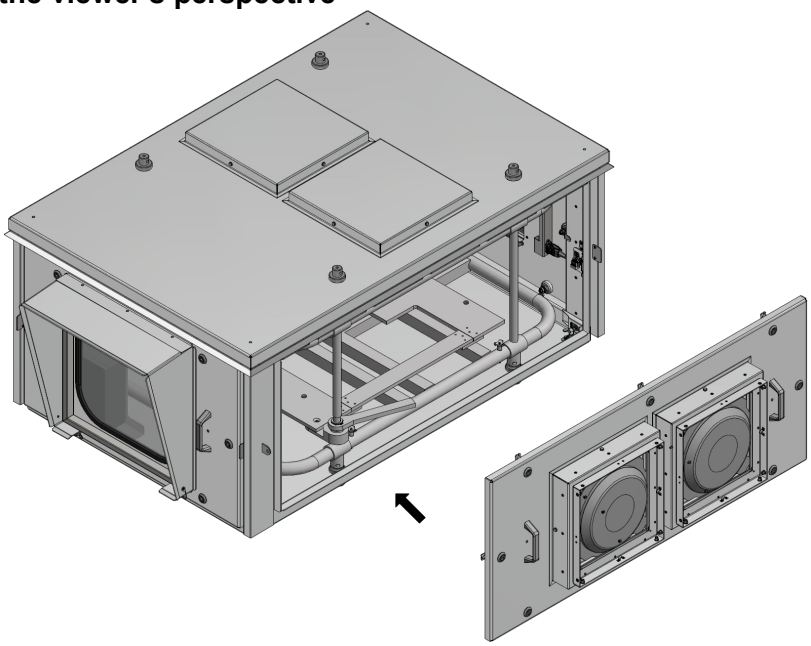


Figure 15 Installation *Left-Panel*

- Connect the spiral cable of the grounding from the nearby vertical pole to the connection terminal on the back of the Left Panel (Figure 30).

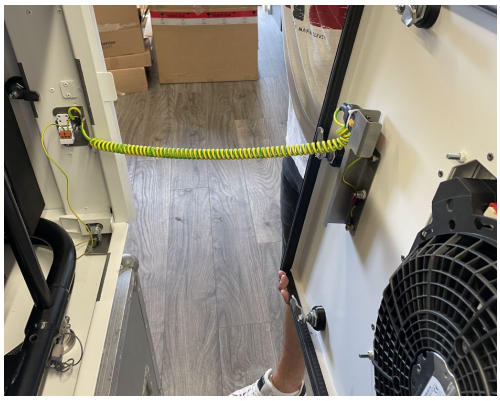


Figure 30: Connection of the grounding to the Left Panel

- Connect the two built-in fans (FAN B and FAN C) in the Left Panel to the pre-installed wiring harness (PowerCon and XLR 4 Pin)

Figure 31: Connection of FAN B and FAN C

- Place the Left Panel on the left side of the housing and lock all eight locks. The locks are equipped with a marked point indicating the locked position (highlighted in red in Figure 20). Ensure that the marked point faces outward when in the closed position.

-Be cautious to prevent any cables or similar items from getting caught between the Left Panel and the housing.

--Make sure that the locks are completely closed. To achieve this, the tool must be turned clockwise by 180°; only then is the proper sealing effect guaranteed.

Be cautious to prevent any cables or similar items from getting caught in the locking tabs of the locks.

-Next, install the filter sets in front of the two fans (Figure 32).

-Place the filters as shown in Figure 32 and secure them with the four pre-mounted rubber bands.

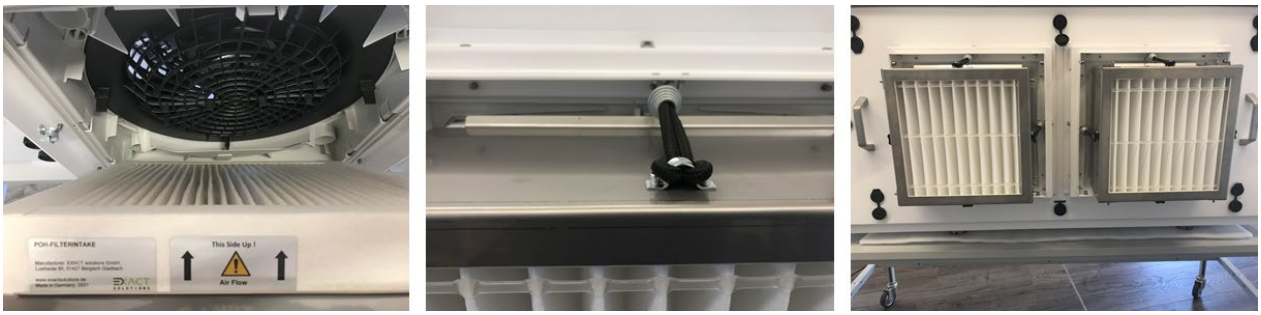


Figure 32: Installation of filter sets for air intake.

- Finally, place the two rain covers and secure them with the respective four wing screws, each secured by steel cables (see Figure 27).

-Ensure a vertical alignment of the filter fins so that any potential condensation can drain off. The filter sets are equipped with corresponding position markings.

-Make sure that all four rubber bands are hooked.

-The fine filter fins must face towards the inside of the housing, and the coarse filter fins must face towards the outside..

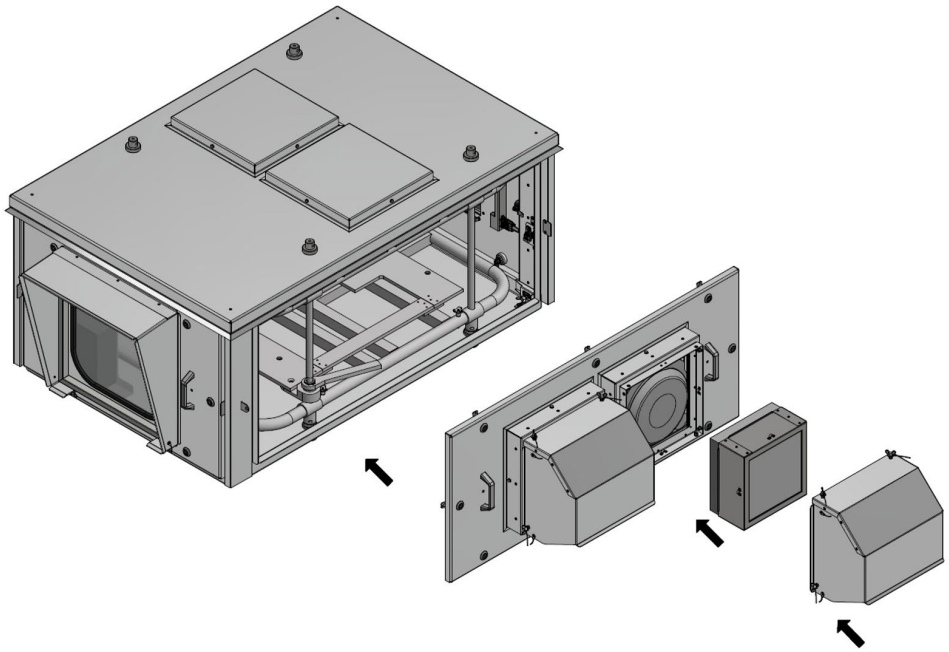


Figure 33: Installation of filter sets and rain covers on the Left Panel.

Note: Use the taller rain covers for the Left Panel. Figure 28 depicts the two types.

Caution: Ensure that clean filter sets are installed. The system must not be operated without filters.

9. Use of the tilting platform.

9.1 Installation of the housing on the tilting platform

- Place the tilt platform on a flat and sufficiently load-bearing surface

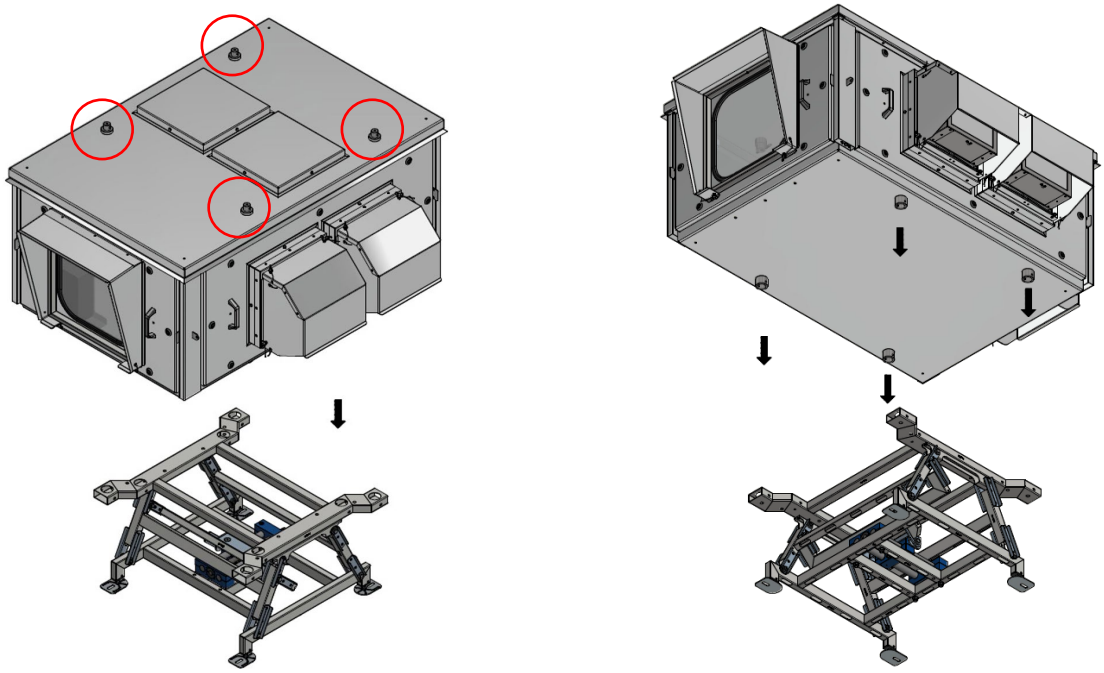


Figure 16 Placing the outdoor housing on the tilt platform.

- When the projector is mounted in the housing, and all connecting elements and any adapter pieces of the projector frame are connected to the housing, you can lift the entire system with an appropriate lifting aid. Refer to Chapter 7.1 Installation of the Projector with Mounted Projector Frame and the following chapters.

To attach to the lifting aid, all four M10 eye bolts (DIN580) must be screwed into the outer upper connecting elements of the outdoor housing. The eye bolt must be fully screwed in and lie flat on the contact surface. Figure 43 illustrates this process, with the four eye bolts marked in red. These mounting points are only for temporary installation and must never be used for permanent hanging installation.

Caution: If spacers between the connecting elements of the projector frame and the outdoor housing are specified by the manufacturer, they must be installed. Without these connecting elements, the system lacks stability. Failure to comply can result in personal injury and death.

Caution: Connecting elements or spacers must always be secured with the correct ball-lock pins. Failure to comply can result in personal injury and death.

Caution: The outdoor housing and accessory parts are not approved for hanging installation. The attachment points are only for temporary lifting assistance during installation. The area beneath and near a lifted system must be barricaded and kept clear. Failure to comply can result in personal injury and death.

- Position the outdoor housing above the horizontally aligned tilt platform as shown in Figure 43.
- Ensure the correct positioning of the four mounting points on the underside of the outdoor housing into the corresponding cutouts of the tilt platform. The mounting points should smoothly and precisely slide into the cutouts of the tilt platform without any resistance.
- Secure the outdoor housing on the tilt platform with the appropriate screws, as shown in Figure 44. As visible, the M8 screws are guided through corresponding holes in the lower mounting points of the outdoor housing and secured.

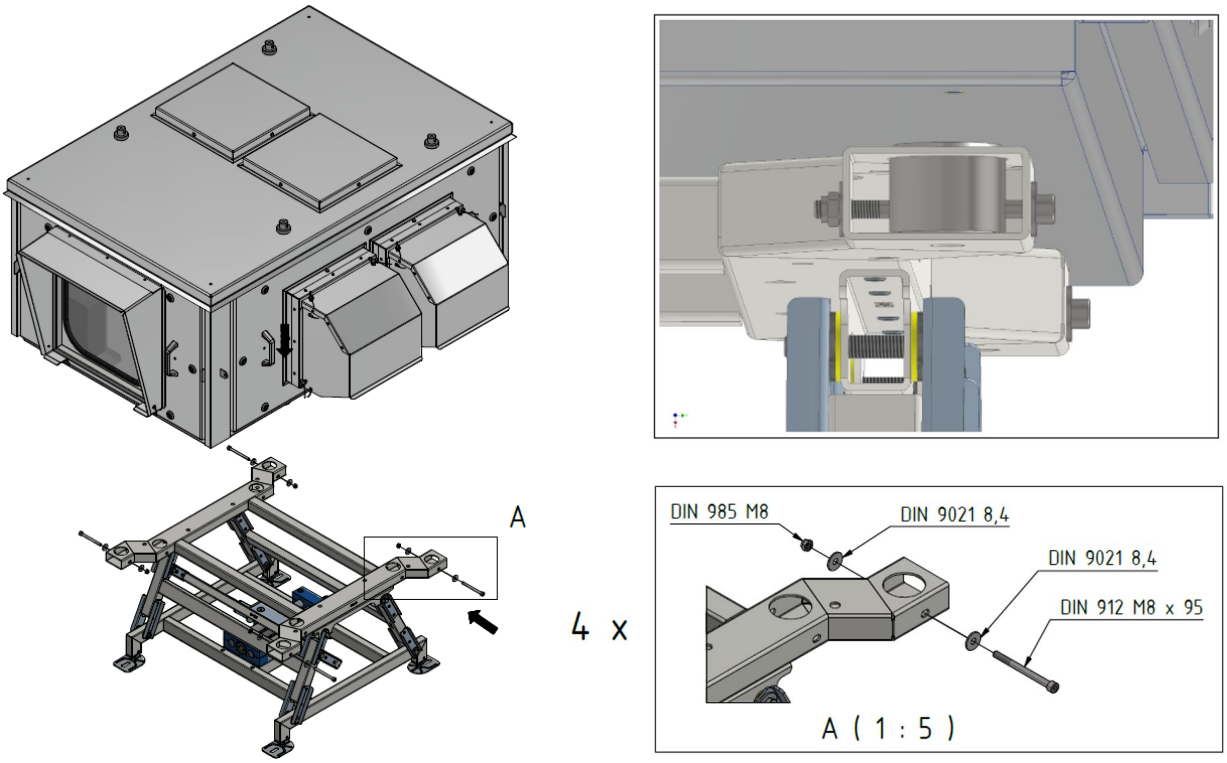


Figure 17 Screwing the outdoor housing onto the tilt platform

Caution: Ensure a stable and secure installation of the entire system. If necessary, secure the system to the existing structure, such as the ground.

10. Electrical installation

WARNING: Electrical work may only be carried out by a fully qualified and trained electrician. Follow local laws and regulations..

WARNING: Ensure that the power cable is disconnected from the mains while connecting it to the device.

WARNING: This product is a Class 1 device and requires grounding. It should only be connected to circuits protected by a Residual Current Device (RCD). Always connect the corresponding PE cable (Protection Earth).

WARNING: Always use the cable grommets (Figure 11) when passing a cable through the housing to prevent damage to the cable.

The Control Unit (CU) is the central part of the outdoor housing. It monitors the following sensors:

- Internal Temperature Sensor TS22
  - This sensor is connected to the CU with a 3-pin XLR cable and measures the temperature inside the housing near the CU.
- Projector
  - When a network connection to the projector is established, the CU retrieves the following data from the projector:
    - Temperature Air Intake
    - Temperature Air Outtake
    - Temperature Optics
    - Power Status
- Fan Speed
  - The CU checks and compares the measured speed of each fan with the desired speed, triggering an alarm in case of significant deviation.
  - Each fan is connected to the CU with two lines: PowerCon True1 for power supply and 4-pin XLR for fan control and monitoring.

The CU mainly calculates the fan speed based on temperature, ideally using the projector's temperature data. If projector temperature data is unavailable, the internal temperature sensor is used. Fan speed is a mathematical function of temperature.

Different projectors require different functions to control fan speed. Experienced users can select the desired projector using dip switches on the CU (see 10.2. Changing the projector).

10.1 Connecting the components

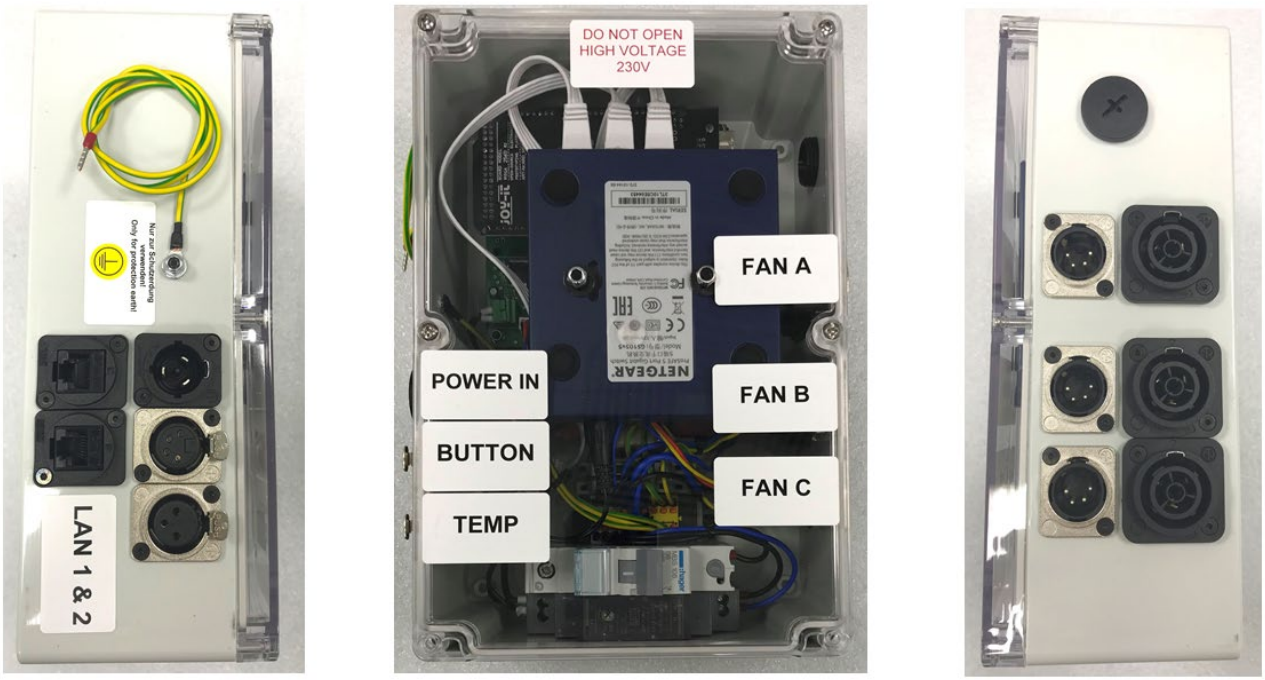


Figure 18 CU with connections on the sides

- Connect the grounding cable of the CU to the WAGO terminal of the nearest pole as the first step.
- Connect the fan cables according to the labelling "FAN 1/2/3" to the cables and the control unit (CU).
- Connect the projector to the control unit with a network cable labelled "LAN 1 or LAN 2."
- Connect the button from the front panel to the "BUTTON" port (XLR 4P).
- Attach the temperature sensor TS22 to the "TEMP" port (XLR 3P).
- Connect another network cable to the "LAN1 or LAN2" port and route it through the cable outlet to the outside.
- Finally, connect the power cable to "POWER IN."

The installed circuit breaker (6A) is shipped in the switched-on state. If the circuit breaker trips, disconnect the control unit from the mains voltage. Check the correct connection of the fans and ensure that all fans can rotate freely. Inspect the cables for obvious damage such as cuts, kinks, cracks, etc. To reset the circuit breaker, open the control unit's housing.

WARNING: Ensure that the power cable is disconnected from the mains before opening the housing.

Close the housing and tighten all four screws before reconnecting the control unit to the mains. If the circuit breaker triggers again, contact your dealer or the manufacturer

10.2. Changing the projector

Depending on the type of projector you are using, settings need to be adjusted via a dip switch on the control unit. These settings define:

- Fan characteristics as a function of temperature
- Dual or single fan for air intake
- Ratio of air intake to air outlet
- Projector communication protocol

The dip switch is located on the control unit's circuit board.

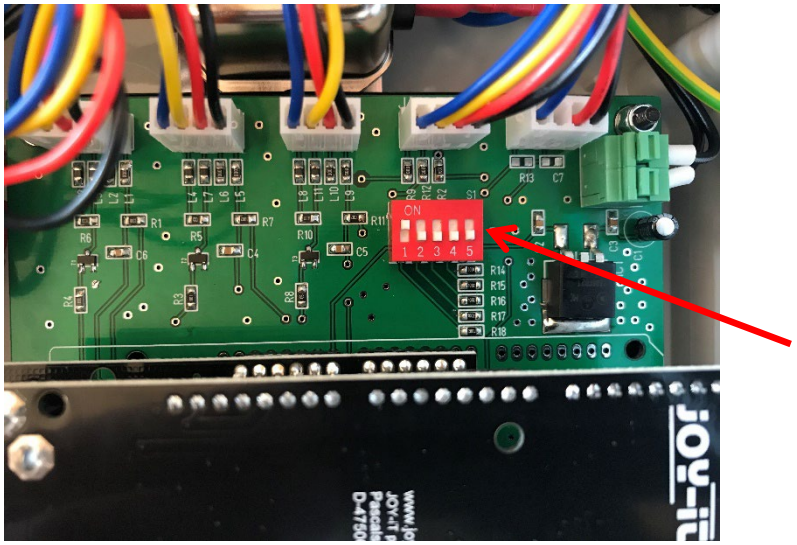


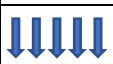
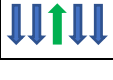
Figure 19 DIP-Switch on circuit board

Proceed as follows:

- Open the control unit's casing to access the dip switch.

WARNING: Make sure the power cable is disconnected from the mains when opening the casing.

- Adjust the DIP switch settings according to the following table

Decimal	DIP	Projector Group
0		PT-RQ50K
1		PT-RZ31K, PT-RQ32
2		PT-RQ35, PT-RZ34K (EVO-P30)
3		PT-RZ12, PT-RZ21, PT-RS20, PT-RQ22 (EVO-P20)
4		PT-DZ13, PT-RZ770, PT-RZ970, PT-RZ120 (EVO-P10)

- Close the case and tighten all four screws. Only now, the control unit may be connected to the mains voltage again.
- Check the connection to the projector.

10.2 Remarks to certain projectors

10.2.1 Panasonic (RQ50, RZ31K etc.)

Default IP: 192.168.000.008

Note: The Panasonic projector must be set to the "non-protected mode”.

To set the projector to the "non-protected mode," follow these steps:

- Open the web interface of the projector and log in.
  Default user: dispadmin
  Default password: @Panasonic

or

  Default user: admin1
  Default password: panasonic

- Change the user and password, leaving the password field empty.
- The projector should now be running in non-protected mode.

For further information, refer to the projector's user manual.

11. Installation Checklist

Use this checklist as an accompanying guide during assembly

Manual	***Bottom-Panel***	ok
6.3.1	Projector positioned on connecting elements and secured with quick-locking bolts.	
6.3.2	Spacers installed and secured with quick-locking bolts.	
	→ Only if necessary, refer to section 5.3 Compatible projectors and frames	
6.3.3	Control Unit (CU) mounted and secured with wing nut, temperature sensor connected.	
	Rear Right Pole	ok
6.3.4	Rear-Right-Pole mounted in the correct position, precisely fitted, and wing screw tightened	
6.3.4	Grounding cable securely connected from Bottom-Panel to WAGO terminal of Rear-Right-Pole	
	Standard Pole	ok
6.3.5	3x Standard Pole accurately mounted in the correct position, and wing nut tightened.	
6.3.5	Grounding cable from the Bottom-Panel securely connected to the WAGO terminal of the Standard-Pole	
6.3.5	Protective grounding cable from the CU connected to the WAGO terminal of the nearest vertical pole	
	Top-Panel	ok
6.3.6	Top panel placed and accurately screwed to the poles.	
6.3.6	Frame connection elements secured with quick-release bolts.	
6.3.6	Shielding grounding cable of the lid connected to the WAGO clamp of the underlying pole.	
	Installation of external connection cables (Rear-Right-Pole)	ok
6.3.7	Cable inserted and equipped with suitable cable glands.	
6.3.7	Blank plugs inserted into empty fields.	
	Installation of the rear air duct on the projector	ok
6.3.8	Air duct mounted	
	Installation of the front cover (Front Panel) including rain cover.	ok
6.3.9	Spiral cable grounding connected	
6.3.9	Button connected to CU.	
6.3.9	Closures fully closed, no cables pinched.	
6.3.9	Rain cover mounted and secured with wing screws.	
	Installation of the right side cover	ok
6.3.10	Spiral cable grounding connected	
6.3.10	Closures fully closed, no cables pinched.	
	Installation of the rear cover/air outlet (Rear-Panel) (Fans).	ok
6.3.11	Spiral cable grounding connected	
6.3.11	Fan extension cable (A) connected and linked to the CU (XLR and PowerCon).	
6.3.11	Closures fully closed, no cables pinched.	
6.3.11	Rain protection hood (Outtake) installed and secured with 4 wing screws	
	Installation of the left cover/air inlet (Left-Panel) (Fans).	ok
6.3.12	Spiral cable grounding connected	
6.3.12	Fan extension cables (B/C) connected and linked to the CU (XLR and PowerCon).	
6.3.12	Closures fully closed, no cables pinched.	
6.3.12	Filters inserted correctly (louvres running vertically downward).	
6.3.12	2x rain protection covers (intake) installed and secured with 4 wing screws each.	

Always check the secure fit of all plug and screw connections!

12. Operating

12.1 Operation with the multifunctional button

Note: When the power cord is connected to the power supply, the fans will start running. The control unit uses either the temperature of the connected projector or the built-in temperature sensor for this purpose.

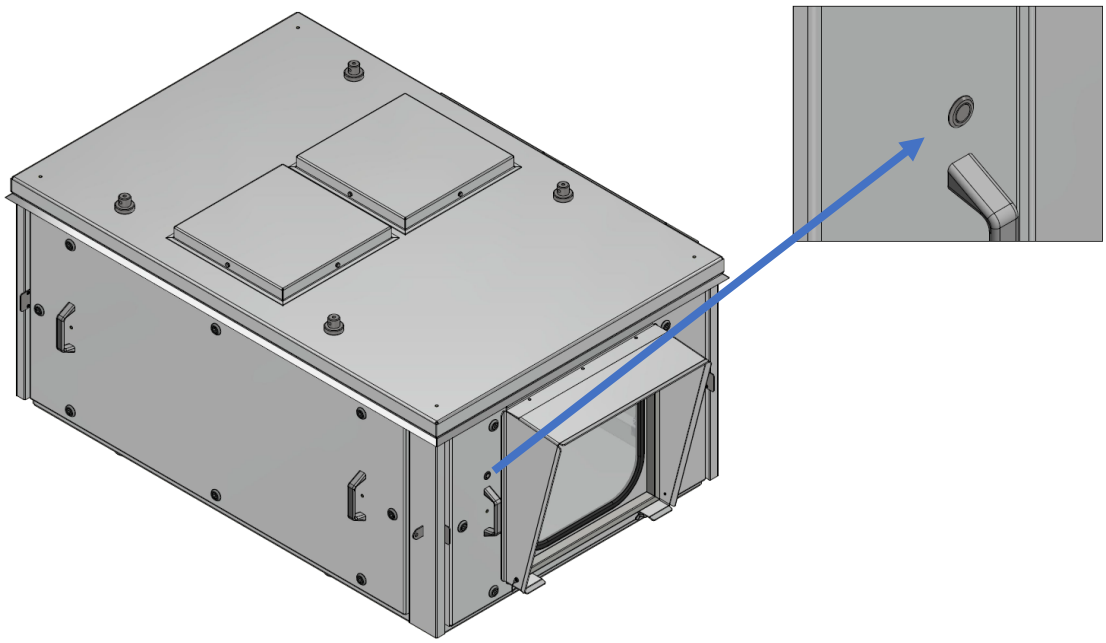


Figure 20 Multifunctional button on the front

- When the POH is in "masterState" 1, the fan runs at <=50% power, and the indicator light blinks slowly green.
- When the POH is in "masterState" 2, the fan runs at >50% <= 75% power, and the indicator light blinks quickly green.
- When the POH is in "masterState" 3, the fan runs at 100% power, and the indicator light remains solid green.
- Holding the button for approximately 4-5 seconds transitions the POH into "masterState" 8, which is the standby mode. The fans run at 35% power to ensure continuous airflow. The indicator light alternates between red and green. If the connected projector is still in operation, the POH switches back to the temperature-appropriate "masterState" 1-3.
- Holding the button for approximately 15 seconds transitions the POH into "masterState" 0. The device is turned off. The fans stop, and the indicator light is off. If the connected projector is still in operation, the POH switches back to the temperature-appropriate "masterState" 1-3.

LED	Function
Off	Device is off
Steady green	Device is on, 100% fan speed, system OK
Blinking green	Device is on, 75% fan speed, system OK
Slow blinking green	Device is on, 50% fan speed, system OK.
Steady read	Device is on, 100% fan speed set, measured fan speed deviates.
Blinking red	Device is on, 75% fan speed set, measured fan speed deviates.
Slow blinking red	Device is on, 50% fan speed set, measured fan speed deviates.
Alternating red/green	Device is in standby mode, 35% fan speed.

Note: You can reset the network settings to the default values by holding down the button for approximately 45 seconds.

The fan speed is measured at intervals of approximately 10 seconds. If the indicator light is red for more than 20 seconds, the measured fan speed does not match the set fan speed. In this case, check the air filters for contamination and ensure that the fans are not blocked by any objects.

12.2 Usage of the API

See also chapter 10.2 Remarks to certain projector.

The communication is established through a TCP/IP interface. Each outdoor housing or the installed CU there has a static IP address. The factory-set default IP address is:

192.168.000.010

The network port is HTTP port 80.

The commands and responses are formatted as REST JSON objects.

Command	Param	Answer	Value	Note
state	*none*	masterState: [value]	0 to 8	0: off, 1: <=50% fan speed outtake 2: >50% to <=75% fansp. outtake 3: 100% fan speed outtake 8: Stand-By
		operationMode: [value]	0 to 31	Defined by dip switch See chapter **Error! Reference source not found.**
		alarmFans: [value]	1 or 0	Fan alarm true or false
		fanOuttakeTarget: [value]	0 to 100	Ideal fans peed at outtake in %
		fanIntakeTarget: [value]	0 to 100	Ideal fans peed at intake in %
		fanOuttakeA: [value]	0 to 150	Resulting fan speed in %
		fanIntakeB: [value]	0 to 150	Resulting fan speed in %
		fanIntakeC: [value]	0 to 150	Resulting fan speed in %
		alarmTempSensor: [value]	1 or 0	Temp sensor alarm true or false
		tempSensorError: [value]	String	Temp error description
		internalTemp: [value]	0.0 to 150.0	Internal temperature
		projectorIP	String	IP of projector
		projectorError[value]	String	Error description projector
		projectorPwrState: [value]	0 to 1000	Power State of projector
		panaIntakeTemp: [value]	0.0 to 150.0	Panasonic Intake Temp.
		panaOuttakeTemp: [value]	0.0 to 150.0	Panasonic Outtake Temp.
		panaOpticsTemp: [value]	0.0 to 150.0	Panasonic Optics Temp.
		serial: [value]	String	Serial Number as string
		fw: [value]	String	Firmware as string
stateNetwork	*none*	localIP [value]	String	Local IP
		subnetmask [value]	String	Subnetmask
		gateway [value]	String	Gateway
		projectorIP [value]	String	IP of projector
setPower [param]	[on] [off] [standby]	statePower [value]	String”	Setting power with “on”, “off” or “standby"
setIP [param]	[new IP Address]	setIP[value]	“Trying to change IP address”	IP address formatted as: AAA.BBB.CCC.DDD Example: 192.168.000.010
setSNM [param]	[new Subnetmask]	setSNM[value]	“Changing Subnetmask”	Subnetmask address formatted as: AAA.BBB.CCC.DDD Example: 255.255.255.000
setGW [param]	[new Gateway]	setGW [value]	“Changing Gateway”	Gateway address formatted as: AAA.BBB.CCC.DDD Example: 192.168.000.002
resetIP [param]	*none*	resetIP[value]	“Trying to reset IP address”	Resetting to default values: IP (192.168.000.010) SNM (255.255.255.000) GW (192.168.000.001) Projector (192.168.000.008)
setIPProj [param]	[new IP Address]	setIPProj[value]	“Changing my record of IP address of Projector”	Updates the IP address of projector when changed

Simple communication can be established through a web browser by entering the command into the browser's address bar. For example:

192.168.0.10/setPower/on

The response will be displayed in the browser window.

Note: There are reasons why the CU may not have all data available, for example, when no projector is connected. In such cases, all unavailable data has a default value indicating an invalid response. For integers, the value is -100, and for floats, the value is -100.00.

The following example shows a response for the /state command.


```
{
    "masterState": 3,
    "operationMode": 0,
    "alarmFans": 0,
    "fanOuttakeTarget": 80,
    "fanIntakeTarget": 80,
    "fanOuttakeA": 84,
    "fanIntakeB": 86,
    "fanIntakeC": 88,
    "alarmTempSensor": 0,
    "tempSensorError": "No Error",
    "internalTemp": 26.80,
    "projectorIP": "192.168.0.8",
    "projectorError": "No network connection possible to projector",
    "projectorPwrState": -100,
    "panaIntakeTemp": -100,
    "panaOuttakeTemp": -100,
    "panaOpticsTemp": -100,
    "serial": "POH.00.aa",
    "fw": "1.1"
}
```


- The fans are running normally. The target fan speed for Intake and Outtake is 80%. The Outtake is at 84%, and the Intake is at 86% and 88%.
- The temperature sensor is connected and measures a temperature of 26.8 °C.
- The projector is not connected; all projector-related data shows the default value for invalid data.

The following example shows a response for the command /setPower/on.


```
{

    "statePower": "on"
}
```

13. Maintenance work

WARNING: Do not replace defective or faulty parts with components not approved by the manufacturer, as this may result in serious injuries and property damage.!

WARNING: Maintenance must be performed by qualified personnel!

WARNING: Always disconnect the device from the power source while working on it!

WARNING: Always allow the device to cool down before performing maintenance tasks.

After professional assembly and positioning, no further work is initially required.

Regularly check the level of dirt on the filters.
Clean the glass panel with a damp cloth or glass cleaner.

Check the correct functioning of the fans by observing whether the fans are spinning or if you can feel an airflow.

Clean the device only with a soft cloth. Do not rinse or immerse it in water.

13.1 Replacement of the air intake air filters

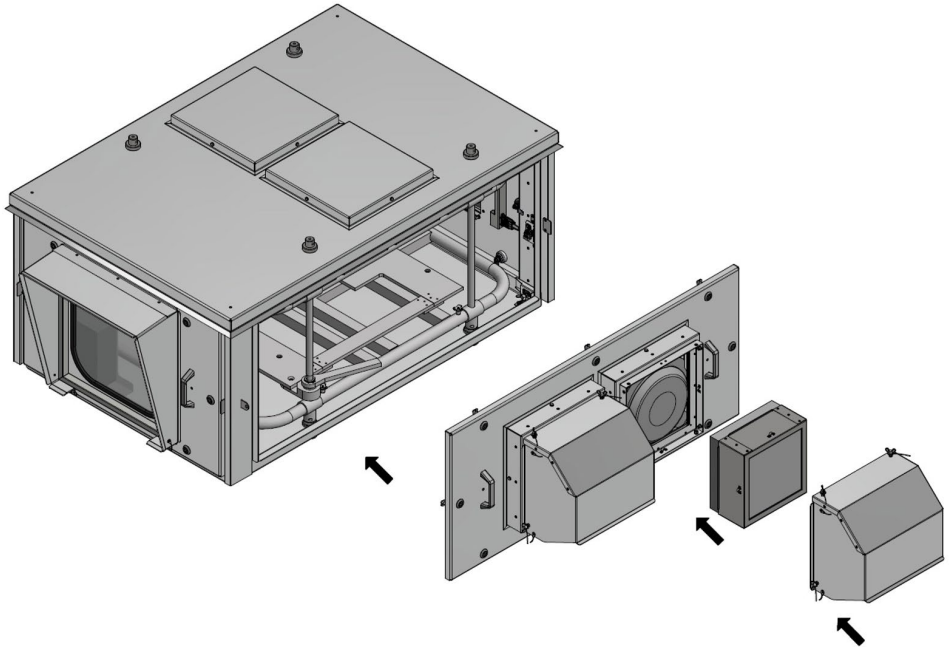


Figure 21 Installation of filter sets and rain protection hoods *Left Panel*

- Loosen the four wing screws and remove the rain cover.
- Now loosen the hooks of the rubber bands and remove the filter cartridge.
- Remove the old filter unit from the frame and insert the new filter unit. Make sure to insert the filter unit into the frame until it stops. The filter units are marked according to the flow direction (Figure 22).

Figure 22 Arrows indicating the air flow direction on a filter unit

- To insert, follow the instructions provided under chapter 7.12 Installation of the left cover

13.2 Replacement of the air outtake air filters

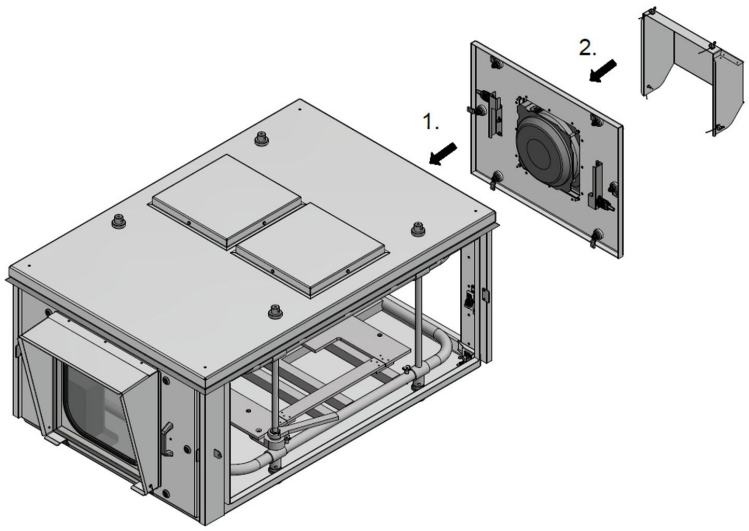


Figure 23 *Rear-Panel* and rain protection hood

- Loosen the four wing screws and remove the rain protection cover.

Figure 24 Installation of filter air outtake

- Open the filter cover by pulling on the latch (Figure 24).
- Fold open the filter cover and remove the old filter mat.
- Place a new filter mat, ensuring it lies flat and without folds.
- Close the filter cover. The closure must audibly snap into place.
- Install the rain protection cover with the four wing screws.

14. Disruptions, Causes, Measures

Below you will find possible errors, their causes, and measures. Please contact us or your dealer if malfunctions or errors occur.

The inspections required in case of malfunctions and possible measures must be carried out by qualified individuals! Qualified persons are professionals such as electricians and individuals with equivalent or higher qualifications.

WARNING: Do not replace defective or faulty parts with parts not approved by the manufacturer, as this can result in serious injuries and property damage.!

WARNING: Distorted components must be taken out of service and replaced only with original spare parts. Otherwise, complete sealing cannot be guaranteed. Please contact your dealer or the manufacturer.

WARNING: Maintenance must be carried out by qualified personnel!

WARNING: Always disconnect the device from the power supply while working on it.!

WARNING: If water has entered the housing, there is a risk of electric shock. Disconnect the device from the power supply immediately. Check all seals and connection points. Inspect all sides for damage and dimensional accuracy. If no obvious damage is detected, contact your dealer or the manufacturer..

WARNING: Troubleshooting with the device turned on is only permitted by qualified personnel using appropriate tools and measuring instruments.

WARNING: Wear appropriate protective equipment such as gloves and safety shoes during maintenance.

Error	Cause	Action
After turning on the device, the residual current circuit breaker (RCCB) trips immediately.	The device has a ground fault and is no longer operational.	The power supply must be disconnected, and the device needs to be replaced and subjected to a thorough inspection by the manufacturer.
Device does not turn on.	Power supply error.	Check if all voltage supply connections are properly established.
Device does not turn on,	Control error.	Check through the network interface if the control is accessible and displaying the correct "master state.
One or more fans have failed or are vibrating loudly.	The fan is defective, or the power supply to the fan is interrupted. The fan is obstructed or blocked.	The device needs to undergo repair at the manufacturer. Consider the fan and air filter during cleaning.
Network connection not possible.	Incorrect or unknown IP address set.	Reset the network settings to the default values as described in 12.1.
Network connection not possible.	The control has no power.	Check if all power supply connections are properly established.
Control of the projector not possible.	Incorrect control settings.	Ensure that the control is set to the appropriate projector type (12.2)

15. Disposal of components

15.1 Electrical components

The electronic ballast and other electronic components can be recycled through the disposal of electronic waste..

15.2 Metal parts and Packaging

All steel parts and packaging can be recycled.

15.3 Disposal of complete devices

You have the option to send old devices back to us. Please note that the return shipping costs will not be covered by us. Please send the devices to:

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Lustheide 85
51427 Bergisch Gladbach
GERMANY

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