Assembly Instructions

Envistar Flex

Size 060-1540

Translation of the original instructions

CONTENTS

Assembly Instructions
Envistar Flex

1 SAFETY

This section addresses important safety aspects of assembly, with the aim of raising safety awareness and avoiding personal injuries and damage to surroundings and units.

- This manual contains important instructions. Read it carefully and follow the instructions.
- Pay special attention to warning and information messages, as well as markings on the product.
- Keep the manual for future use.

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1.1 Intended use

Intended use

The product is intended to be used Air handling unit for comfort ventilation in properties.

Intended users

The contents of this manual are intended for personnel assembling the unit on site.

Intended user environment

- The unit is usually placed indoors, but is also available as an outdoor version.
- When installed indoors, the unit must be installed in a ventilated area that maintains a temperature between +7 and +30 °C, and that maintains a moisture content of <3.5 g/kg in dry air in the winter.
- The unit can also be equipped for assembly in cold attics.

Unintended use

Any use other than specified in Intended use is prohibited unless specifically permitted by IV Produkt. It is not permitted to use the unit in potentially explosive environments.

1.2 General safety

Failure to comply with the safety precautions may result in injury to persons or damage to air handling units. To avoid personal injuries and damage to surroundings or units:

- Follow national and local laws/regulations for safe work, e.g. fall protection when working at a height.
- Do not wear loose clothing or jewellery that may get stuck.
- Do not step or climb on the unit.
- Use appropriate tools.
- Use appropriate personal protective equipment.
- Note the unit's markings: product signs, information and warning stickers.

Personal protective equipment

Personal protective equipment must always be used based on the risks present in the work-place. For example, wear protective shoes with steel toecaps, hearing protection, protective helmet, gloves, safety glasses or goggles, fully-covering clothing, safety overalls, mouth-guard/protective mask and/or fall protection where the work and work environment requires it.

Warning notices

Warning notices in the instruction warn of risks when handling and assembling the product. Carefully follow the instructions contained in warning notices.

The warning symbol  indicates that a risk exists.

WARNING! indicates a potential risk that, if not avoided, can cause **life-threatening or serious**situations that can lead to death or personal injury.

CAUTION! indicates a potential risk that, if not avoided, could cause **material damage** to the product or surroundings as well as impairment of product function.

“Risk of xxxxxx. “ indicates the risk in a short risk title.

A description in italics provides more detailed information about what the risk entails.

- The bullet points indicate how the user avoids harm.

General warning notices

WARNING!

Risk of life-threatening or serious personal injury.

Electrical voltage can cause electric shock, burns and death. The product must not be energised during assembly.

- Electrical connection and electrical work may only be carried out by a qualified electrician.
- For initial start-up of the unit, see Operation and Maintenance of the unit on IV Produkt's order portal.

00176

WARNING!

Risk of life-threatening or serious crushing or compression injury.

High unit parts, as well as unit parts with a high or offset centre of gravity, mean a greater risk of tipping.

- Follow the lifting and assembly instructions in this manual.
- Use lifting equipment where available.
- Use appropriate protective equipment.
- Exercise caution when working between unit parts.
- Exercise caution when placing unit parts on the support.
- Use the support to secure the parts against possible tipping risk.

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WARNING!

Risk of life-threatening or serious crushing or compression injury.

The unit parts are often heavy and cannot be lifted by hand. See weights indicated on the layout drawing.

- Follow the lifting and assembly instructions in this manual.
- Use lifting equipment where available.
- Use appropriate protective equipment.

00179

WARNING!
Risk of serious crushing injury.
A falling unit when lifting can cause crushing injuries.

- Follow the instructions for lifting in this manual.
- Never exceed the specified weight for the respective lifting method or lifting equipment.
- Slide stops must be fitted when lifting, if bracket is used.
- Replace used T-bolts and nuts with new ones after each lift.

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WARNING!
Risk of cutting.
Sharp edges can cause cuts.

- Use appropriate personal protective equipment when the work requires it.

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Safety symbols, signs on the unit

Keep signs and stickers free of dirt. Replace missing, damaged or unreadable signs and stickers on the machine. Contact IV Produkt for replacement stickers by specifying the article number.

Type plate

The unit and any associated cooling unit/reversible heat pump have a type plate affixed to the front. The type plate is used, among other things, for identification of the product.

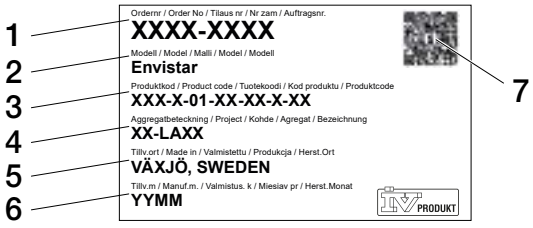

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Figure: Example of a unit type plate

1. Order number
2. Product name/model
3. Product code
4. Unit designation
5. Place of manufacture
6. Date of manufacture
7. QR code

Report accidents, incidents

Accidents or incidents are reported to IV Produkt.

1.3 Product liability

The unit complies with industry requirements for quiet air handling units with high-efficiency recovery systems for heating and cooling.

CE marking (EU) and UKCA marking (UK)
The air handling unit is CE and UKCA marked and meets the applicable requirements according to specified directives and standards in the Declaration of Conformity. The marking covers the assembly in the design in which it was delivered and provided that it has been assembled and put into operation in accordance with IV Produkt instructions. The declaration does not cover assemblies that have been modified, components that have subsequently been added or other plants in which the assembly may be included. The unit may not be put into service until the plant in which it is incorporated complies with the requirements for CE and UKCA marking, which apply in the country where the unit is installed.

The declaration of conformity can be downloaded from IV Produkt's order portal, *"2.1 IV Produkt's order portal, support", page 12*.

Manufacturer
The air handling unit is manufactured by:

IV Produkt AB, Sjöuddevägen 7, SE-350 43 VÄXJÖ

Warranty
For proper function and for the warranty to be valid, the assembly instructions must be followed.

Extended warranty
Extended warranty is a supplement to the order and to claim extended warranty (5 years), according to ABM07 with Appendix ABM-V07 or according to NL17 with Appendix VU20, a complete documented and signed IV Produkt Service and Warranty book must be presented.

Disclaimer
Continuous product development may give rise to specification changes without notice.

1.4 Receive, unpack

Check the goods on arrival, to ensure that no damage has occurred during transport.

When delivered, the product is packaged with plastic to protect against rain and dirt. The packaging should be kept on as long as possible to avoid penetration of dirt and dust into the unit. Duct connections on outdoor units are protected with a sheet metal covering.

1.5 Storage, transport

For temporary storage, the product should be placed on a flat surface, in a dry environment. The original packaging should be unbroken. Condensation water, which can occur during storage in fluctuating temperatures, normally dries up when the unit is installed and in operation. For extended periods of storage outdoors, the packaging should be opened to ensure ventilation inside the parts. The parts of the unit should be protected from rain, snow and sunlight.

1.6 Lifting the unit, unit parts

Lifting should be carried out according to lifting instructions in this document, *"4 LIFT THE UNIT", page 15* as well as according to markings and signs on the unit. If there are no lifting instructions or markings, lifting must be carried out according to lifting methods prepared by the transport industry.

1.7 After the lifetime of the product

For dismantling and decommissioning of air handling units, follow the instruction “Air handling unit, dismantling and decommissioning” on IV Produkt’s order portal. See *"1.1 Intended use", page 7.*

2 GENERAL INFORMATION

This section contains general information that is not safety-related. For safety-related information, see "1 SAFETY", page 7.

2.1 IV Produkt's order portal, support

All documentation associated with an order can be downloaded from IV Produkt's order portal. Approximately two weeks after delivery, the documentation should be complete. If you have any questions, contact the appropriate department for support. See contact details on the last page of the manual.

1. Scan the QR code in the header of the manual.
   or
   Type ivprodukt.docfactory.com in your browser and select YOUR AIR HANDLING UNIT.
2. Enter order number.
3. Click the magnifying glass.

General documentation that is not order-specific is retrieved under "ALL DOCUMENTATION".

For further explanations of drawing symbols and descriptions of assembly functions, see Assembly instructions and Operation and care for each unit.

2.2 Information messages, not safety-related

Symbol together with information text highlights difficulties and also gives tips and recommendations.

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2.3 Tools for assembly

A bag of screws, nuts, corner fittings and other items to be used for assembly is supplied with each unit. The following tools are suitable for assembly:

- Power screwdriver with 16-socket, 13-socket, 1/4-inch bit and star bit
- Screwdriver
- Spirit level
- Putty syringe
- Rubber mallet
- Scissors
- Polygrip pliers
- Box spanners 13, 16, 18, 19
- Wooden blocks to lay between support and road
- Pop riveter
- Lubricating grease in spray bottle
- Pipe cutter

2.4 Spare parts

Spare parts and accessories for this unit are ordered from IV Produkt's nearest sales office. State the order number and unit designation. These can be found on a model identification label, affixed to each part/component. Download separate spare parts list on IV Produkt's order portal. See "1.1 Intended use", page 7.

2.5 Symbols on drawings and in manual

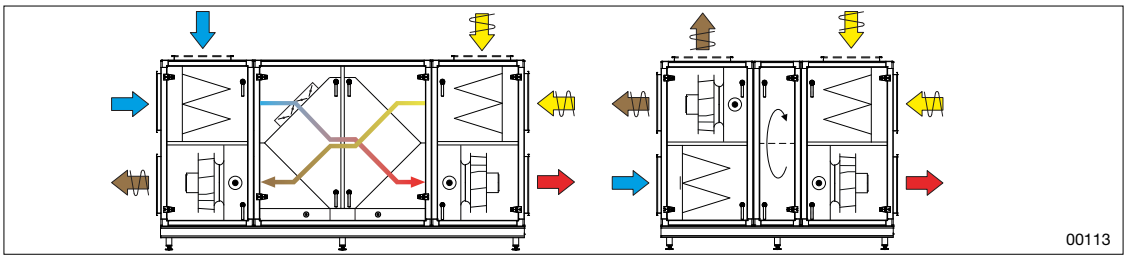

Figure: Example of a layout drawing

	Outdoor air		Extract air
	Supply air		Exhaust air
	Fan		Filter
	Shut-off damper		Trim damper
H_2O	Cooling coil water	H_2O	Heating coil water
	Heating coil electric		Sound attenuator
	Rotary heat exchanger		Cross-flow heat exchanger
	Counter-flow heat exchanger		Compressor
	Cooling unit	DX	Reversible heat pump
	Media section		Quick connector

3 DESCRIPTION OF THE UNIT

3.1 Configuration of the unit

The unit can be supplied with or without control and adjustment equipment. See *"10 CONNECT CONTROL EQUIPMENT", page 49.*

The unit is supplied as a complete unit (unit version) or in blocks/parts (block version) in sizes 060—1540. Units in block version require assembly.

Indoor units are mounted on supports (aluminium profiles) with legs and adjustable feet, adjustable to different heights.

The framework of the units consists of aluminium profiles:

- Size 060-980: 50 x 50 mm (50 profile)
- Size 1080-1540: 60 x 60 mm (60 profile).

Outdoor units are pre-mounted on beam frames (aluminium profiles) with a fixed height of 100 mm (for 50 profile) or 160 mm (for 60 profile) and cannot be supplemented with legs or adjustable feet.

Unit parts that have pre-assembled supports have lifting lugs mounted under the cross beams of the support.

Unit parts can be delivered in sections or divisible, known as sectioned configuration, to simplify moving them in through confined spaces.

3.2 Orientation of the unit's sides/parts

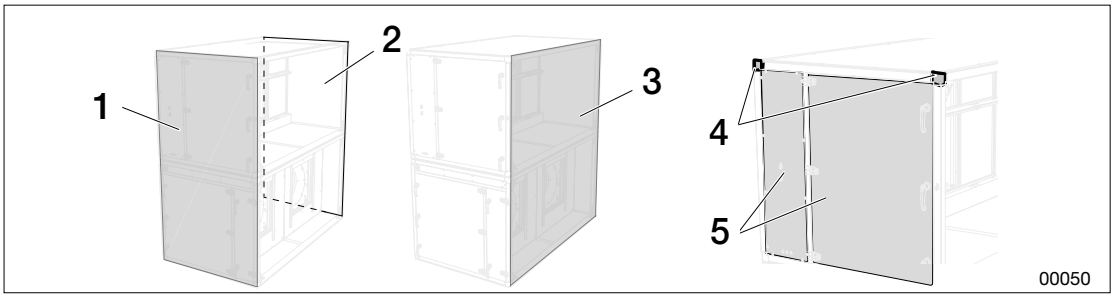

Figure: Parts of the unit

1. Inspection side
2. Back
3. Gable side
4. Joints
5. Covers

4 LIFT THE UNIT

WARNING!
Risk of life-threatening or serious crushing or compression injury.
High unit parts, as well as unit parts with a high or offset centre of gravity, mean a greater risk of tipping.

- Follow the lifting and assembly instructions in this manual.
- Use lifting equipment where available.
- Use appropriate protective equipment.
- Exercise caution when working between unit parts.
- Exercise caution when placing unit parts on the support.
- Use the support to secure the parts against possible tipping risk.

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WARNING!
Risk of life-threatening or serious crushing or compression injury.
The unit parts are often heavy and cannot be lifted by hand. See weights indicated on the layout drawing.

- Follow the lifting and assembly instructions in this manual.
- Use lifting equipment where available.
- Use appropriate protective equipment.

00179

WARNING!
Risk of serious crushing injury.
A falling unit when lifting can cause crushing injuries.

- Follow the instructions for lifting in this manual.
- Never exceed the specified weight for the respective lifting method or lifting equipment.
- Slide stops must be fitted when lifting, if bracket is used.
- Replace used T-bolts and nuts with new ones after each lift.

00180

CAUTION!
Risk of damage to the product
Chains/straps that are lying against the unit when lifting may damage the unit.

- Use spreader bars when lifting with bracket.
- Follow instructions for working with spreader bars.

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4.1 Lifting with forklift

When lifting with a forklift, the forks must be as long as the unit packaging or longer.

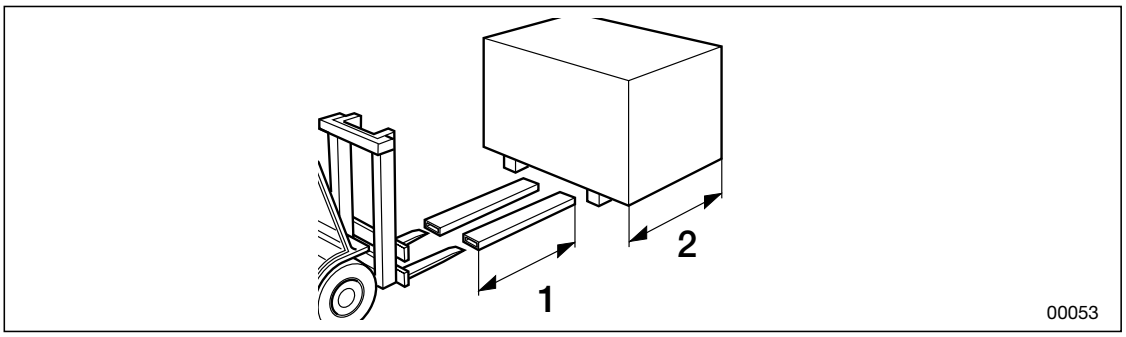

Figure: Lifting with forklift

1. Lift fork length
2. Unit packaging

4.2 Lifting brackets, pre-mounted lifting lugs, spreader bar

- The maximum angle at the lift hook is 80°
- The inclination slope of unit parts when lifting is 15°. If the inclination is greater than 15°, the chains/straps must be shortened or extended until the angle is less than 15°.
- The spreader bar must be 100—400 mm wider than the unit.

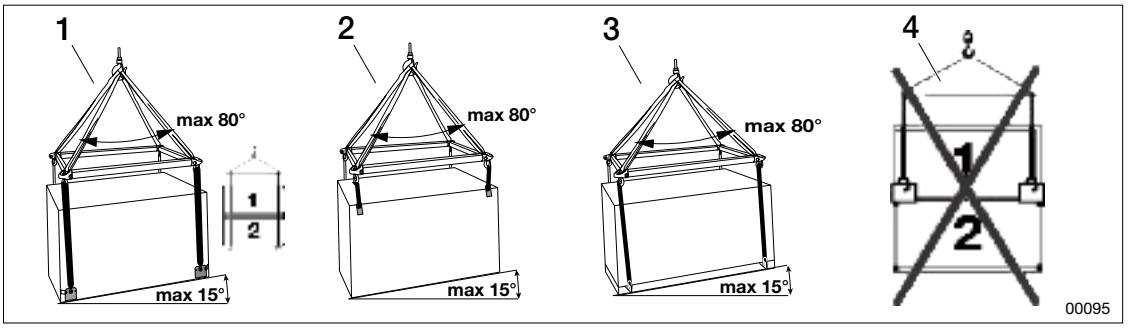

Figure: Illustration of lift with spreader bar and inclination

1. Lift with EMMT-08 with spreader bar
2. Lift with EMMT-12 with spreader bar
3. Lift in base frame with spreader bar
4. Incorrectly mounted lifting brackets in the centre profile

4.3 Lift of double stacked parts (parts on top of each other)

- Total weight ≤ 1600 kg - lifted with lifting brackets EMMT-12, mounted at the bottom of the lower part.
- Total weight > 1600 kg - lifted with pre-mounted lifting lugs. See *"4.6 Lifting of unit pre-mounted on support", page 19.*

4.4 Lift with bracket EMMT-08, for 50 profile

WARNING!
Risk of serious crushing injury.
A falling unit when lifting can cause crushing injuries.

- Follow the instructions for lifting in this manual.
- Never exceed the specified weight for the respective lifting method or lifting equipment.
- Slide stops must be fitted when lifting, if bracket is used.
- Replace used T-bolts and nuts with new ones after each lift.

00180

- The bracket does not fit the 60 profile.
- Load per lifting bracket ≤ 400 kg.
- Load if all four brackets are used ≤ 1600 kg.
- A safety factor of 1.6 has been utilised in static testing of the lifting bracket.
- Use shackle with safety factor 6:1.
- Brackets must not be mounted downwards or sideways.
- Lifting brackets must not be mounted in the middle profile of double stacked parts.

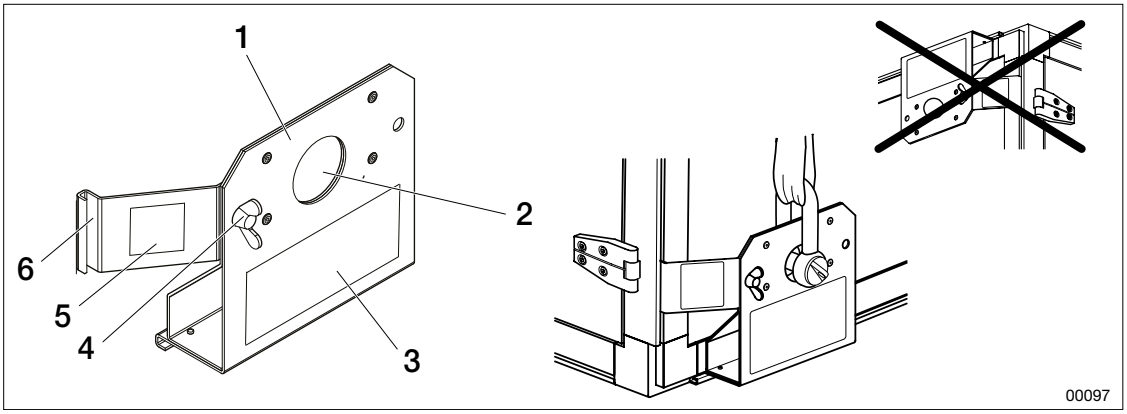

Figure: Lifting bracket EMMT-08

1. Lifting bracket EMMT-08
2. Lifting lug
3. Lift stop sticker
4. Wing nut
5. Slide stop sticker
6. Slide stop

EMMT-08 is delivered in a set of four.

1. Place the lifting brackets in the bottom four corners of the unit or unit part (on the longest sides of the part), with the lifting lug upwards.
2. Push the brackets into the horizontal track in the unit's aluminium profile.
3. Push the slide stop into the vertical track in the unit's aluminium profile.
4. Lock by tightening the wing nut.

4.5 Lift with bracket EMMT-12, for 60 profile

WARNING!
Risk of serious crushing injury.
A falling unit when lifting can cause crushing injuries.

- Follow the instructions for lifting in this manual.
- Never exceed the specified weight for the respective lifting method or lifting equipment.
- Slide stops must be fitted when lifting, if bracket is used.
- Replace used T-bolts and nuts with new ones after each lift.

00180

- The bracket does not fit the 50 profile.
- Load per lifting bracket ≤ 500 kg.
- Load if all four brackets are used ≤ 2000 kg.
- A safety factor of 2.0 has been utilised in static testing of the lifting bracket.
- Use shackle with safety factor 6:1.
- Brackets must not be mounted downwards or sideways.
- Lifting brackets must not be mounted in the middle profile of double stacked parts.
- Lift only one part at a time.

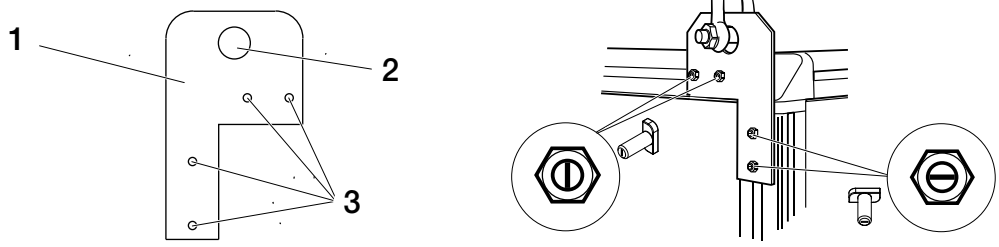

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Figure: Lifting bracket EMMT-12

1. Lifting bracket EMMT-12
2. Lifting lug
3. Fixing holes

EMMT-12 is delivered in a set of four.

1. Place the lifting brackets over the top four corners of the unit or unit part (on the longest sides of the part), with the lifting lug upwards.
2. Insert the supplied T-bolts (MB 8×19 FZB 8.8), through the bracket and into the track in the aluminium profile.
3. Turn the T-bolts, with a tightening torque of 24 Nm, so that they are at 90° to the profile track and are firmly fixed under the edges of the track.

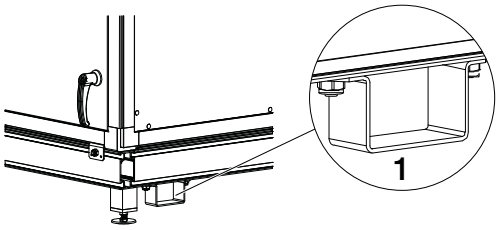
4.6 Lifting of unit pre-mounted on support

WARNING!
Risk of serious crushing injury.
A falling unit when lifting can cause crushing injuries.

- Follow the instructions for lifting in this manual.
- Never exceed the specified weight for the respective lifting method or lifting equipment.
- Never remove or move the factory-fitted lugs.
- The lifting straps must always be pulled through the lugs to prevent the lifting straps from slipping away under the unit.

00191

1. Pull the straps under the unit/parts. Make sure the straps go through the lugs.
2. Lift with suitable lifting equipment.



00099

Figure: Lifting lug on support

1. Lugs for straps (four)

4.7 Lifting of unit pre-mounted on base frame

WARNING!
Risk of serious crushing injury.
A falling unit when lifting can cause crushing injuries.

- Follow the instructions for lifting in this manual.
- Never exceed the specified weight for the respective lifting method or lifting equipment.
- Never remove or move the factory-fitted lifting lugs.
- Use shackle with safety factor 6:1.
- Lifting straps must not be pulled through the lifting lugs.

00192

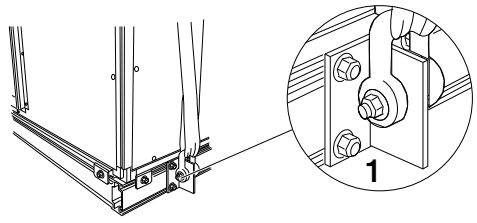
Aluminium beam H=100mm:

- Maximum load=750 kg/lifting lug. Total load=3000kg (all four lifting lugs).

Aluminium beam H=160mm:

- Maximum load=1350kg/lifting lug. Total load=5400kg (all four lifting lugs).

1. Fit a shackle in each of the pre-mounted lifting lugs.
2. Pull straps through each shackle.
3. Lift with suitable lifting equipment.



00100

Figure: Lifting loop pre-mounted on base frame

1. Lifting lug with shackle (four)

4.8 Lifting thermal wheel (1250-D1, 1540-D1) from truck

WARNING!
Risk of serious crushing injury.
A falling unit when lifting can cause crushing injuries.

- Follow the instructions for lifting in this manual.
- Never exceed the specified weight for the respective lifting method or lifting equipment.
- Never remove or move the factory-fitted lifting lugs.
- Use shackle with safety factor 6:1.
- Lifting straps must not be pulled through the lifting lugs.

00192

Lifting brackets are placed on different points on the thermal wheel depending on the kind of lift to be done.

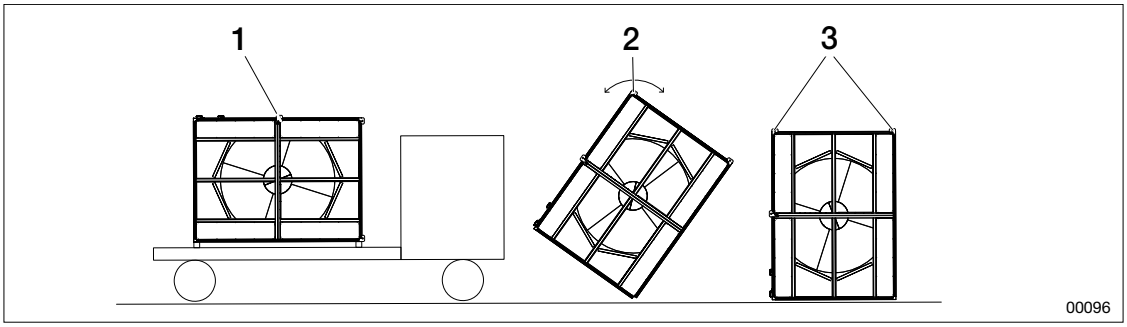


Figure: Lifting of thermal wheel from truck

1. Brackets when lifting from truck
2. Brackets to straighten the thermal wheel to standing
3. Brackets for lifting the thermal wheel to the unit

5 PREPARE ASSEMBLY

When setting up the unit, it shall be horizontal at the longitudinal leading edge, as well as slightly inclined forward (towards the inspection side) to create proper drainage of condensation water.

Inlet grilles and duct systems shall be designed and installed so that:

- water is prevented from penetrating into the unit.
- recirculation and short-circuiting between the exhaust air and outdoor air is prevented.
- drainage cannot run backwards to the unit.

The duct system shall be designed and the control system configured to prevent pressure increase through filter/air ducts, for example by soft-starting fans and opening dampers when fans are operating. See *"12 DUCT CONNECTION, ACCESSORIES", page 52.*

Water trap is mounted as indicated. Se *"11 CONNECT DRAINAGE, WATER TRAP", page 51.*

5.1 Sectioned configuration (Easy Access)

Unit parts delivered in block form must be assembled before they are put into place on the support. Follow the directions in *"6 ASSEMBLY, GENERAL", page 24* and *"7 ASSEMBLY, SECTIONED CONFIGURATION", page 32.*

5.2 Create service area, electrical safe distance

- The service area in front of the unit should be about 1.5 x the depth of the unit so as to allow for service, replacement of parts and cleaning.
- Follow the National Electrical Safety Board's recommendations regarding the free service space to be located in front of electrical connecting equipment.

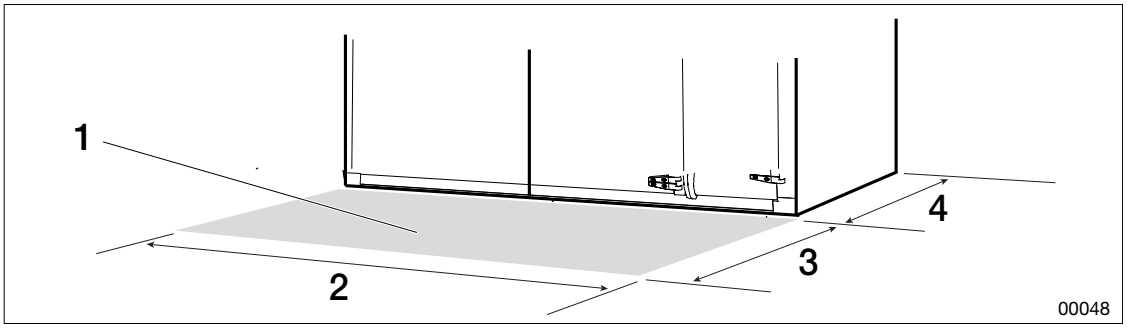


Figure: Service area on the inspection side

1. Service area
2. Service area width (width of the unit)
3. Service area depth (1.5 x depth of the unit)
4. Depth of the unit

5.3 Prepare for outdoor version

The location of outdoor units with respect to wind direction and proximity to surrounding walls may, in adverse cases, imply the recirculation of exhaust air to outdoor air intakes. In unsafe conditions, ensure sufficient distance between exhaust air and outdoor air intakes.

For outdoor units, the unit is placed on longitudinal beams on top of a waterproof roof. Water intrusion may occur between beams and unit parts.

- Underlying beams (e.g. H or U profile) and anchorage plates are not provided by IV Produkt.
- For sealing strip in outdoor version, see *"6.3.1 Sealing strip in outdoor version", page 27.*

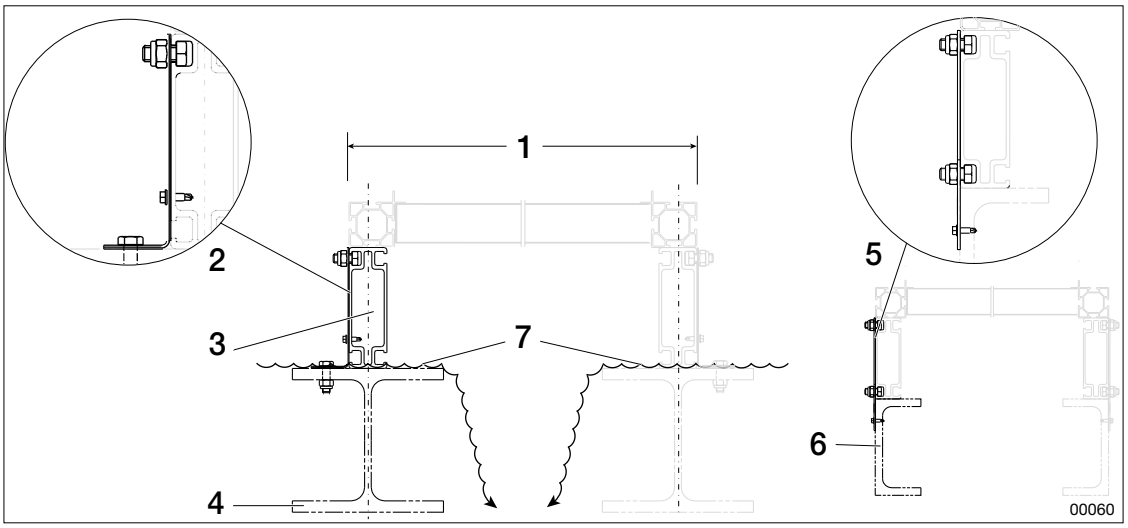


Figure: Aluminium profiles (support) and base frames in cross section as seen from the gable side

1. Unit width
2. Example, anchorage plate on H-profile (not included in delivery)
3. The unit's aluminium base frame
4. H profile (not included in delivery)
5. Example, anchorage plate on U profile (not included in delivery)
6. U profile (not included in delivery)
7. Risk of water intrusion

The height of the aluminium base frame is 100 mm or 160 mm and the width is 50 mm.

The air handling unit on the underlying base frame shall be dimensioned as distributed load.

The air handling unit on the aluminium base frame is self-supporting between inspection side and back and only needs support under the longitudinal beam on the inspection side and on the back. The framework should be placed with the extruded profile centrally over the H-beam. See the previous figure.

Anchoring of base frame in underlying beams (underlay) is carried out with anchorage plates according to the example in the previous figure. Anchorage plates are not included in the delivery and are fitted by the customer.

With delivery of a unit in divided outdoor version, see also the order-specific drawing for cover plate assembly, on IV Produkt's order portal.

6 ASSEMBLY, GENERAL

Read and follow each step carefully to avoid making errors and causing personal injury or damage to surroundings or unit. See "1 SAFETY", page 7,"4 LIFT THE UNIT", page 15 as well as"5 PREPARE ASSEMBLY", page 22 before starting assembly.

For example of set-up drawing and explanations of drawing symbols, see "2.5 Symbols on drawings and in manual", page 13.

WARNING!
Risk of life-threatening or serious personal injury.
Electrical voltage can cause electric shock, burns and death. The product must not be energised during assembly.

- Electrical connection and electrical work may only be carried out by a qualified electrician.
- For initial start-up of the unit, see Operation and Maintenance of the unit on IV Produkt's order portal.

00176

WARNING!
Risk of life-threatening or serious crushing or compression injury.
The unit parts are often heavy and cannot be lifted by hand. See weights indicated on the layout drawing.

- Follow the lifting and assembly instructions in this manual.
- Use lifting equipment where available.
- Use appropriate protective equipment.

00179

WARNING!
Risk of life-threatening or serious crushing or compression injury.
High unit parts, as well as unit parts with a high or offset centre of gravity, mean a greater risk of tipping.

- Follow the lifting and assembly instructions in this manual.
- Use lifting equipment where available.
- Use appropriate protective equipment.
- Exercise caution when working between unit parts.
- Exercise caution when placing unit parts on the support.
- Use the support to secure the parts against possible tipping risk.

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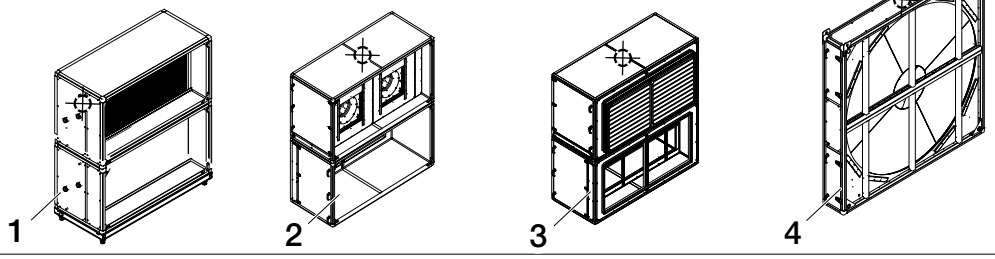

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Figure: Examples of parts with a high centre of gravity or high tipping risk

1. Unit part with a high-placed coil
2. Unit part with high-placed fans
3. Unit part with high-placed damper section
4. Rotary heat exchanger

6.1 Assembly, step by step

Unit parts in sectioned configuration are also assembledaccording to the instructions in the section ASSEMBLY, SECTIONED CONFIGURATION.

1. Take the set-up drawing that comes with the unit or download from IV Produkt's order portal (Technical Data). See "1.1 Intended use", page 7.
2. Take out suitable tools. See "2.3 Tools for assembly", page 12.
3. Assemble and adjust the support. See "6.2 Assemble fan room support (EMMT-05)", page 25.
4. Fit together unit parts in sectioned configuration. See "7 ASSEMBLY, SECTIONED CONFIGURATION", page 32.
5. Push the first unit part onto the stand.
6. Fit the sealing strip. See "6.3 Fit sealing strip", page 26.
7. Push on the next unit part and slide them together on the support.
8. Join the unit parts together. See "6.4 Join the parts together", page 27.
9. Repeat steps 4—7 until everything is in place and is correctly assembled.
10. Connect the unit parts together with quick connectors and assemble other control equipment. See "6.5 Quick connectors", page 29.
11. Assemble drainage and water trap. See "11 CONNECT DRAINAGE, WATER TRAP", page 51.
12. Fit cover detail. See "6.7 Fit cover detail on join", page 31 .
13. Ensure everything is properly assembled. See "13 AFTER ASSEMBLY", page 53 and if problems arise "14 SUPPORT", page 53.

6.2 Assemble fan room support (EMMT-05)

- The unit should tilt slightly forward (towards the inspection side) for condensation runoff and drainage. The inclination may be a maximum of 3 mm/m.
- Longitudinal beams must be level and the top of the support structure must be level.
- The support must not, at any point, be bent down more than 2 mm. If the distance between the transverse beams of the support is >1700 mm (c/c), additional cross beams are mounted to prevent bending downwards.

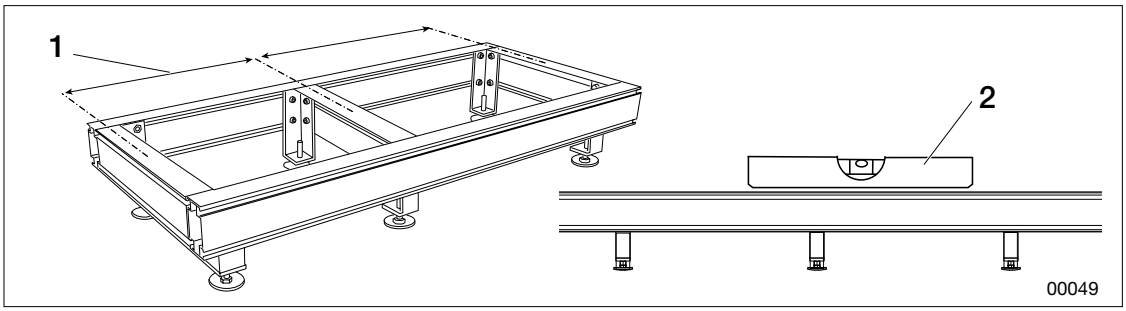
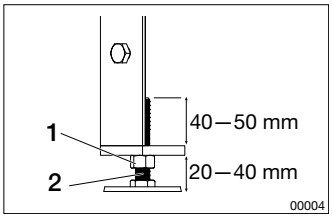


Figure: Support

1. Distance between transverse beams (c/c)
2. Longitudinal beam level

A general support drawing is included in the delivery of the support. The order-specific support drawing is available at IV Produkt's order portal (Technical data). See "1.1 Intended use", page 7.

1. Screw the lock nut (1) onto the support foot (2) and make sure it is slightly screwed in.



2. Screw all feet into the threaded holes in each angle profile.
3. Push in and locate, in the track of the profile, the screws that will later be used to tighten the corner stays. Make sure you have the right number (2 per corner stay).
4. Screw the angle profiles and support legs together.
5. Use a spirit level and ensure that the longitudinal beam of the unit is level.
6. Adjust the height and inclination of the support by screwing the support feet.
7. Secure all feet with the lock nuts.

6.3 Fit sealing strip

- The sealing strip is only fitted on one of two opposite parts.
- The sealing strip is not fitted on the rotary heat exchanger.
- For units in sectioned configuration, sealing strip must also be fitted in the division. Does not apply to ThermoCooler HP/EcoCooler.
- For outdoor version units, sealing strip must also be fitted in the outer edge, see "6.3.1 Sealing strip in outdoor version", page 27.
- See also "7 ASSEMBLY, SECTIONED CONFIGURATION", page 32.

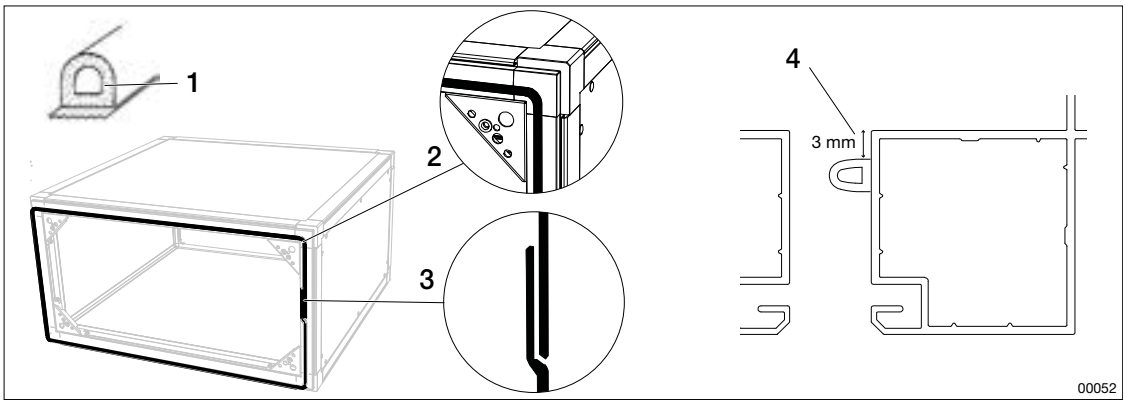


Figure: Sealing strips, location.

1. Sealing strip of type D-profile
2. Sealing strip in corner
3. Sealing strip joint
4. Profile in cross section

1. Divide the strip into two.
2. Fit the strip in the middle surfaces of the unit, about 3 mm from the inner edge. Remove the protective layer over the adhesive, after which the strip is glued on. Bend the strip in the corners and join it on vertical sides.

6.3.1 Sealing strip in outdoor version

For outdoor version units, a sealing strip must also be fitted in the outer edges.

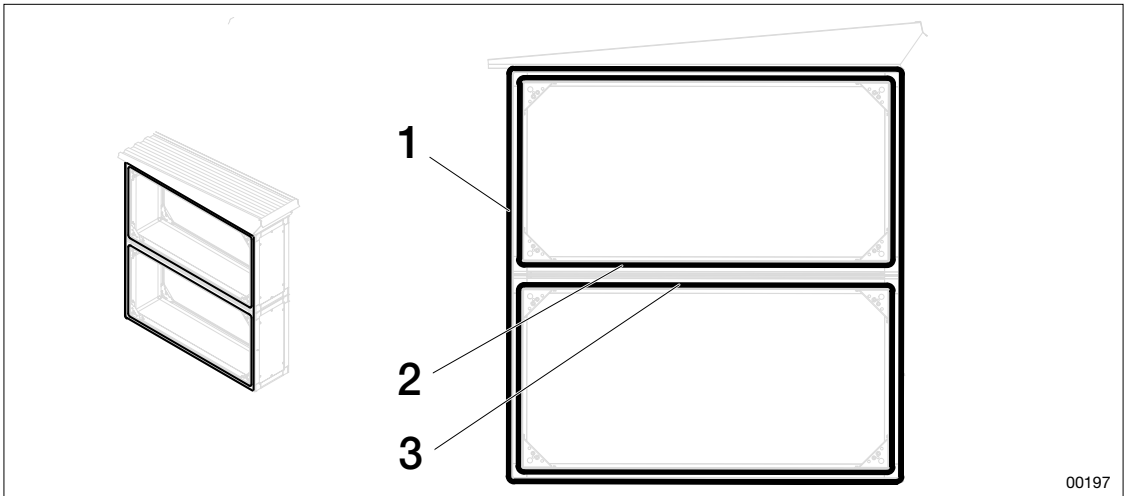


Figure: Location of sealing strips in outdoor version

1. Sealing strip in the outer edge around the entire double stack
2. Sealing strip around the top part
3. Sealing strip around the lower part

6.4 Join the parts together

50 profile (unit size 060-980):

- Usually, the unit parts are joined together with screw joints.
- Otherwise, (where there is a lack of space/ability to screw), the unit parts are joined together with guide pins.

60 profile (unit size 1080-3150):

- On larger units, the unit parts are joined together with tensioning lugs.

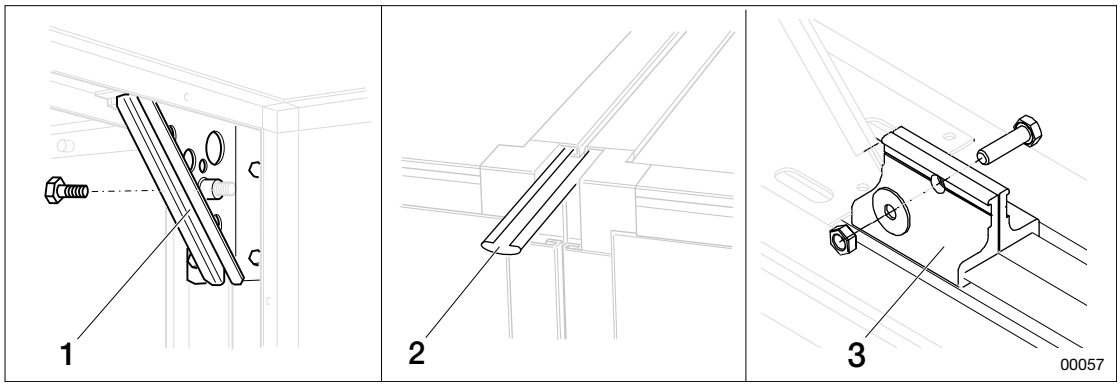


Figure: Screw joint and guide pin

1. Screw joint
2. Guide pin
3. Tensioning lug

6.4.1 Join with screw joints

1. Remove any cover plugs to access the screw joints.
2. Screw together the unit parts with bolts through each corner strut.

6.4.2 Join together with tensioning lugs

On larger sizes, tensioning lugs are used.

1. Put part of the tensioning lug on each side of the profile.
2. Put in the bolt and screw together with a washer under the nut.
3. The tensioning lugs are located according to the following figure:

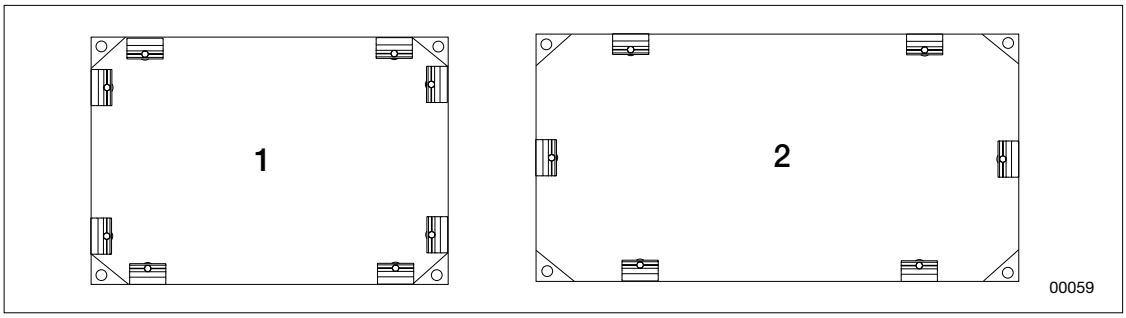


Figure: Assembly of screw joints and tensioning lugs

1. Locating tensioning lugs, 1080-1550. 8 tensioning lugs are fitted next to the screw joints.
2. Locating tensioning lugs, 1950-3150. 6 tensioning lugs are fitted between the screw joints.

6.4.3 Join with guide pins

- Guide pins must always be set all the way from corner to corner on the units parts, as well as also on the opposite side.
- If two flush parts are assembled vertically with guide pins, the pins must be put through both parts (over the division).

Make sure the unit parts are completely pushed together.

1. Pull the parts together with tensioning straps.
2. Push the guide pin into the track of the profile, all the way to the other end of the unit.
3. Do the same on the opposite side of the unit.

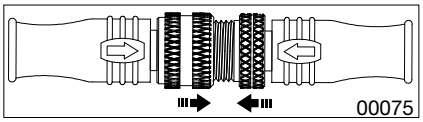
6.5 Quick connectors

See *"10 CONNECT CONTROL EQUIPMENT", page 49* and order-specific documentation (control diagram) on IV Produkt's order portal.

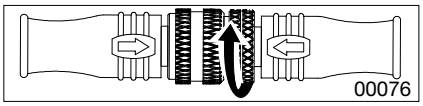
Quick connectors to be joined are marked with the same designation.

6.5.1 Quick connector, signal feed

1. Press together quick connectors according to marking (arrows or other).

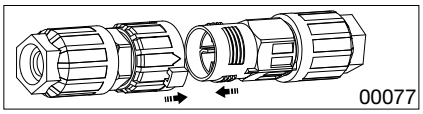


2. Screw together as hard as possible by hand.

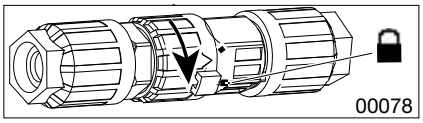


6.5.2 Quick connector, power supply

1. Press together quick connectors according to marking (arrows, dashes or similar).



2. Turn the arrow on the white cuff to the mark for closed (padlock).



6.6 Disassemble/Reassemble/Refit Fan

For better access to the inner corner struts when joining adjacent unit parts, the fan can be disassembled.

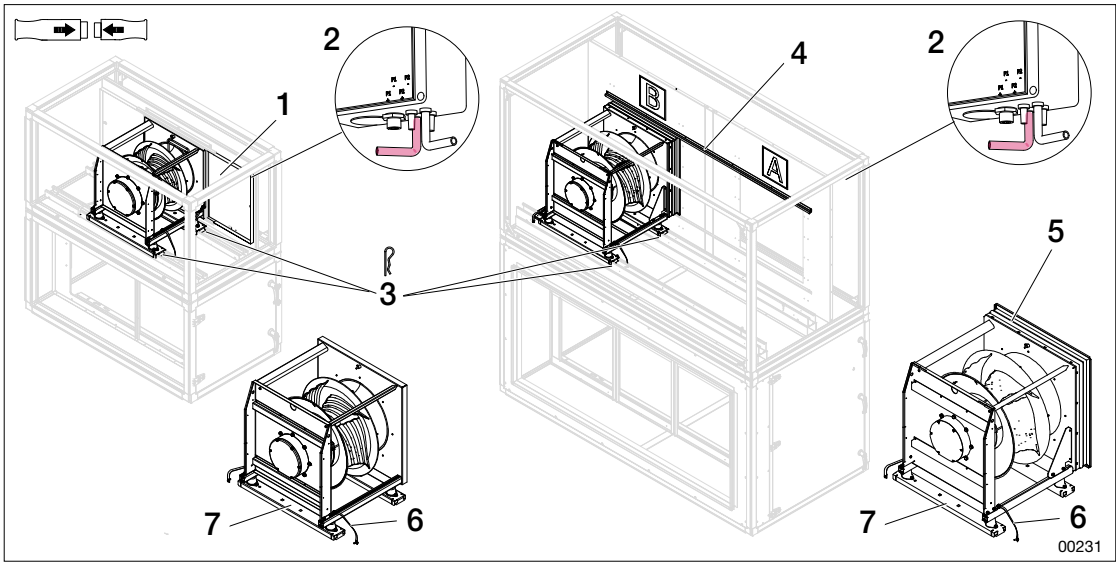


Figure: Remove the fan and reassemble

1. Cover plate
2. Pressure sensor module
3. Pins/screws
4. Sleeve rail
5. Sleeve
6. Earthing braid
7. Top sliding rail

6.6.1 Disassembling the fan

1. Unscrew the pressure sensor module, but make sure to not loosen hoses or cables attached to the module.
2. Fan without sleeve: Unscrew the cover plate and lift it out (including the screws).
3. Unscrew the earthing braid from the rail on the unit part.
4. Loosen the temperature sensor and remove it through the hole on the fan frame.
5. Unscrew the quick connectors between the fan and the unit part. See *"6.5 Quick connectors", page 29*.
6. Disconnect the pressure sensor hoses between the fan and pressure sensor module.
7. Pull the pins/screws out of the rails (two per fan) and pull the fan out.
8. Screw the corner struts together against the adjacent unit parts. See *"6.4 Join the parts together", page 27page <?>*

6.6.2 Reassemble/Refit fan

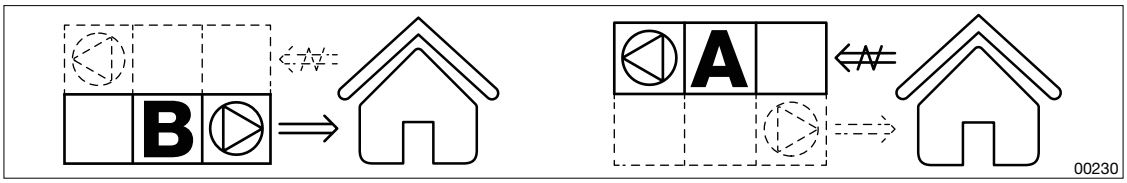


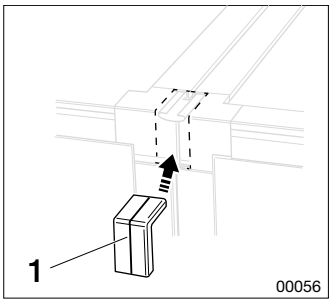
Figure: Fan label – the arrow direction indicates whether the fan is for supply air or extract air. For multi-fan installations, A/B/C, etc. indicates the fan position in the unit, as seen from the inspection door.

- Before inserting the fan, make sure that the pressure sensor module is not in the way. If necessary, remove it as per the instructions in "6.6.1 Disassembling the fan", page 30.
- Make sure that each fan is fitted in the correct place (supply air/extract air, and placement order). See fan label (pictured above).
- When connecting pressure sensor hoses, make sure that each hose is correctly connected to the pressure sensor module. The red (pink) hose must be connected to the red connector and the white (translucent) hose to the white connector.
- Ensure that hoses hang freely (not pinched).
- Ensure that hoses cannot be sucked into the fan.

1. Lift the fan onto the unit's rails and slide it to the far end of the unit part. Make sure the fan is turned correctly so that hoses and cables from the pressure sensor module can be connected. If the fan has a sleeve, this must also be inserted into the sleeve rail.
2. Fan without sleeve: Screw on the cover plate.
3. Screw the earthing braid to the unit's rail. If the fan is refitted, use the supplied self-tapping screw.
4. Insert the pins or self-tapping screw through the holes in the rails.
5. Firmly press the temperature sensor into the hole on the fan frame.
6. Screw the quick connectors together. See "6.5 Quick connectors", page 29.
7. Shorten the pressure sensor hoses to the correct length and assemble the hoses between the fan and the pressure sensor module. See info box above.
8. Gather the cables together and use cable ties to fasten them to the inner wall of the unit. Make sure that they are not pinched when the inspection door closes.
9. Gather the hoses together and use cable ties to fasten them to the cables. Make sure that they are not pressed together or pinched.
10. Screw on the pressure sensor module with the front facing outwards.

6.7 Fit cover detail on join

1. When the unit parts are joined together, put the cover detail (1) over the join.



2. Make sure it is really well fixed.

7 ASSEMBLY, SECTIONED CONFIGURATION

This section's instructions are complementary to the general instructions in *"6 ASSEMBLY, GENERAL", page 24.* Follow the instructions in both sections.

For the parts to be provided with drainage, see *"11 CONNECT DRAINAGE, WATER TRAP", page 51*.

For the parts that have electrical connection, see *"10 CONNECT CONTROL EQUIPMENT", page 49*.

WARNING!

Risk of life-threatening or serious crushing or compression injury.

High unit parts, as well as unit parts with a high or offset centre of gravity, mean a greater risk of tipping.

- Follow the lifting and assembly instructions in this manual.
- Use lifting equipment where available.
- Use appropriate protective equipment.
- Exercise caution when working between unit parts.
- Exercise caution when placing unit parts on the support.
- Use the support to secure the parts against possible tipping risk.

00189

7.1 Assemble control cabinet

CAUTION!

Risk of damage to the product.

The disassembled control cabinet can be damaged if it falls. The main switch, under the control cabinet, can be damaged if the control cabinet is placed on a high edge.

- Make sure that the cabinet is held up when the pins are removed. Once the pins are pulled out, the cabinet is completely detached and may fall.
- Always place the disassembled control cabinet with its back down on a flat surface.

00196

In sectioned configuration, the control cabinet is fixed to the unit on a hanging bracket. The control cabinet can be disassembled from the unit.

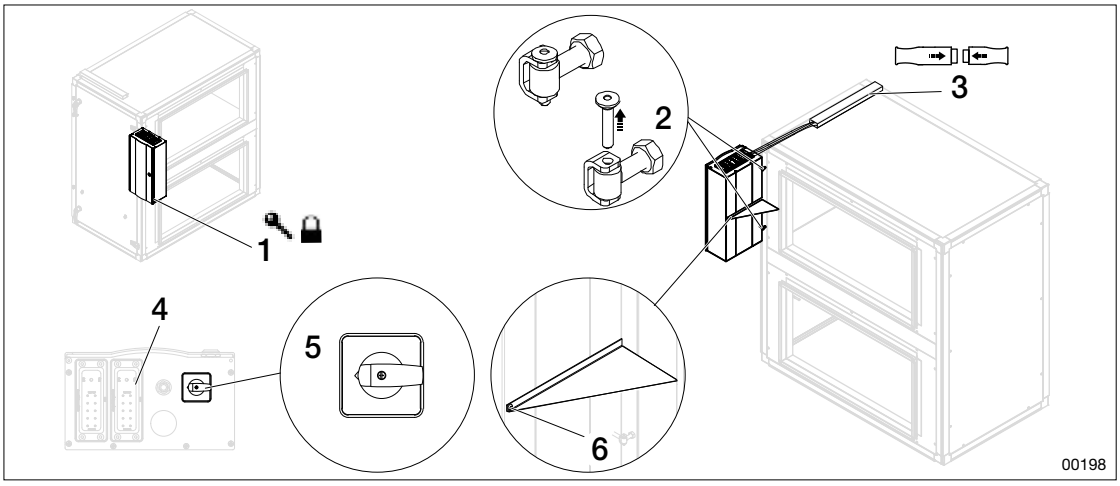


Figure: Control cabinet in sectioned configuration

1. The location of the control cabinet on delivery
2. Hinge
3. Cable strip
4. Control cabinet seen from below
5. Main switch
6. Hanging bracket with bolt in control cabinet

Remove the control cabinet from the unit

1. Lock the control cabinet with keys included.
2. Remove the cover of the cable strip on top of the unit and disconnect all the quick connectors between the control cabinet and the unit part.
3. Unscrew and lift off the bolt on the hanging bracket.
4. From below, with a rubber mallet: knock the pins in the two hinges upwards and pick out the pins. Make sure to support the control cabinet during the process.
5. Lift the control cabinet straight out from the hinges.
6. Place the control cabinet with its back down on a flat surface. Be careful with the loose hoses and cables hanging out from the control cabinet.

Reassemble the control cabinet

Follow the instruction for removal in reverse order. Be sure not to squeeze any cables or knock out hoses when handling.

7.2 Assemble fan and filter (ENF)

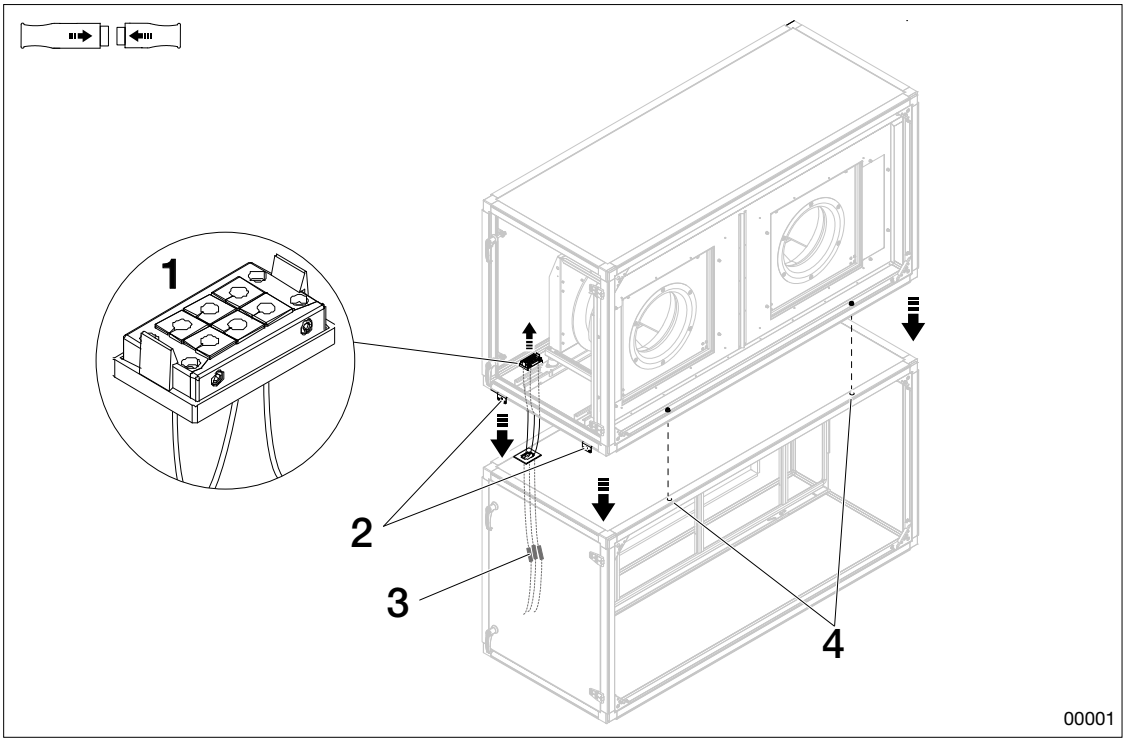


Figure: Fan and filter part (ENF)

1. Cable entry fan part
2. Fixing in middle profile
3. Quick connectors
4. Screws in middle profile

Take apart the assembled fan and filter part

1. Loosen fixings and screws from the middle profiles.
2. Divide cables at the quick connectors in the bottom part. See *"6.5 Quick connectors", page 29.*
3. Loosen the cable entry at the snap lock and pull it out completely, upwards, without disconnecting the cables from the cable entry.
4. Lift off the top part without damaging the sealing strip around the cable entry.

Fit the fan and filter part together

1. Lift up the lower part onto the support.
2. Lift up the top part onto the lower part without damaging the sealing strip.
3. Tighten fasteners and screws in the middle profiles.
4. Run the cables through the hole between the parts and snap the cable entry in place with the snap lock.
5. Connect the quick connectors. See *"6.5 Quick connectors", page 29.*

7.3 Assemble counter-flow heat exchanger (EXM)

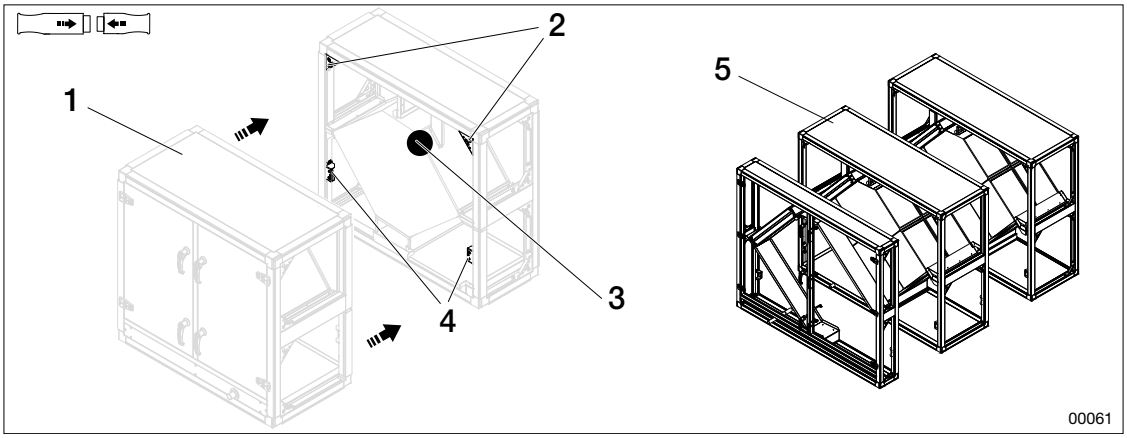


Figure: Counter-flow heat exchanger, sectioned configuration

1. Two-part counter-flow heat exchanger
2. Corner strut
3. Approximate location of quick connector
4. Joint fixings
5. Three-part counter-flow heat exchanger

Take apart counter-flow heat exchanger

1. Separate quick connectors for damper motors (one on two-part version and two on the three-part). See *"6.5 Quick connectors", page 29.*
2. Loosen hoses.
3. Loosen and remove bolts and screws in corner struts and joint fixings.
4. For the three-part version: Cut away the putty in the joints that is affected by the dismantling.
5. Pull the parts apart without damaging the sealing strip between the parts.

Assemble counter-flow exchanger.

1. Slide the parts together without damaging the sealing strip.
2. Screw the parts together on the corner struts and joint fixings.
3. For the three-part version: Add new putty in those joints where the putty was cut away when dismantling.
4. Fit back hoses.
5. Put together quick connectors for damper motors. See *"6.5 Quick connectors", page 29.*
6. Connect drainage.

7.4 Assemble rotary heat exchanger (EXR)

WARNING!
Risk of cuts and crushing injuries
Sharp edges on the thermal wheel casing can cause hand injuries.
- Wear appropriate protective equipment, such as gloves.
- Be careful when handling the thermal wheel casing and make sure that no hands or fingers get stuck between the parts.
- Lift and hold by the framework, not any other parts.

00207

For general directions, see also *"6 ASSEMBLY, GENERAL", page 24.*

- Use attached self-tapping screws and pop rivets when joining together.

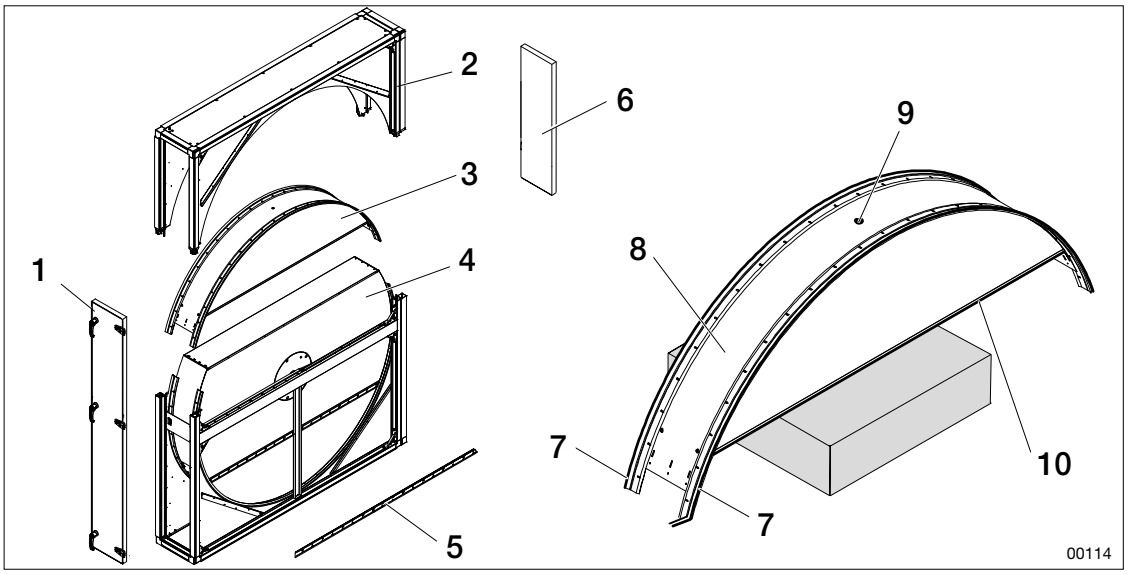
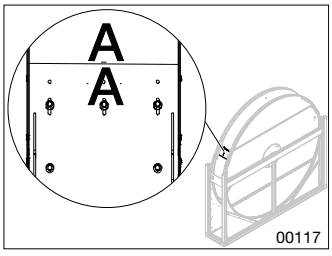


Figure: The parts of the thermal wheel

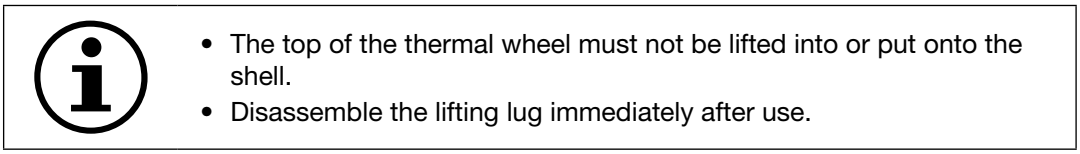
1. Inspection door
2. Upper part of casing
3. Upper part of thermal wheel
4. Lower part of thermal wheel
5. Jointing strip
6. Cover hatch back
7. Brush strip
8. Shell
9. Hole for mounting lifting lug
10. Straight sheet underneath

The rotary heat exchanger is assembled together completely before being put on the support.

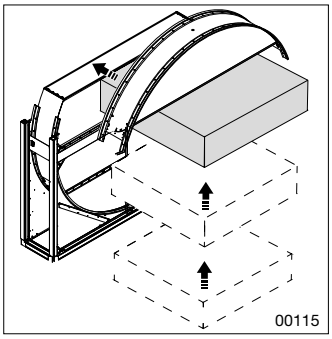
1. Place the upper part of the thermal wheel on the pallet, so that it rests on the lower, straight plate. Before lifting, make sure the A mark is in the same direction as the A mark on the lower part of the thermal wheel.



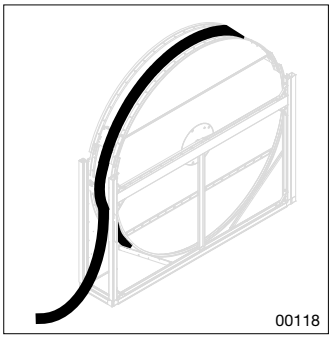
2. Lift with forklift truck under the straight plate or use mounted lifting lug. Lift up the upper part of the thermal wheel level with the flat surface on top of the lower part of the thermal wheel and push the upper part of the thermal wheel onto the lower part of the thermal wheel until it is located in the middle of it.



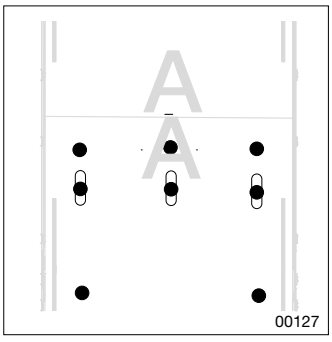
- The top of the thermal wheel must not be lifted into or put onto the shell.
- Disassemble the lifting lug immediately after use.



3. Put a tensioning strap around the thermal wheel and tighten.

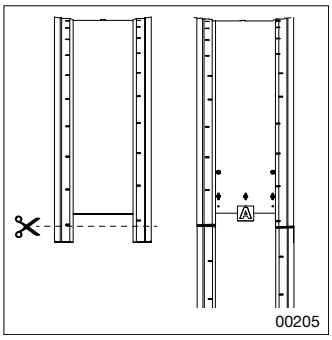


4. Assemble the shell at the joints (letter markings) with self-tapping screws (JT2 5.5x35) in both oval holes and round holes.

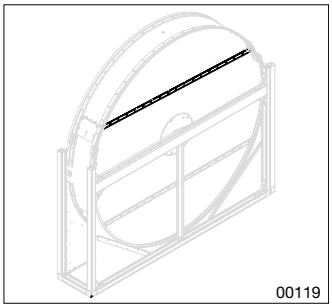


5. Remove the tensioning strap.

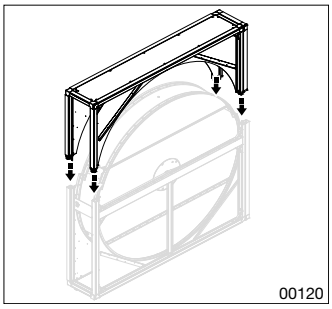
6. Cut off the brush strip on the upper part of the thermal wheel so that the cut edge meets the edge of the underpart's brush strip.



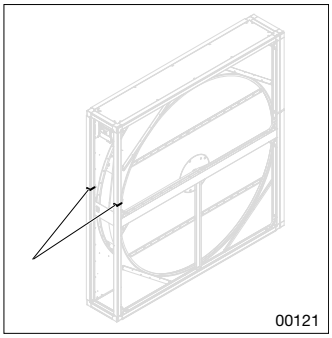
7. Screw on the brush strip with self-tapping screws (R6B large flange 4,2x13 ZnNi).
8. Place the thermal wheel belt around the thermal wheel.
9. Screw on the jointing strips, one on each side of the thermal wheel, with self-tapping screws (MRTF M 4x12 ZnI). When reassembling, all screw holes are used.



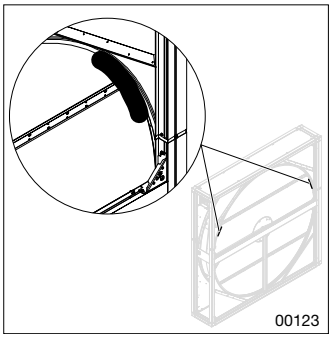
10. Place the casing as high and as close to the thermal wheel as possible and lift the casing into place over the thermal wheel with the aid of four people lifting at all four corners.



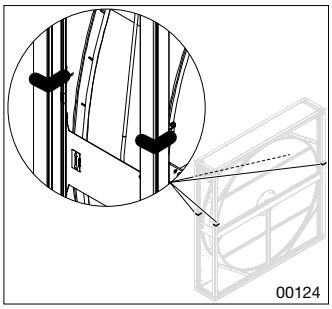
11. For size 360-600: Put together the upper and lower parts of the casing with pop rivets, at the joints of the cover plate, on the inspection side. For the other sizes, go on to the next step.



12. For size 150-600, on the inspection side: Measure and cut off the sealing strip on the upper part of the thermal wheel so that the cut edge meets the edge of the sealing strip of the lower part. Attach the strip. For other sizes proceed to the next step.
13. Put putty in the joints between brush strip and thermal wheel, two joints on each side of the thermal wheel.

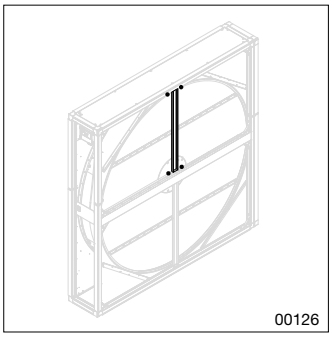


14. Put putty in the joints on the inside of the cover plates, two joints on each side of the thermal wheel.

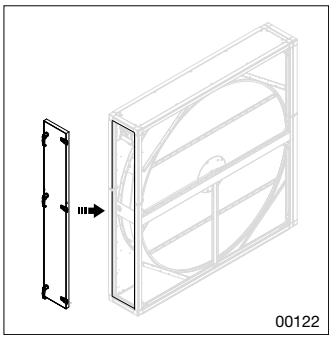


15. Unscrew both transport safety devices, marked with stickers.

16. Screw the cover hatch onto the back of the thermal wheel with self-tapping screws (DK 4.2x14 PH2 Znl). On size 740, a cover hatch is also mounted on the inspection side of the thermal wheel.
17. Fit cover plugs over the screw holes.
18. For sizes 740 and larger: Attach a centre post in the upper part of the thermal wheel, on both sides of the thermal wheel. Screw the centre post, in the pre-drilled holes, with self-tapping screws (DK 4.2x14 PH2 Znl).



19. For size 150-600: Screw the inspection door onto the hinges, on the inspection side of the thermal wheel.



20. Push the thermal wheel onto the support and slide together with the connecting part.

7.5 Assemble cooling unit EcoCooler (ECO/ECX), ThermoCooler HP

For general directions, see also *"6 ASSEMBLY, GENERAL", page 24.*

- On the part towards the rotary heat exchanger, sealing strips should also be fitted on the upper edge of the profile to ensure tightness.

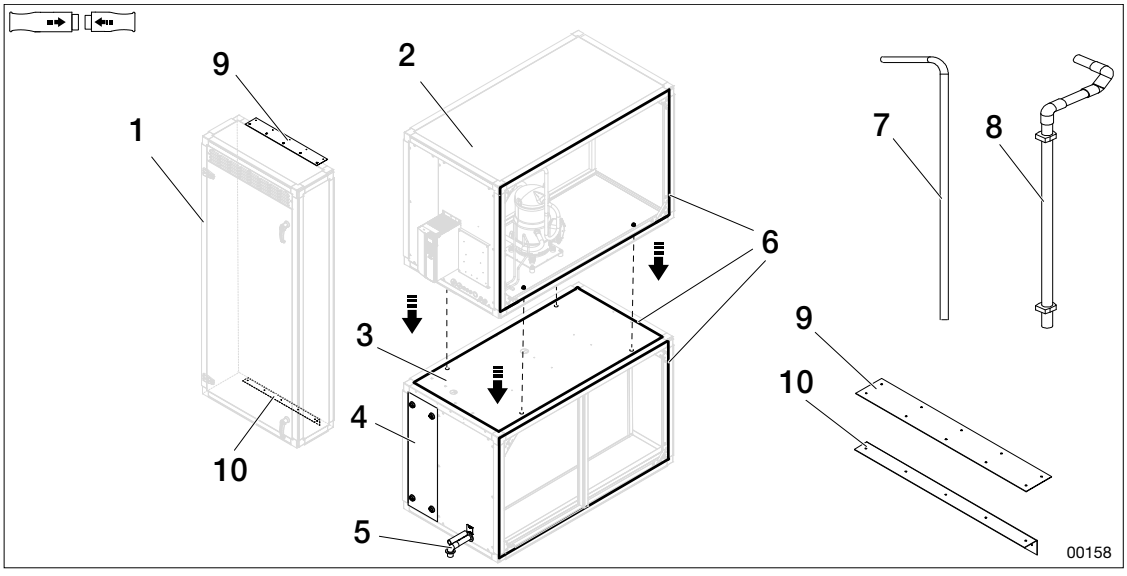
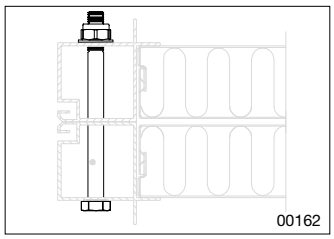


Figure: Cooling unit parts

1. Media part
2. Unit part - compressor/coil
3. Unit part - coil
4. Coil hatch
5. Drainage pipe
6. Sealing strip
7. Joint pipe
8. Drainage pipe
9. Sheet metal strip upper part
10. Sheet metal strip lower part

1. Fit sealing strip on the outer side of the upper and lower unit parts, as well as in the middle level. See *"6.3 Fit sealing strip", page 26*.
2. Push the lower part up onto the support.
3. Lift and place the upper part on top of the lower part.

4. Join the upper and lower parts together with the included screws M6S 10x120 FZB, washers SRB 11x22x2 FZ and lock nuts M10 FZ.



5. Slide the parts together with the rotary heat exchanger.
6. Join the unit parts together with screw joints or guide pins. See *"6.4 Join the parts together", page 27.* If screw joints are used, the trim heater (coil) must be lifted out to make room to screw inside. See *"7.5.2 Disassemble trim heater/coil", page 41.*
7. Unscrew the transport safety devices from the compressor part (marked with stickers).

8. Screw the media cabinet sheet metal strips onto the unit parts with the self-tapping screws in the connecting profile. If the strips are not pre-assembled, see *"7.5.1 Assemble the media cabinet sheet metal strips", page 41.*

7.5.1 Assemble the media cabinet sheet metal strips

1. Mount the upper sheet metal strip on the upper side of the media cabinet, using self-tapping screws.
2. Mount the lower sheet metal strip on the lower side of the media cabinet, using self-tapping screws.

7.5.2 Disassemble trim heater/coil

1. Open the hatch in front of the coil with the four levers on the hatch.
2. Disconnect the two quick connectors under the coil (inside the unit part), without disconnecting any cables from the coil. See *"6.5 Quick connectors", page 29.*
3. Pull away the two pins on the rails that the coil hangs in.
4. Carefully pull out the coil without letting it fall at the end of the rails. This can be easier if it is done by two people.

7.5.3 Reassemble trim heater/coil

1. Open the hatch in front of the coil with the four levers on the hatch.
2. Hang up the battery on the rails and push it back into the unit part.
3. Put the pins back.
4. Connect the quick connectors. See *"6.5 Quick connectors", page 29.*
5. Close the hatch.

7.6 Assemble mixing section (EEC), media section (EMR)

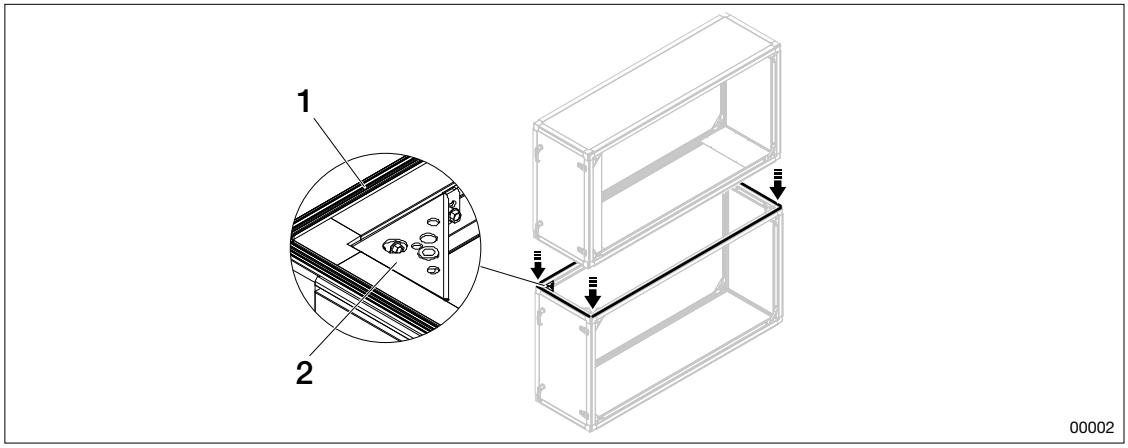


Figure: Mixing section, sectioned configuration

1. Sealing strip
2. Corner strut

1. Fit the sealing strip on the lower part.
2. Screw the upper section to the lower section in all corner struts.

7.7 Assemble smoke gas connection (EKR)

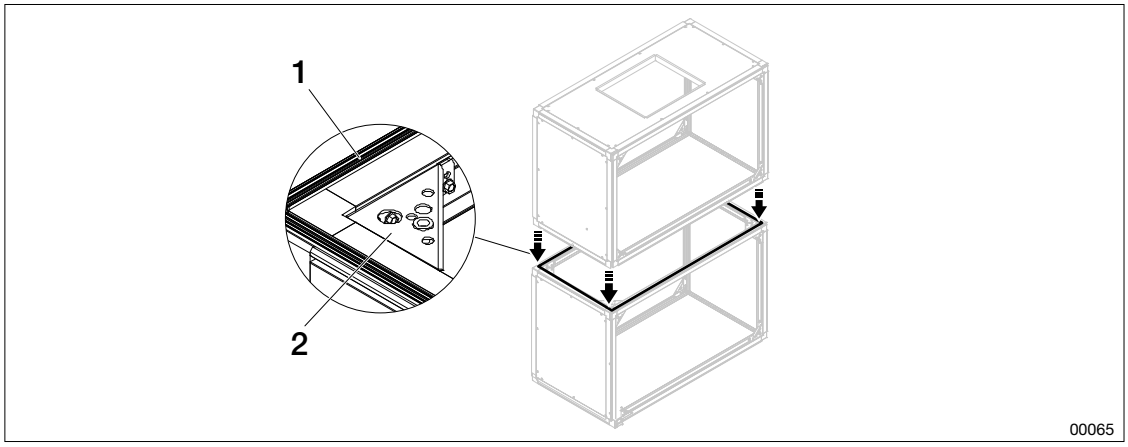


Figure: Smoke gas connection, sectioned configuration

1. Sealing strip
2. Corner strut

1. Fit the sealing strip on the lower part.
2. Screw the upper section to the lower section from below in all corner struts. Use bolts up into the intermediate level plate, which is equipped with built-in fixing nuts.

7.8 Assemble cross-flow section (ERX/EKX)

For general directions, see also "6 ASSEMBLY, GENERAL", page 24.

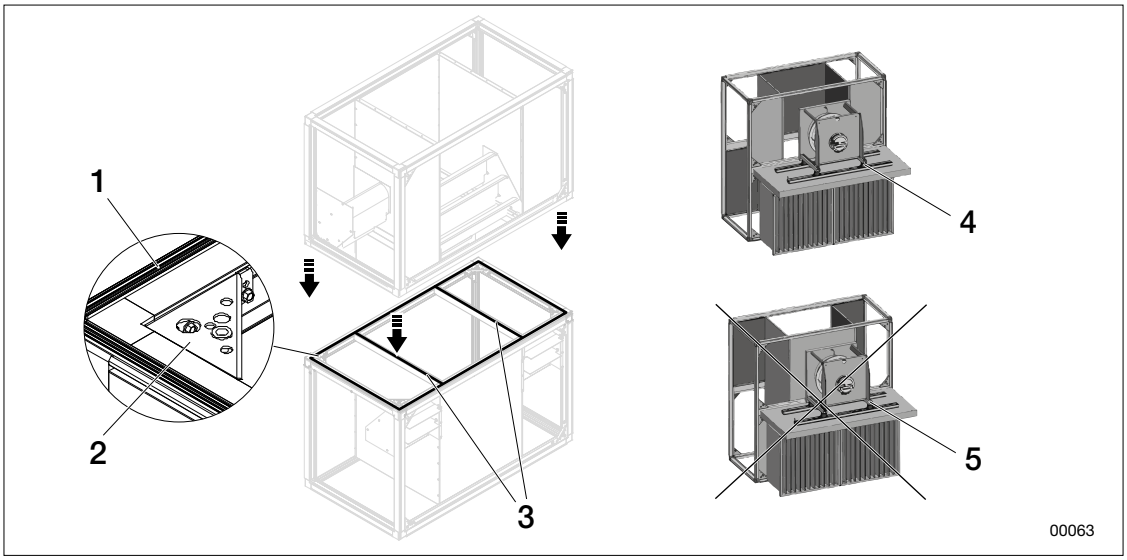


Figure: Cross-flow section, sectioned configuration

1. Sealing strip
2. Corner strut
3. Sealing strips on cross brace
4. Cross-flow section, correctly positioned towards the fan and filter section.
5. Cross-flow section, incorrectly positioned towards the fan and filter section

1. Fit the sealing strip on the lower part, at the outer edges and on the cross braces.
2. Screw the upper section to the lower section in all corner struts.

7.9 Assemble coil recovery (EXL)

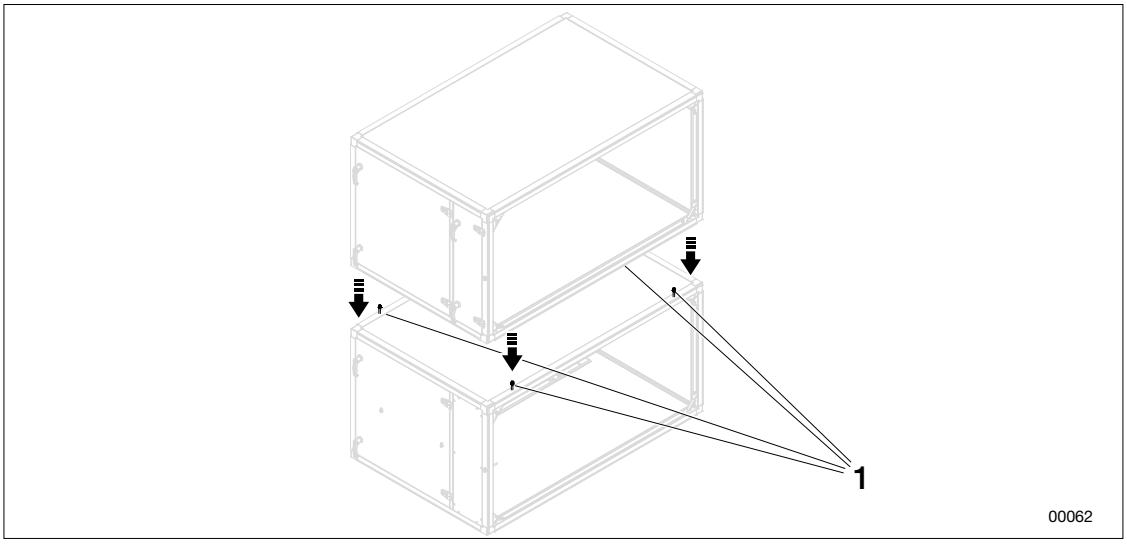


Figure: Coil recovery, sectioned configuration

1. Screws

1. Put the lower part onto the support.
2. Lift up the upper part on top of the lower.
3. Screw the parts together with the screws on the long side.

8 CONNECT COIL, WATER

8.1 Connect coil to pipelines

- In order not to damage the coil, always use a counterhold when connecting.
- Ensure that connecting pipes (including insulation) do not block inspection hatches.

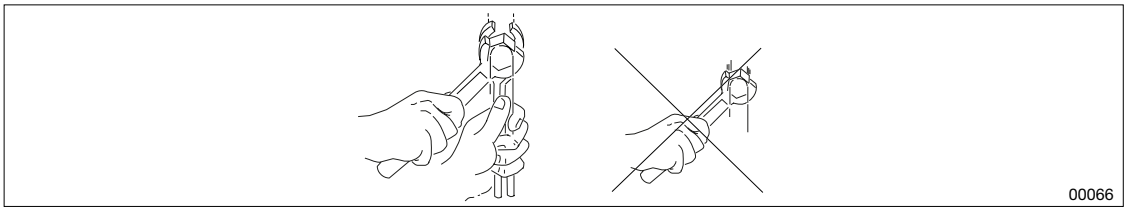


Figure: Pipe connection counterhold

8.2 Connect heating coil

1. Connect coil to pipeline.
2. Connect frost protection on heating coil.
3. Connect pipes for bleeding and drainage.

8.2.1 Heating coil (ELEV) in unit, (EMT-VV) in duct

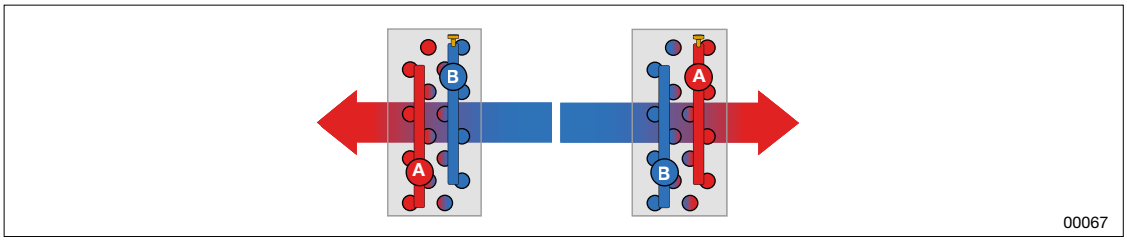


Figure: Connection pipe, heating coil (ELEV, EMT-VV)

A. Fluid in
B. Fluid out

The heating coil must be fitted with frost protection of the clamp on or immersion sensor type.

The heating coil is reversible to suit air from the right or left. Ensure that the coil is turned so that there is a counter-flow direction between air and liquid flow.

Thermoguard coils:

- are marked with inlet and outlet, respectively, on the fluid side, as well as air direction.
- delivered, as standard, for vertical assembly (horizontal air stream).
- must always have the possibility of pressure relief via the coil return line out to the expansion vessel, regardless of whether the control valve is open or closed. This applies to all kinds of control valves, shunt couplings and the like.

8.3 Connect cooling coil

1. Connect coil to pipeline.
2. Connect drainage. See *"11 CONNECT DRAINAGE, WATER TRAP", page 51.*
3. Connect pipes for bleeding and drainage.

8.3.1 Cooling coil (ELBC) in unit, (ESET-VK) in duct

Cooling coil is connected for horizontal air flow. For duct assembly see *"12 DUCT CONNECTION, ACCESSORIES", page 52.*

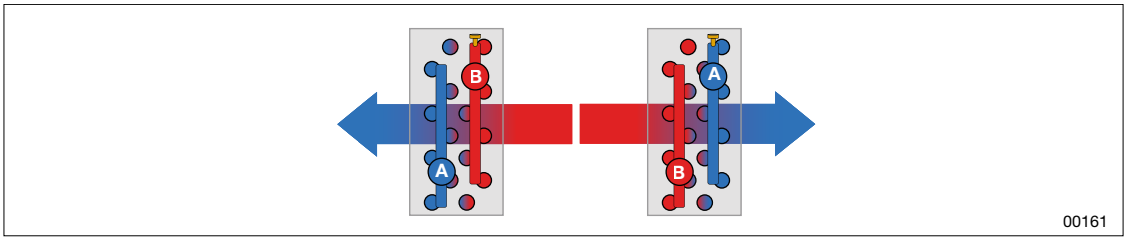


Figure: Connection pipe, cooling coil (ELBC, ESET-VK)

A. Fluid in
B. Fluid out

8.4 Connect frost protection sensor

The frost protection sensor is placed at the coldest point of the coil, i.e. on the outgoing fluid assembly tubes.

Frost protection sensor is connected to prevent ice from forming in the pipe lines of the coil.

The coil should be turned so that the immersion sensor socket/contact sensor for frost protection ends up on the outgoing fluid side.

8.4.1 Connect immersion sensor

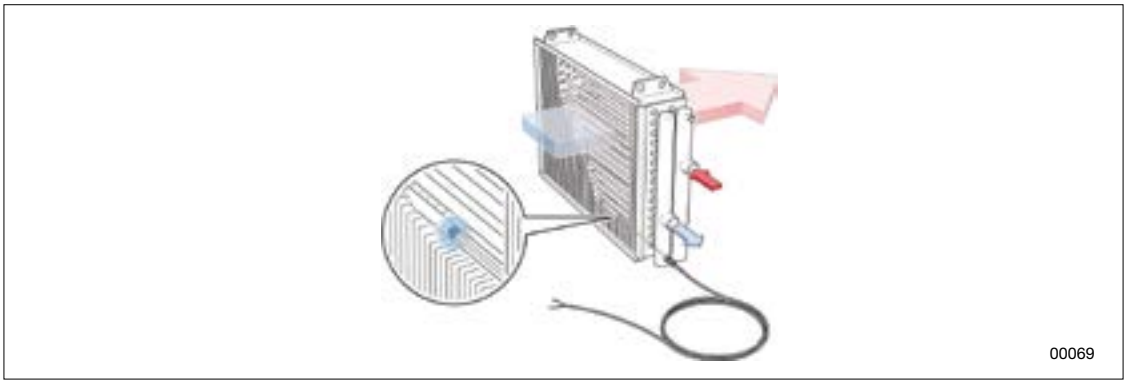


Figure: Coil with header for outgoing fluid with immersion sensor fitted in drainage/bleeding nipple.

Immersion sensor dimensions: diameter 4 mm, insert length maximum 240 mm.

The immersion sensor is placed in the venting nipple (T-pipe can be used to keep the opportunity of venting) or in the drainage/bleeding nipple.

8.4.2 Contact clamp on detector

- The clamp on detector must always be placed after any duct coils (heating/cooling)
- The clamp on detector must not be placed in a sound attenuator.
- Location of measuring sockets for pressure control should be at least 1 m from duct connection, so as to avoid disturbing turbulence.

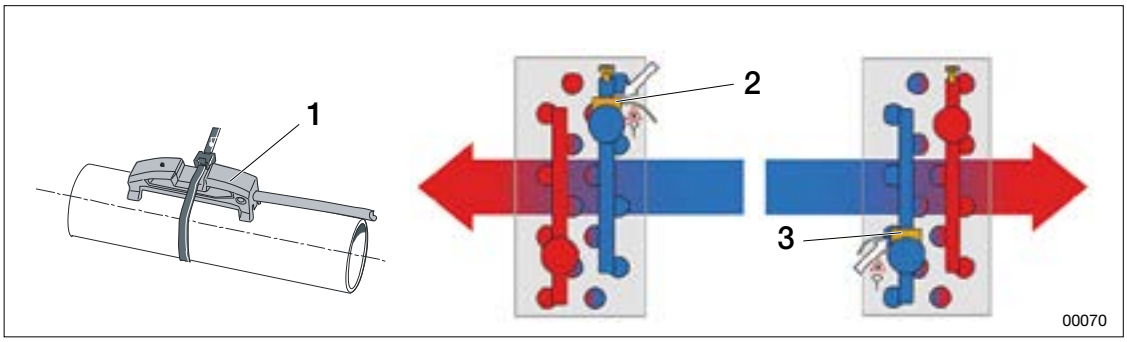


Figure: Contact sensor

1. Clamp on detector placed on pipe
2. Outgoing fluid at top, clamp on sensor up
3. Outgoing fluid at bottom, clamp on sensor down

8.5 Connect pipes for bleeding and drainage

The connection pipe must be equipped with bleeding at the highest point and drainage at the lowest point.

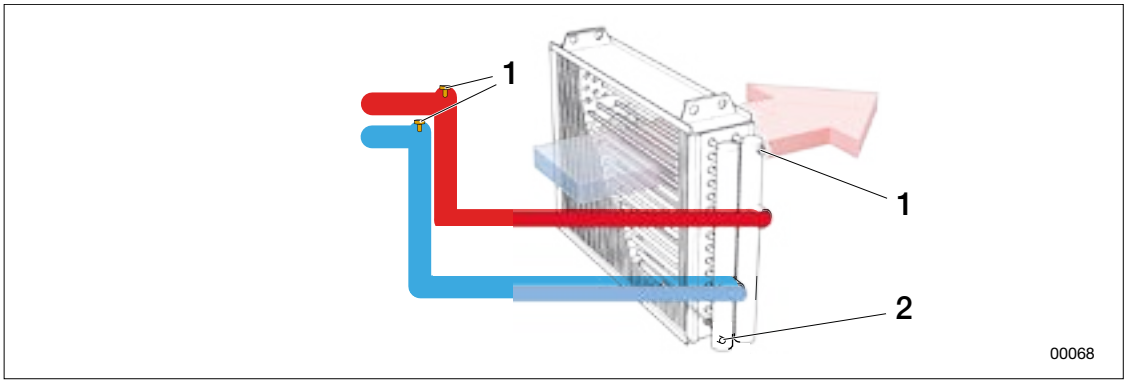


Figure: Bleeding and drainage

1. Nipple for bleeding
2. Nipple for drainage

8.6 Assemble valve actuator

Assembly is carried out according to the accompanying instructions from IV Produkt's supplier. See order-specific documentation on IV Produkt's order portal.

The control valve (shunt valve), which regulates water temperature to heating or cooling systems is operated by a valve actuator attached to a control unit. The valve may be of two- or three-way type depending on the connected heating source.

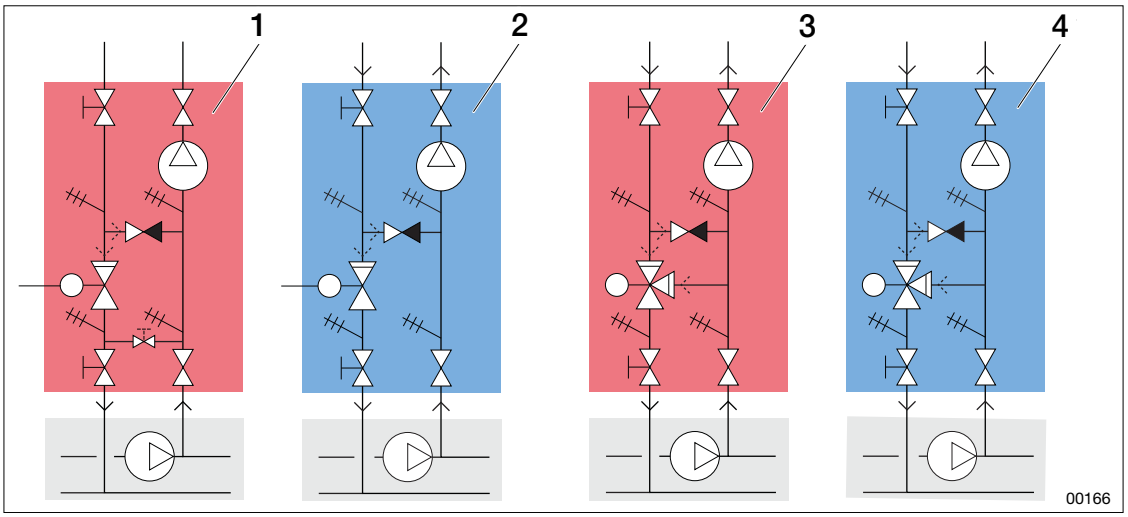


Figure: Control valve in different configurations

1. District heating - two-way valve
2. District cooling - two-way valve
3. Own heating source - three-way valve
4. Own cooling plant - three-way valve

8.7 Assemble pump, pipework package

The pump is only included in IV Produkt Accessories: Pipework package. For information and assembly, see separate product sheet "Pipework package STD-05, specification and assembly instructions" at IV Produkt's order portal. Other pumps are provided by the customer and installed on the customer's responsibility.

9 CONNECT COIL, ELECTRIC

9.1 Connect air heater electric (ESET-EV), (ELEE), trim heater (ECXT-EV), (TCHT-EV)

WARNING!

Risk of life-threatening or serious personal injury.

Electrical voltage can cause electric shock, burns and death. The product must not be energised during assembly.

- Electrical connection and electrical work may only be carried out by a qualified electrician.
- For initial start-up of the unit, see Operation and Maintenance of the unit on IV Produkt's order portal.

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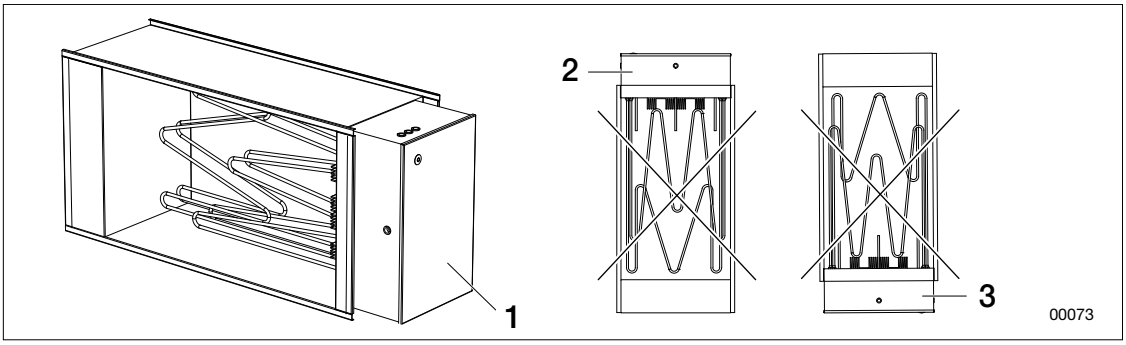

Figure: Air heater electric

1. Cover for connection box
2. Connection box - not to be mounted upwards
3. Connection box - not to be mounted downwards

The distance from the sheet metal casing of the air heater to wood or other combustible material, must be 100 mm or more.

9.1.1 Heating coil electric, (ELEE) in unit, (ESET-VK) in duct

The air heater is adapted for assembly in duct systems and requires separate connection. The air flow direction through the air heater must correspond with the direction arrow on the air heater.

The heater can be connected in horizontal or vertical ducts with the connection box to the side.

The distance from the air heater to duct elbows, dampers, filters or the like, should be at least the distance corresponding to the diagonal measurement of the heater (from corner to corner in the heater's duct section). If the distance is smaller, the air stream through the heater can become uneven and the overheat protection can be tripped.

The air heater is insulated according to the applicable rules for ventilation ducts/ventilation units and with non-combustible insulating material. The type plate and warning plate must be fully visible and the cover must be possible to open. The air heater must be accessible for replacement and servicing.

9.1.2 Trim heater, EcoCooler (ECXT-EV), Thermocooler HP (TCHT-EV)

The trim heater is integrated into EcoCooler and ThermoCooler HP and is normally already fitted on delivery. It can be lifted out to facilitate cleaning and maintenance. See instruction in *"7.5.2 Disassemble trim heater/coil", page 41* .

10 CONNECT CONTROL EQUIPMENT

WARNING!
Risk of life-threatening or serious personal injury.
Electrical voltage can cause electric shock, burns and death. The product must not be energised during assembly.

- Electrical connection and electrical work may only be carried out by a qualified electrician.
- For initial start-up of the unit, see Operation and Maintenance of the unit on IV Produkt's order portal.

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If the unit is supplied with control equipment, obtain order-specific drawings from IV Produkt's order portal. Connection of control equipment (power supply, fuse protection other components, fans etc.) not specified in this section is done by a competent technician as instructed in Operation and Maintenance for the unit.

10.1 Connect quick connectors between unit parts

Connect together all quick connectors between unit parts. See *"6.5 Quick connectors", page 29*, *"6 ASSEMBLY, GENERAL", page 24* and *"7 ASSEMBLY, SECTIONED CONFIGURATION", page 32*.

10.2 Connect hoses for pressure control

- Location of measuring sockets for pressure control should be at least 1 m from duct connection, so as to avoid disturbing turbulence.

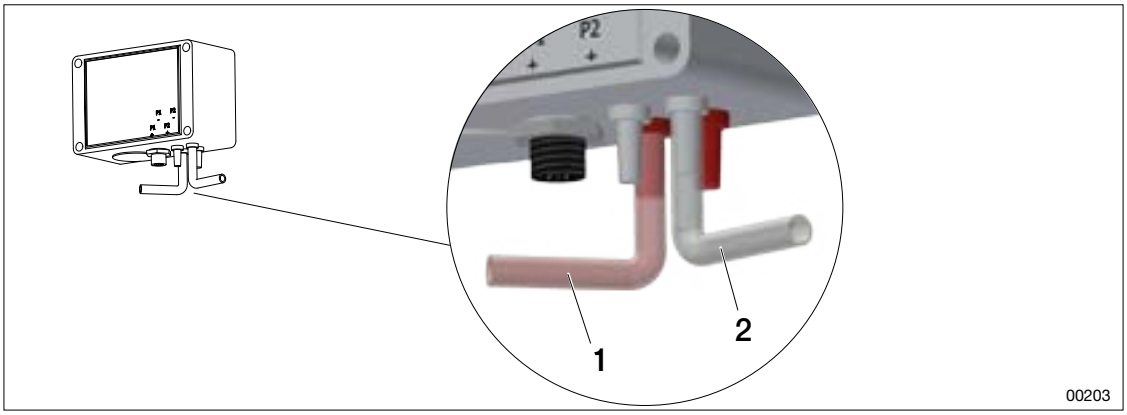


Figure: Hoses for pressure control connected to pressure sensors

1. Pink/red hose for pressure control of supply air
2. White/transparent hose for pressure control of extract air

1. Connect pink/red hose from pressure sensor to supply air duct (red connection).
2. Connect white/transparent hose from pressure sensor to extract air duct (white connection).

10.3 Connect supply air temperature sensor

- The supply air temperature sensor must always be placed after any duct coils (heating/cooling).
- The supply air temperature sensor must not be placed in a sound attenuator.

The sensor is connected to the control cabinet before delivery and hangs under the cabinet in a pretzel form.

1. After the unit is fitted together: pull the sensor to an appropriate point in the supply air duct.
2. Screw the holder to the sensor, in the duct.
3. Conntect the sensor in the holder.

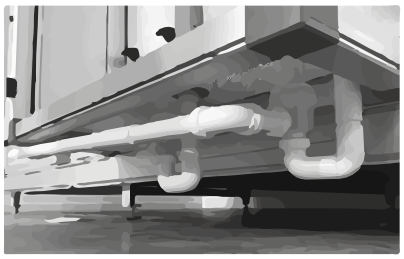
11 CONNECT DRAINAGE, WATER TRAP

- All drainages must be connected to separate water traps, which after these can be connected to a common drain.
- Use separate drainage and water traps for negative pressure and positive pressure.

For instructional videos see IV Produkt's order portal:

Water trap site-built assembly

Water trap prefabricated MIET-CL-04 assembly.



For Thermocooler HP and EcoCooler size 100-1280:

- On ThermoCooler HP, two individual water traps are attached.
- On ThermoCooler HP and EcoCooler, drainage connects underneath.

11.1 Connect water trap MIET-CL-04 (accessories)

MIET-CL-04 must not be used with outdoor version, in case of under-pressure. Heating cable pulled through drainage lines and water trap causes the ball not to seal.

Underpressure (P-) **Overpressure (P+)**

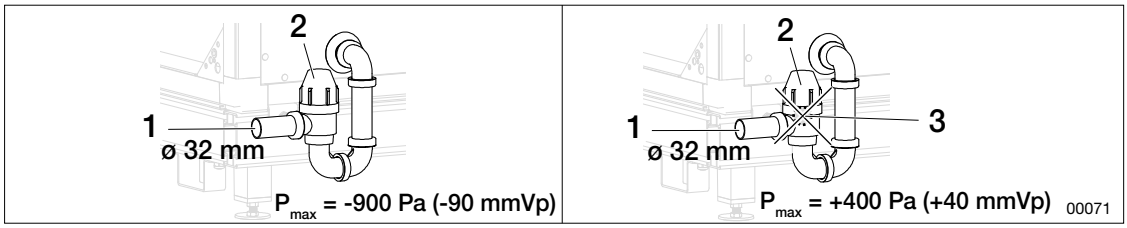


Figure: Water trap (accessory)

1. Outlet (connected to drain)
2. Cup (always mounted upwards)
3. Ball (inside pipe) is removed with overpressure

11.2 Connect water trap (site built)

- Fill the water trap with water before starting the unit.
- For each additional 100 Pa (over 1000 Pa), H_1 and H_2 are increased by 10 mm.

Underpressure (P-) **Overpressure (P+)**

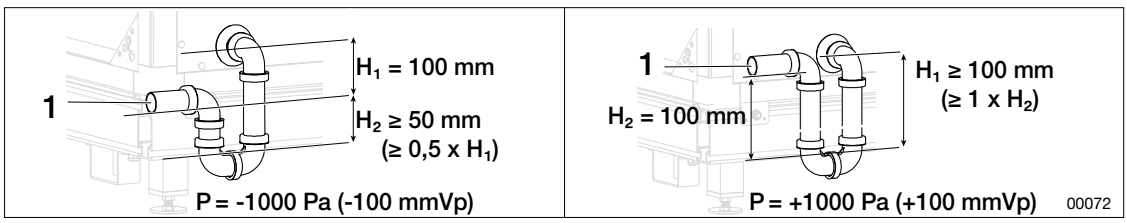


Figure: Water trap (site-built)

1. Outlet (connected to drain)

12 DUCT CONNECTION, ACCESSORIES

Duct accessories are placed according to set-up drawing. Order-specific drawings can be downloaded at IV Produkt's order portal (Technical Data). Se *"1.1 Intended use", page 7* och *"2.5 Symbols on drawings and in manual", page 13.*

12.1 Connect to ducts

The unit is supplied with rectangular connection sleeves.

12.1.1 Connect to rectangular duct

Sleeve couplings on rectangular duct connections must be supplemented with sealing strip and connected with guide strips.

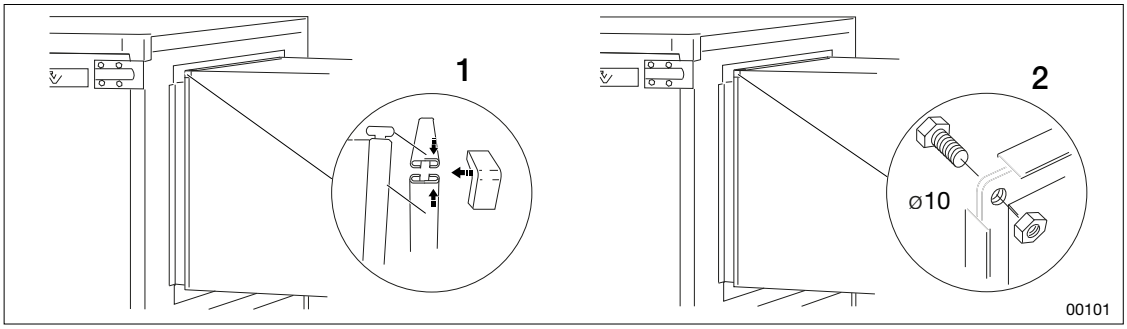


Figure: Rectangular connection sleeve

1. Option 1: The ducts are connected with a gasket, guide pin and outer corner.
2. Option 2: The ducts are connected with screws in the corners of the frame.

12.1.2 Connect to circular duct

Sleeve couplings on circular duct connections are equipped with rubber ring sealing.

12.1.3 Connect sleeve (accessories)

If the duct sleeves are connected for dampening vibrations, the duct insulation is fitted over the entire connection.

12.2 Connect duct coils

The distance after a duct elbow, damper or similar must be at least three times the duct dimension to obtain smooth air distribution. See *"8 CONNECT COIL, WATER", page 44* and *"9 CONNECT COIL, ELECTRIC", page 48*.

The coils have a rectangular connector for the guide system.

12.3 Connect sound attenuator (EMT-02)

The unit is supplied with either a rectangular or circular sound attenuator depending on the chosen size of unit and duct connections.

12.4 Connect shut-off damper (EMT-01), and trim damper (ESET-TR)

The damper can be fitted for horizontal or vertical air streams.

13 AFTER ASSEMBLY

13.1 Subsequent inspection and maintenance

CAUTION!
Risk of damage to the product.
Swarf from drilling left behind after assembly can lead to corrosion in the surface layer of the unit.

- Make sure that the surfaces of the unit are clean of swarf.

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CAUTION!
Risk of damage to the product.
Corrosive substances and strong cleaning agents can damage the surface layer.

- Never use strong cleaning agents or corrosive substances when cleaning the unit.

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Area	Inspection	Notes
Covers	Make sure all covers/hatches are in place.	All sides must have covers/hatches.
Covers	Ensure that inspection hatches do not jam when opening.	Adjust the hinges of the hatch. If that is not enough, adjust with the support feet. After adjusting with support feet, make sure that the unit does not tilt backwards.
The internal surfaces of the unit	Make sure the unit is clean and free of dirt and debris.	Vacuum or brush if necessary. Use a cloth moistened with water.
The internal surfaces of the unit	Make sure the unit has no remaining swarf from drilling.	Vacuum or brush after assembly.

14 SUPPORT

For more support see *"1.1 Intended use", page 7* or contact IV Produkt on the telephone numbers and addresses on the last page.

You are welcome to contact us

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Air handling with the focus on LCC

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Order Portal
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