ComfoFond-L Q
Installer Manual

always the
best climate

Heating | Cooling | Fresh Air | Clean Air

ComfoFond-L Q ST

ComfoFond-L Q TR

Foreword

Read this manual carefully before use.

This manual contains all information required for safe and optimal installation, operation and maintenance of the ComfoFond-L Q. The unit is subjected to continual development and improvement. There is therefore a possibility that the ComfoFond-L Q differs slightly from the descriptions given.

Applicable pictograms
The following pictograms are used in this manual:

Point to watch.

Risk of:
- **damage to the device;**
- **performance of the unit is compromised if instructions are not observed carefully.**

Risk of personal injury for the user or fitter.

Questions
Please contact the supplier if you have any questions. On the back of this manual is a list with the contact details of the main suppliers.

Table of contents

(extracted from general, multi-language edition)

1. Introduction and safety

The ComfoFond-L Q is specially developed to operate in combination with a Zehnder ventilation system of ComfoAir Q with Option Box. (Henceforth called “the ventilation unit”). The required pump control for the ComfoFond-L Q is integrated in this ventilation unit as standard.

Safety instructions

Always comply with safety regulations in this manual. Personal injury or damage to the
ComfoFond-L Q can arise from non-compliance with the safety regulations, warnings, comments and instructions in this manual.

- The ComfoFond-L Q must only be fitted, connected, commissioned and set up by a registered installer;
- Installation of the ComfoFond-L Q must be carried out in accordance with the general and locally applicable construction, safety and installation instructions of the local council, electricity and water boards;
- Always follow the safety regulations, warnings, comments and instructions given in this manual;
- Store the manual in the vicinity of the ComfoFond-L Q for its entire working life;
- Modifications to the ComfoFond-L Q or its manual are not permitted;
- The brine in the brine loop is pressurised. The system must be de-pressurised in a controlled manner if maintenance is required on the brine loop. Use the taps and filling valves in the unit to do this;
- When carrying out any work on the ComfoFond-L Q, make sure the power is disconnected and cannot be inadvertently reconnected;
  To disconnect the ComfoFond-L Q, you must disconnectthe Option Box and ventilation unit from the power supply to which it is connected.

2. Transport and unpacking

Take care when transporting and unpacking the ComfoFond-L Q.

☞ **Make sure the packing material is disposed of in an environmentally friendly manner.**

Checking delivery

Contact your supplier immediately in case of damage or an incomplete delivery.

Most parts are on the inside of the ComfoFond-L Q. Therefore the front of the ComfoFond-L Q must be removed to check the delivery.

The delivery should include:

ComfoFond-L Q TR

- ComfoFond-L Q; Check the identification plate to ensure that it is the required type;
- Filter with separate filter handle;
- Condensation drain connection;
- Wall bracket;
- Boiler safety group;
- Foam insulation for boiler safety group;
- User manual;
- Installer manual.

ComfoFond-L Q ST

- ComfoFond-L Q; Check the identification plate to ensure that it is the required type;
- Filter with separate filter handle;
- Condensation drain connection;
- Wall bracket;
- 2 x 90° connection bends;
- EPP sleeve joint;
- 180-160 adapter;
- Metal sleeve joint;
- Boiler safety group;
- Foam insulation for boiler safety group;
- User manual;
- Installer manual.

The ComfoFond-L Q is supplied in the following types:

Type:	
ComfoFond-L Q L ST	ComfoFond-L Q R ST
ComfoFond-L Q L TR	ComfoFond-L Q R TR

Meaning of the suffices:

- ComfoFond-L Q = Brine subsoil heat exchanger;
- TR = Suitable for a ComfoAir Q TR;
- ST = Suitable for a ComfoAir Q ST;
- L = Suitable for a ComfoAir Q with the supply and extract air to the left side;
- R = Suitable for a ComfoAir Q with the supply and extract air to the right side.

3. Installation conditions

In order to determine whether the ComfoFond-L Q can be installed in a certain area, the following aspects must be taken into account:

- The system must be fitted to allow sufficient room around the ComfoFond-L Q and ventilation unit for the air connections and brine loops as well as for carrying out maintenance activities;
- The room must offer the following provisions:
  -Air duct connections.
  -230V electrical connection.
  -Provisions for the condensation drain.
  -Brine loops for the pipe system.
- The ComfoFond-L Q must be installed in a frost-free space;

The brine in the system must not freeze. Irreversible damage will be caused to the machine if the brine freezes.

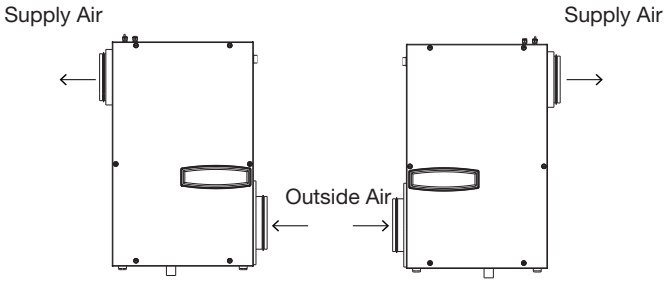
- The condensation must be drained off frost-free, at a gradient, using a siphon;
- An outer valve is a requirement if the system is used in areas where the temperature is lower than -15°C. This valve must shut off the supply air in the event of a power failure.
  The system can be damaged during a power failure at temperatures lower than -15°C, this is why an outer valve is a requirement.

4. Installation

4.1 Connection of the air ducts

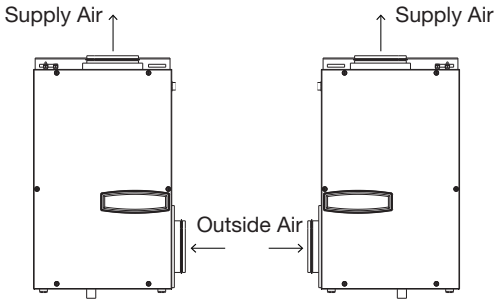
Take account of the following factors when mounting air ducting:

- Only use the supplied connecting material between the ComfoFond-L Q and ventilation unit;
- Insulate the outside air supply duct between the roof/wall passage to render the ComfoFond-L Q damp proof. This prevents the formation of condensation on the outside of the ducts;
- The air outlet on the ComfoFond-L Q must be connected to the outside air connection on the ComfoAir Q;
- The air outlet on the ComfoFond-L Q TR is on the side of the ComfoFond-L Q at the top;
- The air outlet on the ComfoFond-L Q ST is on the upper side of the ComfoFond-L Q;
- The outside air must be connected to the air inlet on the ComfoFond-L Q. The air inlet on the ComfoFond-L Q is on the side of the ComfoFond-L Q at the bottom.



ComfoFond-L Q TR Left

ComfoFond-L Q TR Right



ComfoFond-L Q ST Left

ComfoFond-L Q ST Right

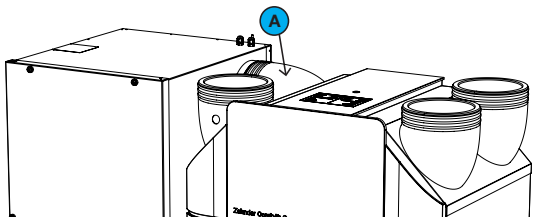
4.2 Mounting on the wall

Mount the ComfoFond-L Q against a wall with a minimum mass of 200 kg/m². The Zehnder support frame (available as an optional extra) must be used for other walls. (see appendix: Mounting pictures). This reduces contact noise as much as possible.

Make sure to leave a minimum space of 110 cm in front of the ComfoFond-L Q to perform any necessary maintenance work.

ComfoFond-L Q TR

1. Align the wall mounting bracket supplied with the unit to the wall, ensuring it is level and on a flat surface. The suspension bracket should be fitted at the same height as that of the ventilation unit (see appendix: mounting pictures).
2. Place the ComfoFond-L Q in the wall mounting bracket.
3. Rotate outdoor connecter bend (A) of the ventilation unit and connect it to the supply air of the ComfoFond-L Q.

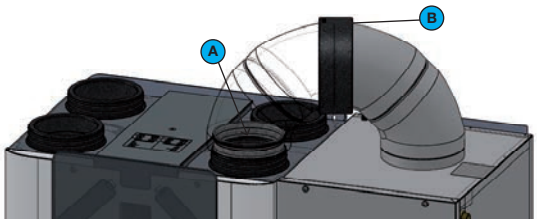


A. Outdoor air connector bend
C. Exhaust liquid connector

4. Fit the condensation drain to the underside of the ComfoFond-L Q, as described in the chapter on mounting the condensation drain.
5. Fit the fluid circuit (subsoil heat collector), including the boiler safety group, to the exhaust side (C) of the ComfoFond-L Q, as described in the chapter on mounting the fluid circuit.
6. Connect the 2 electrical cords of the ComfoFond-L Q to the ventilation unit, as described in the chapter on mounting the electrical connections.

ComfoFond-L Q ST

1 Align the wall mounting bracket supplied with the unit to the wall, ensuring it is level and on a flat surface. The suspension bracket should be fitted at the same height as that of the ventilation unit (see appendix: mounting pictures).
2. Place the ComfoFond-L Q in the wall mounting bracket.
3. Place the metal sleeve joint / 180-160 adapter (A) on the spigot (outside air) of the ventilation unit.
   - Use the 180-160 adapter to connect the ComfoFond-L Q to the ComfoAir Q 350 ST air connection.
   - Use the metal sleeve joint to connect the ComfoFond-L Q to the ComfoAir Q 450 or 600 air connection.
4. Use the EPP sleeve joint to connect both 90° connection bends (B).
5. Place the connected 90° connection bends on the metal sleeve joint / 180-160 adapter (A) of the ventilation unit and the air exhaust of the ComfoFond-L Q.



A. Metal sleeve joint / 180-160 adapter
B. EPP sleeve joint
C. Exhaust liquid connector

6. Fit the condensation drain to the underside of the ComfoFond-L Q, as described in the chapter on mounting the condensation drain.
7. Fit the fluid circuit (subsoil heat collector), including the boiler safety group, to the exhaust side (C) of the ComfoFond-L Q, as described in the chapter on mounting the fluid circuit.
8. Connect the 2 electrical cords of the ComfoFond-L Q to the ventilation unit, as described in the chapter on mounting the electrical connections.

4.3 Connecting the condensation drain

Take account of the following factors (see also Appendix: Condensation drain pictures) when fitting the condensation drain:

- The condensation must be drained off frost-free, at a gradient, using an appropriate siphon;
- Connect the condensation drain (air-tight) via a pipe or a hose with a siphon (with a water seal of at least 60mm) to the sanitary pipework;
- Position the upper edge of the siphon at least 60 mm underneath the condensation drain of the ComfoFond-L Q.

The condensation drains of the ComfoFond-L Q and the ventilation unit must have a seperate siphon. Do not connected them directly to the same Siphon.

4.4 Connecting the brine loop (terrestrial heat collector)

The ComfoFond-L Q uses a terrestrial heat collector which extracts heat from the ground and transfers this to the air that flows through the ComfoFond-L Q. The terrestrial heat collector is formed by a PE pipe. The length of the pipe is subject to local conditions, such as the type of ground and the ground water level. Solid ground contains more energy than loose ground. If the pipe is below ground water level, then substantial quantities of energy can be extracted from the ground.
The pipe must be horizontally positioned in the ground (more or less) at an ideal depth of 1,2 to 1,6 metres.

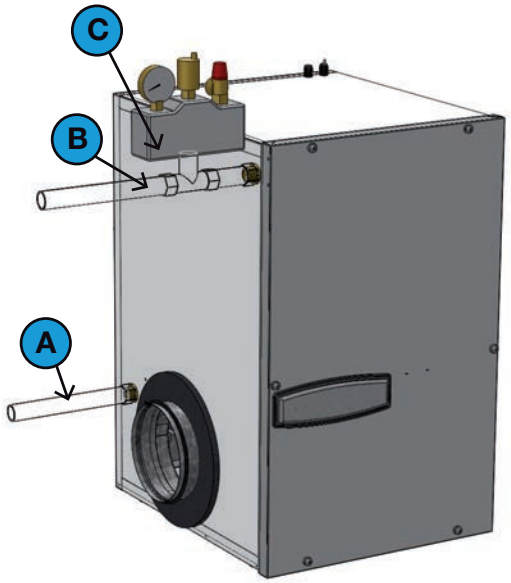
When calculating the length of the pipe, the actual length for the calculation is the length that is physically in the ground. The length inside the house has no further effect on the energy that the system can extract. The required pipe length for sandy soil is twice as long.

☞ **The correct length of pipe can be determined using the ComfoFond-L Q specifications. Zehnder has special software available for calculating the required pipe length.**

The pipe can be laid in any random form. Insulate indoors all fluid pipes of the fluid circuit. This prevents the formation of condensation on the outside of the brine loop.
The preferred situation is to lay the pipe in the ground around the house and keep the length inside the house to a minimum. In order to increase the efficiency, a minimum distance of 60 cm between any loops in the pipe is advised. In order to protect the water pipes from freezing, the pipe must be at least 1 meter away from the water pipes present in the ground.

Fit the boiler safety group (C) to the fluid circuit using a T-piece. Place the boiler safety group on the highest point of the fluid circuit, adjacent to the exhaust side of the ComfoFond-L Q.
Use an adaptor to connect one end of the PE pipe to the brine connection inlet (A) of the ComfoFond-L Q.
Use an adaptor to connect the other end of the PE pipe to the brine connection outlet (B) of the ComfoFond-L Q.

☞ **The connection of the boiler safety group is a 1“ inner thread and the connections of the ComfoFond-L Q are 3/4“ outer thread.**



☞ **An installation report has been included at the back of this manual which can be used to note the details of the brine loop laid.**

4.5 Electrical connections

The ComfoFond-L Q is controlled and fed by the ventilation unit. To do so, the temperature sensor and circulation pump of the ComfoFond-L Q must be connected to the Option Box of the ventilation unit. The Option Box is installed near the ventilation system.
The temperature sensor must be connected to the clamps that are marked with the text Tge and GND. This sensor is not sensitive to direction. Therefore, it does not matter which wire is connected to the Tge or GND clamp.

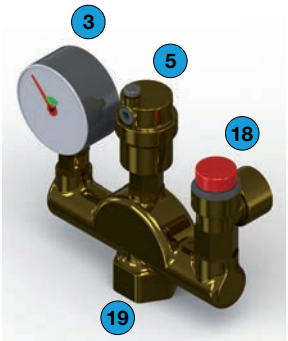
The circulation pump must be connected to the supply block on the connection printed circuit board. As the ComfoFond-L Q pump is not constantly operational, this is connected to a power supply that is switched by the ventilation unit. This power supply is on the clamp marked with the text 230V P/V CFL/EWT. The brown wire of the pump must be connected to the clamp L. The blue wire of the pump must be connected to the clamp N. The green/yellow wire of the pump must be connected to the clamp PE.

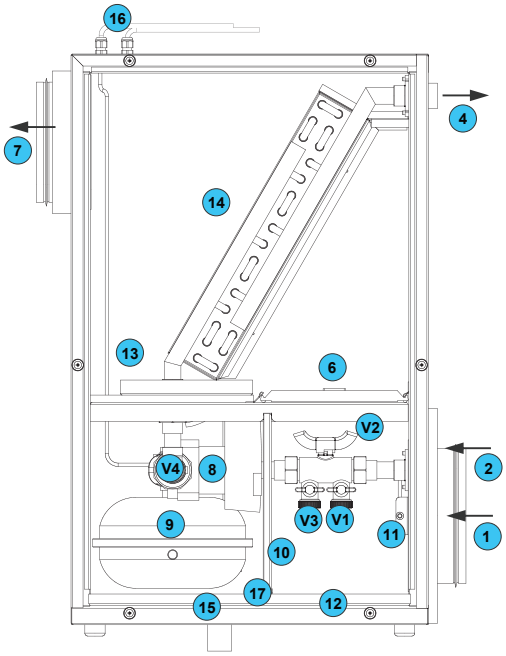
5. Commissioning

All loose parts, including cardboard and packaging materials must be removed from the ComfoFond-L Q before commissioning.

5.1 Filling the brine loop

During standard operation of the ComfoFond-L Q, valve V2, ball valve V4 and filling valves V1 and V3 are closed. The ComfoFond-L Q is filled via the filling valves V1 and V3.
The tap is open when the handle is parallel to the pipe. The tap is closed when the handle is at a right angle to the pipe.





V1. ¾“ filling valve
V2. tap
V3. ¾“ filling valve
V4. Ball valve (integrated in the circulation pump connection)
1. 180 mm Ø air inlet
2. ¾“ inlet brine connection
3. pressure meter (integrated in the boiler safety)
4. ¾“ outlet brine connection
5. air purge (integrated in the boiler safety group)
6. air filter
7. air outlet
   ComfoFond-L Q TR: 160 mm Ø side
   ComfoFond-L Q ST: 180 mm Ø upper side
8. circulation pump
9. expansion vessel
10. detachable air partition
11. temperature sensor
12. lower drip tray
13. upper drip tray
14. battery
15. condensation drain 1 ¼“ with 32 mm adapter
16. temperature sensor and circulation pump connection
17. internal siphon
18. over-pressure valve (integrated in the boiler safety group)
19. 1“ inner thread boiler safety group connection

All brine loop connections are straight male-threaded.

Filling instructions
Proceed as follows:

1. Disconnect the Option Box and the ventilation unit from its power supply.
2. Remove the filter handle from the ComfoFond-L Q.
3. Release the front panel by removing the 6 screws.
4. Remove the front panel from the ComfoFond-L Q.
5. Check the pre-pressure in the expansion vessel. In a no-pressure condition, the pressure must be 0.5 bar.
6. Connect the external rinsing pump to filling valve V3
7. Connect a drainage hose to filling valve V1.
8. Put the other end of the discharge hose in a container. We recommend a rinsing system with an open circuit.
9. Open filling valves V1 and V3.
10. Close tap V2.
11. Open the air purge cap.
12. Flush the brine loop until no more bubbles are visible in the collector of the rinsing pump, but at least 10 minutes.

Only fill the system with a ready-made brine mixture. The correct brine mixture can be determined using the ComfoFond-L Q specifications.

13. Close filling valve V1.
14. Open tap V2.
15. Increase the pressure in the device to 1.5 bar. To that end, use the filling hose connected to filling valve V3. Use an additional pressure pump if necessary.
16. Check the system pressure again and add more in order to increase pressure if necessary.

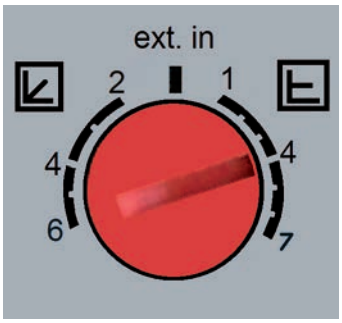
17. Close filling valve V3 and disconnect the filling hose.

18. Adjust the circulation pump to the correct setting. More information about this is available in the ‘Adjusting the circulation pump’ section.
19. Install all parts in reverse order (from point 4 back to point 1).

☞ **An installation report has been included at the back of this manual which should be used to note the details of the brine used.**

5.2 Adjusting the circulation pump

The circulation pump supports two user modes. The ‘constant pressure’ mode is always used on the ComfoFond-L Q.



Variable pressure..

Constant pressure.

The ComfoFond-L Q uses a circulation pump to pump the brine through the brine loop. This circulation pump must be adjusted correctly to achieve the best possible performance of the ComfoFond-L Q. The circulation pump setting is subject to the ComfoAir Q type:

- The circulation pump for the ComfoFond-L Q TR must achieve a flow rate of 6-8 litres per minute;
- The circulation pump for the ComfoFond-L Q ST must achieve a flow rate of 8-10 litres per minute.

The pump setting is subject to:

- The total length of the terrestrial heat collector;
- The internal diameter of the terrestrial heat collector;
- The composition of the brine mixture;
- The temperature of the brine mixture.

☞ **The correct setting for the circulation pump can be determined using the ComfoFond-L Q specifications.**

☞ **An installation report has been included at the back of this manual which can be used to note the setting used.**

5.3 Registering the ComfoFond-L Q on the ComfoAir Q

The ventilation unit will detected the ComfoFond-L Q automaticly. There is no action needed to register the ComfoFond-L Q to the ventilation unit.

5.4 Adjusting the control temperatures

The ventilation unit will switch the circulation pump of the ComfoFond-L Q on and off when necessary. The user can tell the ventilation system their comfort wishes by setting the desirable temperature profile. How to set a temperature profile can be found in the user manual of the ventilation unit.

6. Maintenance

Failure to carry out (periodic) maintenance on the ComfoFond-L Q ultimately compromises the performance of the system.

To ensure a hassle-free lifespan for your ComfoFond-L Q, we recommend you take out a service agreement with an expert company.

The following maintenance may be carried out by the user:

- Replacing the filter;
- Checking the system pressure.

All other servicing should only be performed by an installer or service technician. A concise explanation of the maintenance activities is given in the paragraphs below.

⚠ Ensure the ComfoFond-L Q has been disconnected from mains power before carrying out any maintenance work. To do this disconnect the Option Box and the ventilation unit from the power supply to which it is connected.

⚠ Bear in mind that the brine loop is pressurised.

A maintenance log has been included at the back of this manual which should be used to note all performed maintenance.

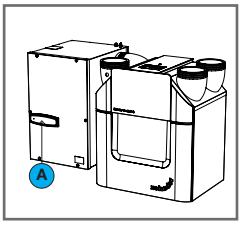
For maintenance of the ComfoAir Q, please read the instructions in the ComfoAir Q manual.

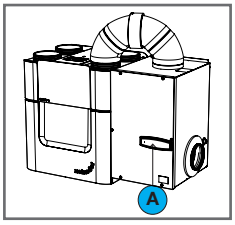
6.1 For replacing filters

The replacement period of the filter depends on local circumstances. We recommend replacing the filter when replacing the ComfoAir Q filter.

Replace the filter (at least) once every six months.

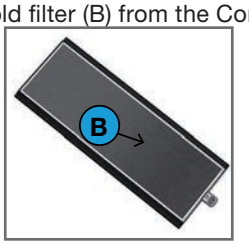
1. Disconnect the Option Box and the ventilation unit from its power supply.
2. Remove the filter handle (A) from the ComfoFond-L Q.





ComfoFond-L Q ST

3. Remove the old filter (B) from the ComfoFond-L Q.



4. Slide the new filter back into the ComfoFond-L Q.
5. Click the filter handle (A) in the ComfoFond-L Q.
6. Return power to the Option Box and the ventilation unit.

Filters must be replaced with the original manufacturer's filters only.

6.2 Cleaning condensation drain

Inspect the ComfoFond-L Q condensation drain at least once a year.

1. Disconnect the Option Box and the ventilation unit from its power supply.
2. Disconnect the condensation drain.
3. Perform the following checks of the condensation drain siphon:
   - Check whether the drain is still open by adding extra water to the siphon;
   - Visually inspect the condensation drain for contamination;
   - Check that there is enough water in the siphon. Air must not pass through the siphon;
4. Resolve any established problems;
5. Reconnect the condensation drain;
6. Return power to the Option Box and the ventilation unit.

6.3 Inspecting brine loop

Inspect the brine loop at least once a year.

Check the system pressure on the pressure meter. Top-up the system if required.

The brine loop pressure must be between 0.5 and 2.5 bar for the system to operate well. The ideal pressure is 1.5 bar.

Filling instructions:
Top-up the system as follows:

1. Disconnect the Option Box and the ventilation unit from its power supply.
2. Release the front panel by removing the 6 screws.
3. Remove the front panel from the ComfoFond-L Q.
4. Connect a filling hose to filling valve V3.
5. Open filling valve V3.
6. Measure the glycol percentage using a glycol meter.
   - Fill the system with a ready-made brine mixture first if required. The filling instructions for this are given in the 'Filling the brine loop' section.

The glycol percentage deviation from the selected percentage during installation may not exceed -3%. The desired glycol percentage must be restored immediately after topping-up the system twice with water.

7. Increase the pressure in the device to 1.5 bar. To that end, use the filling hose connected to filling valve V3. Use an additional pressure pump if necessary.
8. Closing filling valve V3 and disconnect the filling hose.
9. If no further maintenance is required: Install all parts in reverse order and switch the power supply to the Option Box and the ventilation unit back on. (from point 3 back to point 1)

6.4 Cleaning internal siphon

Inspect the ComfoFond-L Q internal siphon at least once a year.

1. Remove the front panel of the ComfoFond-L Q as described in the brine loop maintenance section.
2. Perform the following checks of the ComfoFond-L Q internal siphon:
   - Check whether the drain is still open by adding extra water to the siphon;
   - Visually inspect the siphon for contamination.
3. Resolve any established problems.

The internal siphon is a fragile component. Do not exert excessive force on the siphon.

4. If no further maintenance is required: Install all parts in reverse order and switch the Option Box and the power supply to the ventilation unit back on. (as described in the maintenance section for the brine loop)

6.5 Maintenance of ComfoFond-L Q casing

Inspect the ComfoFond-L Q casing at least once a year.

1. Remove the front panel of the ComfoFond-L Q as described in the brine loop maintenance section.
2. Perform the following checks:
   - Check the seals for damage;
   - Check the inside and outside for dirt and damage;
   - Check the duct connections for dirt and damage.

Any signs of corrosion and other damage must be treated directly and appropriately.

To clean the whole ventilation system, we recommend hiring a specialized cleaning firm.

3. If no further maintenance is required: Install all parts in reverse order and switch the power supply to the Option Box and the ventilation unit back on. (as described in the maintenance section for the brine loop)

6.6 Maintenance of ComfoFond-L Q battery

Inspect the ComfoFond-L Q battery once every 2 years.

1. Remove the front panel of the ComfoFond-L Q as described in the brine loop maintenance section.
2. Check the fins in the ComfoFond-L Q battery for dirt and damage.
   - Use a fin comb to restore the fins.
   - Rinse the battery with lukewarm tap water.

Do not use aggressive cleaning agents or solvents to clean the ComfoFond-L Q.

3. If no further maintenance is required: Install all parts in reverse order and switch the power supply to the Option Box and the ventilation unit back on. (as described in the maintenance section for the brine loop).

6.7 Replacing circulation pump

1. Order the correct fluid pump service set. (Left-hand or right-hand version)
2. Replace the fluid pump as described in the service instructions of the service set.

6.8 Replacing expansion vessel

1. Order the expansion vessel service set.
2. Replace the expansion vessel as described in the service instructions of the service set.

6.9 Replacing filling valve

1. Remove the front panel of the ComfoFond-L Q as described in the brine loop maintenance section.
2. Close only ball valve V4.
3. Connect a drainage hose to filling valve V1 or V3 to drain the brine.
4. Open the selected filling valve slowly until the system is depressurised.
5. Replace the filling valve.

The internal siphon is a fragile component. Do not exert excessive force on the siphon.

6. Top-up the system to the nominal pressure of 1.5 bar in accordance with the filling instructions in the brine loop maintenance section.
7. If no further maintenance is required: Install all parts in reverse order and switch the power supply to the Option Box and the ventilation unit back on (as described in the maintenance section for the brine loop).

6.10 Replacing boiler safety group

1. Remove the front panel of the ComfoFond-L Q as described in the brine loop maintenance section.
2. Close valve V2 and ball valve V4.
3. Connect a drainage hose to filling valve V1 to drain the brine.
4. Open filling valve V1 slowly until the system is depressurised.
5. Replace the boiler safety group.
6. Top-up the system to the nominal pressure of 1.5 bar in accordance with the filling instructions in the brine loop maintenance section.
7. If no further maintenance is required: Install all parts in reverse order and switch the power supply to the Option Box and the ventilation unit back on (as described in the maintenance section for the brine loop).

7. Malfunctions

The ComfoFond-L Q does not have a digital control system that indicates malfunction codes.
The ventilation unit has a display that indicates malfunction codes. The ventilation unit manual states what the malfunction codes mean and how to rectify these malfunctions.

Not all malfunctions are displayed on the digital control system of the ventilation unit, even though there may be malfunctions (or problems). Below is a list of the malfunctions (or problems) that may occur without a malfunction code being displayed on the display.

Problem/Malfunction	Indication	Check / action
The pump does not run	The STATE of the SUBSOIL HEAT EXCH. on the display of the ventilation system is OFF. (see MENU > STATUS > SUBSOIL HEAT EXCH. > STATE)	Check the ventilation unit, the measured outside temperature and the temperature profile setting.
	The STATE of the SUBSOIL HEAT EXCH. on the display of the ventilation system is ON. (see MENU > STATUS > SUBSOIL HEAT EXCH. > STATE)	Check the pump setting, the wiring and connection points on the Option Box of the ventilation unit - The pump has a defect if there is power on the clamps of the Option Box.
High intake temperature in summer.	The STATE of the SUBSOIL HEAT EXCH. on the display of the ventilation system is OFF. (see MENU > STATUS > SUBSOIL HEAT EXCH. > STATE)	Lower the temperature profile setting on the ventilation unit.
Little or no cooling or heating capacity.	The STATE of the SUBSOIL HEAT EXCH. on the display of the ventilation system is ON. (see MENU > STATUS > SUBSOIL HEAT EXCH. > STATE)	Check the system pressure and the pump setting.
Little or no supply air	Filters clogged.	Replace the filter.
	Battery clogged.	Clean the battery.
Too much noise	Whistling noise - Air escaping through crack somewhere	Seal the crack using insulating tape (not included).
	Slurping noise - Siphon is empty - U bend is not sealed properly	Fill the siphon, reconnect the siphon.
Condensation leak	Condensation drain clogged.	Clean both condensation drains (at the top and bottom of the ComfoFond-L Q).
	Condensation on the pipes and/or brine and air connections.	Insulate the connections and pipes.
	Frost-free set up not achieved	The ComfoFond-L Q was not installed in accordance with the installation requirements. Insulate the area that accommodates the ComfoFond-L Q or relocate the ComfoFond-L Q to a frost-free area.
	High humidity	Lower the humidity by ventilating the area. If the humidity remains high, then relocate the ComfoFond-L Q to an area with a lower humidity or insulate the areas where condensation forms.

8 Technical specifications

Performance	
Heating capacity (water based) ■ max 350 m³/h[1] ■ max 450 m³/h[3] ■ max 600 m³/h[5]	 1.9 kW 2.2 kW 2.5 kW
Cooling capacity (water based) ■ max 350 m³/h[2] ■ max 450 m³/h[4] ■ max 600 m³/h[6]	 2.0 kW 2.4 kW 2.8 kW
Maximum sound power level	40 dB(A)
Electrical data	
Maximum power consumption	0,58 A

Power consumption nominal ■ max 350 m³/h[7] ■ max 450 m³/h[8] ■ max 600 m³/h[8]	 0,12 A 0,19 A 0,19 A
Energy consumption maximum[9]	70 W
Energy consumption nominal[9] ■ max 350 m³/h[7] ■ max 450 m³/h[8] ■ max 600 m³/h[8]	 11 W 19 W 19 W
Power supply	220/230V AC, 50/60Hz, 1 phase
Connection data	
Air inlet dimensions	180 mm
Air outlet dimensions ■ ComfoFond-L Q TR ■ ComfoFond-L Q ST	 160 mm 180 mm
Ideal brine pressure	1,5 bar
Brine volume ComfoFond-L Q	+/- 2 l
Brine flow rate ■ max 350 m³/h ■ max 450 m³/h ■ max 600 m³/h	 6-8 l/min. 8-10 l/min. 8-10 l/min.
Brine composition	30%-50% ethylene glycol water mixture
Brine connections	3/4” straight male-threaded
Maximum head circulation pump	7 m
Condensation drain connection	11/4” male-threaded with 32 mm adapter
General	
IP class	44
Pump Class circulation pump	A
Mass ■ ComfoFond-L Q TR ■ ComfoFond-L Q ST	 46 kg 47 kg
Unit dimensions (l x b x h)	476 x 551 x 760 mm
Outside temperature operating area	-22 °C to 45 °C
Colour	RAL7045

[1] Qv = 350 m³/h, Toutside air = -12 °C, Tbrine flow = 8 °C, vbrine flow = 6 l/min, Tsupply air = 2,3 °C.
[2] Qv = 350 m³/h, Toutside = 35 °C, Tbrine flow = 12 °C, vbrine flow = 6 l/min, Tsupply air = 17,3 °C.
[3] Qv = 450 m³/h, Toutside = -12 °C, Tbrine flow = 8 °C, vbrine flow = 8 l/min, Tsupply air = 1.5 °C.
[4] Qv = 450 m³/h, Toutside = 35 °C, Tbrine flow = 12 °C, vbrine flow = 8 l/min, Tsupply air = 18 °C.
[5] Qv = 600 m³/h, Toutside = -12 °C, Tbrine flow = 8 °C, vbrine flow = 8 l/min, Tsupply air = -0.5 °C.
[6] Qv = 600 m³/h, Toutside = 35 °C, Tbrine flow = 12 °C, vbrine flow = 8 l/min, Tsupply air = 20.3 °C.

[7] subsoil heat collector: 100 m, 25/20,4 mm, 6 l/min
[8] subsoil heat collector: 100 m, 25/20,4 mm, 8 l/min
[9] Linear adjustment of the energy consumption is possible

8.1 Brine loop dimensions

The ComfoFond-L Q terrestrial heat collector (recommendations)				
Maximum m³/h	**Pipe type**	**Brine volume per 10 metre pipe [l]**	**Minimum length pipe in solid ground [m]**	**Minimum length pipe in sandy ground [m]**
350	25/20.4 PE	3,3	65	130
450	32/26.2 PE	5,3	100	200
600	32/26.2 PE	5,3	110	220

8.2 Brine mixture

Desired ethylene glycol percentage	
Maximum outside temperature [°C]	**Percentage [%]**
-15	35
-20	40
-25	45
-30	50

Higher concentrations of ethylene glycol can cause flow-related problems on account of the viscosity of the mixture. Irreversible damage will be caused to the machine if concentrations in excess of 50% are used.

9. CE certification and warranty

Warranty conditions
The ComfoFond-L Q is covered by a manufacturer's warranty for a period of 24 months after fitting up to a maximum of 30 months after the date of manufacture. Warranty claims may only be submitted for material faults and/or construction faults arising during the warranty period. In the case of a warranty claim, the ComfoFond-L Q must not be dismantled without written permission from the manufacturer. Spare parts are only covered by guarantee, if they were supplied by the manufacturer and have been installed by an approved installer.

The warranty becomes invalid if:
- The guarantee period has elapsed;
- The unit is used without filters;
- The unit is not installed according to the instructions;
- Parts are used which were not supplied by the manufacturer;
- Unauthorised alterations and/or modifications have been made to the unit.

Liability
The ComfoFond-L Q has been designed and manufactured for use in balanced ventilation systems incorporating Zehnder heat recovery systems. Any other application is seen as inappropriate use and can result in damage to the ComfoFond-L Q or personal injury, for which the manufacturer cannot be held liable. The manufacturer is not liable for any damage derived from:
- Non-compliance with the safety, operating and maintenance instructions in this manual;
- The use of components not supplied or recommended by the manufacturer. The responsibility for the use of such components lies entirely with the fitter;
- Normal wear and tear.

EC declaration of conformity

Zehnder Group Nederland B.V.
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NL - 8028 PM Zwolle
Tel.: +31 (0)38-4296911
Fax: +31 (0)38-4225694
Company register Zwolle 05022293

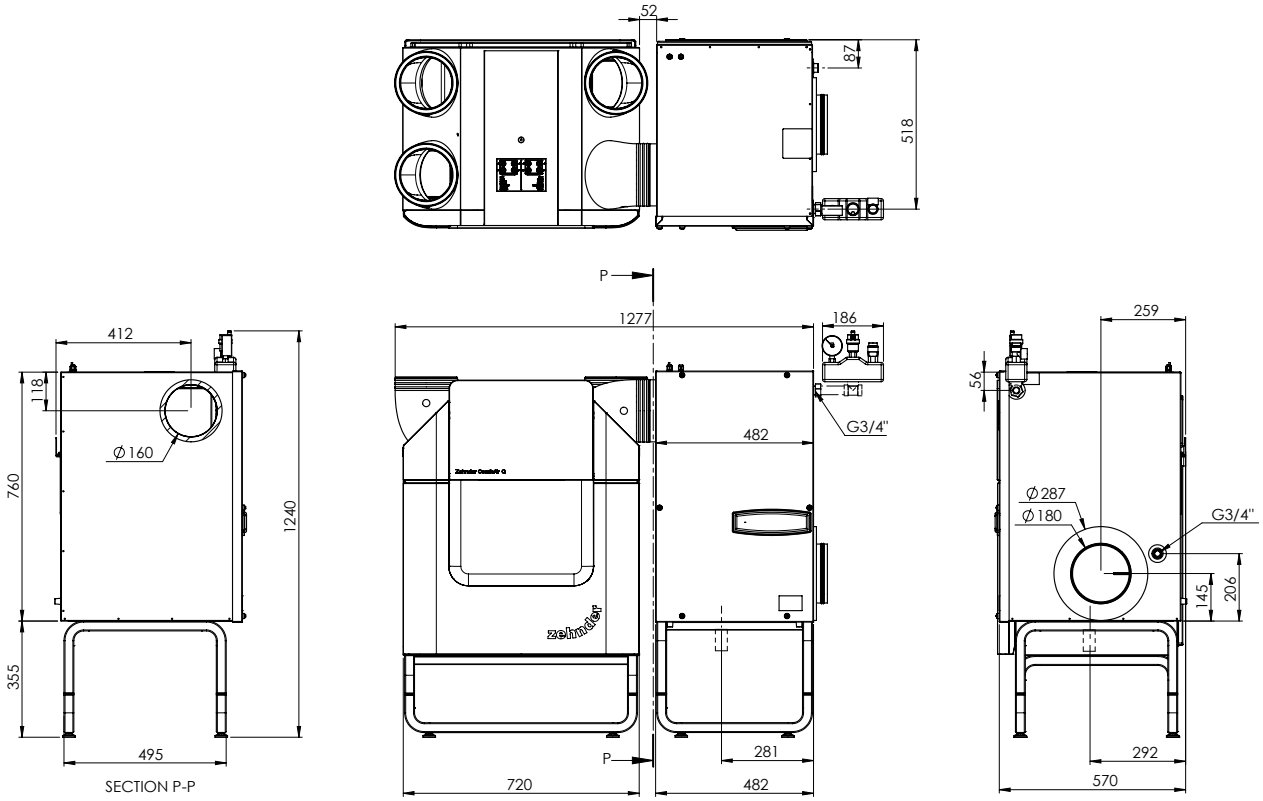
EC declaration of conformity

Machine description:	Comfort unit for ventilation	ComfoFond-L Q Series
Complies with directives:	Pressure Equipment Directive	(2014/68/EU)
	Low Voltage Directive	(2014/35/EU)
	EMC Directive	(2014/30/EU)
	RoHS II Directive	(2011/65/EU)

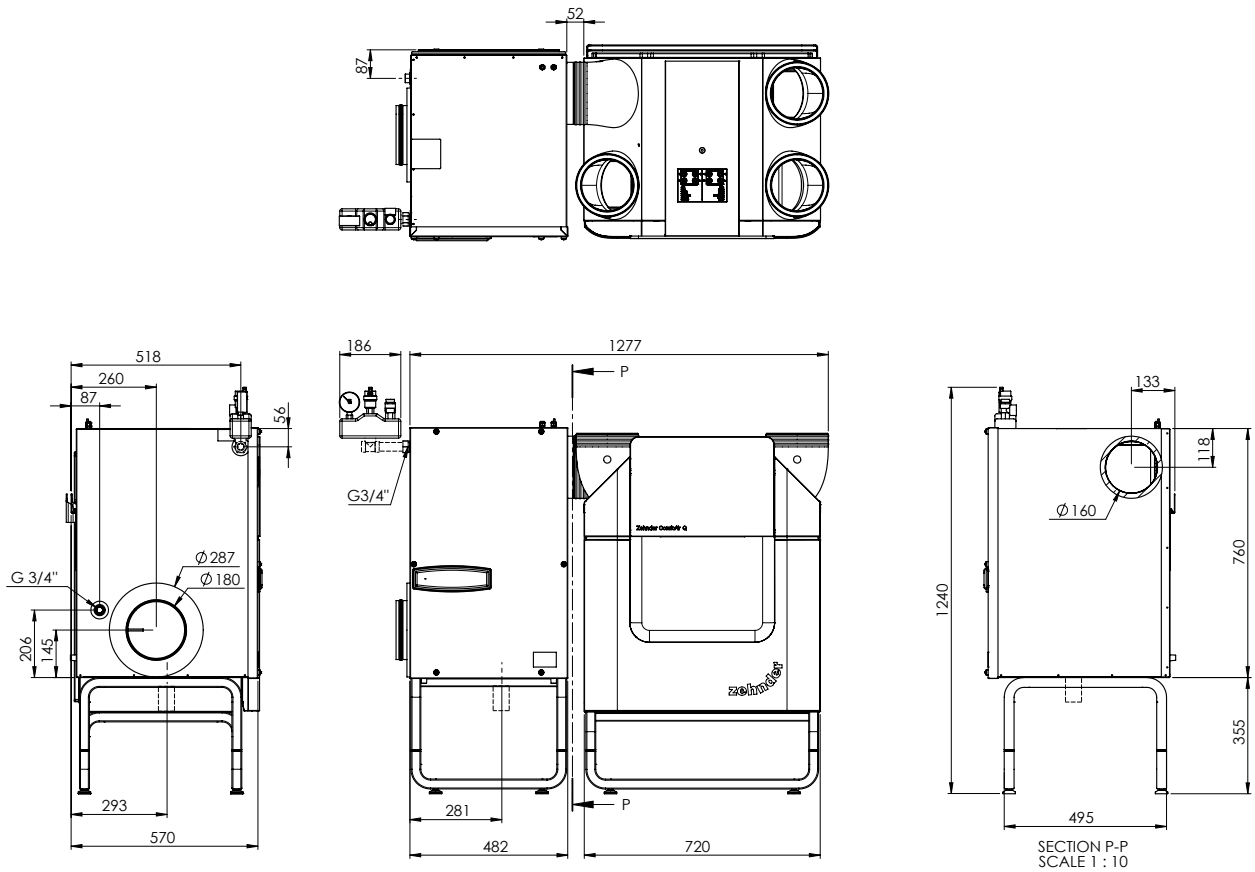
Zwolle, 22-10-2018
Zehnder Group Nederland B.V.

H.J. de Wilde
Produktion Business Unit Director Zwolle

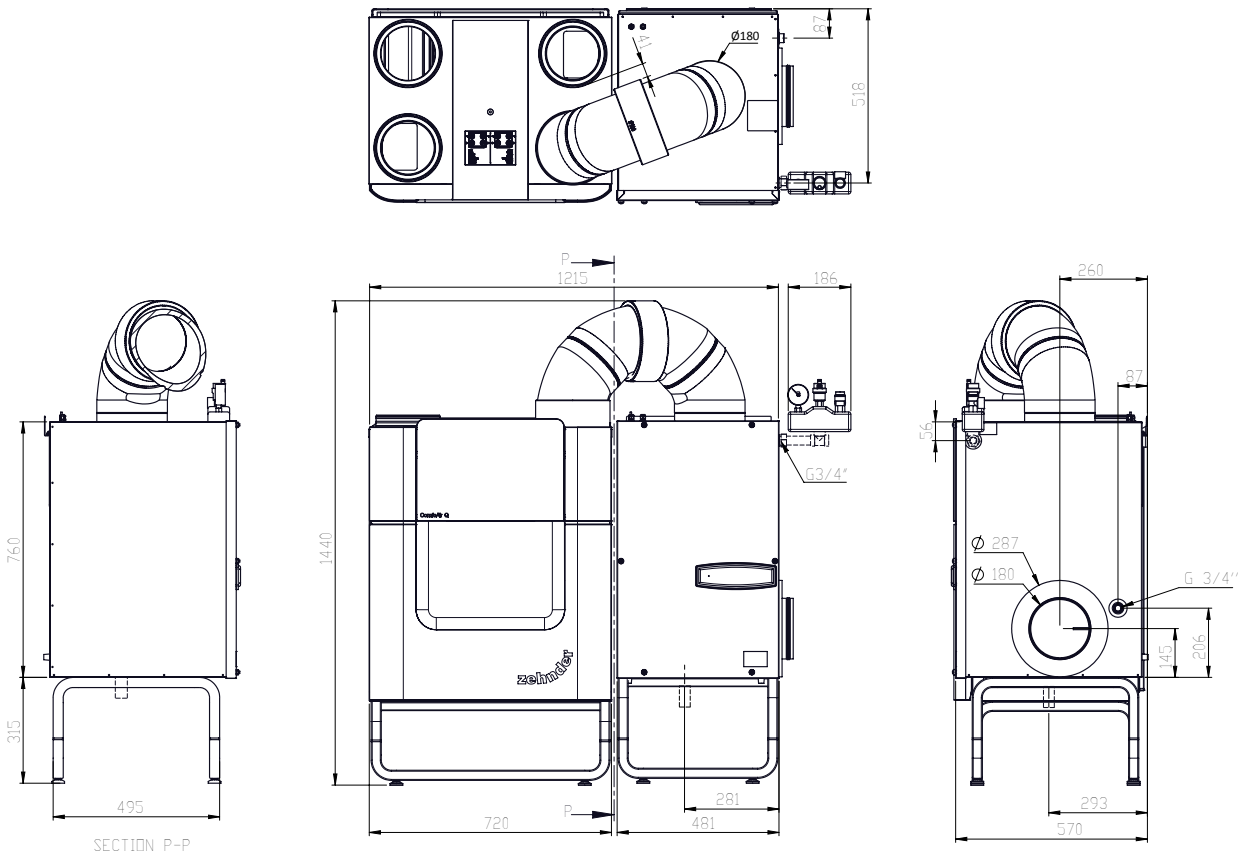
I Dimensional sketch ComfoFond-L Q TR L



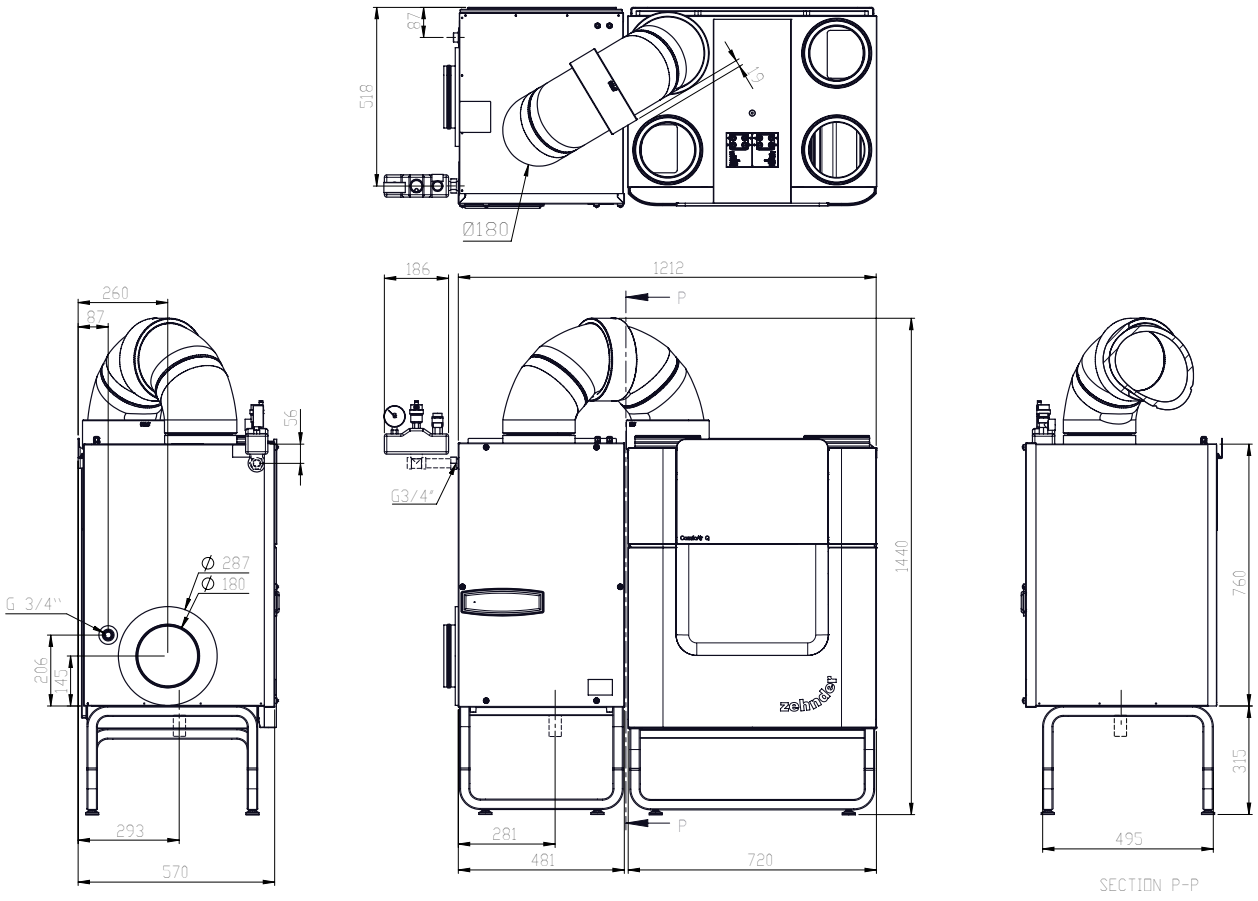
II Dimensional sketch ComfoFond-L Q TR R



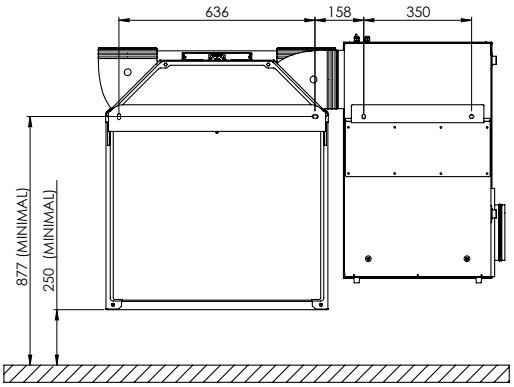
III Dimensional sketch ComfoFond-L Q ST L



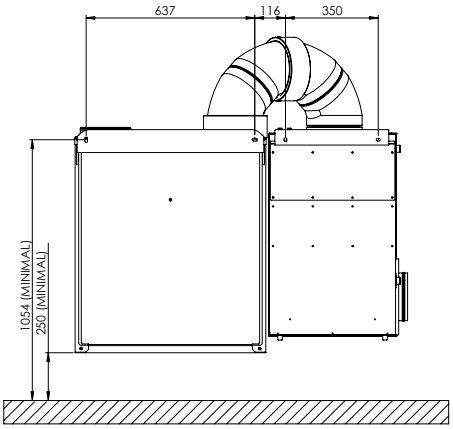
IV Dimensional sketch ComfoFond-L Q ST R



V Mounting pictures

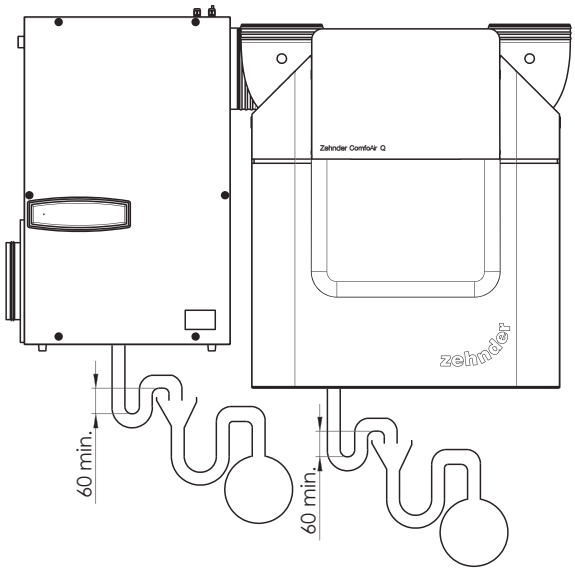


ComfoFond-L Q TR

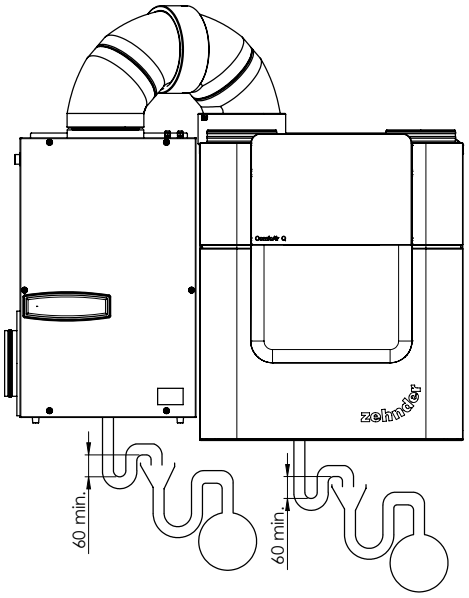


ComfoFond-L Q ST

VI Condensation drain pictures

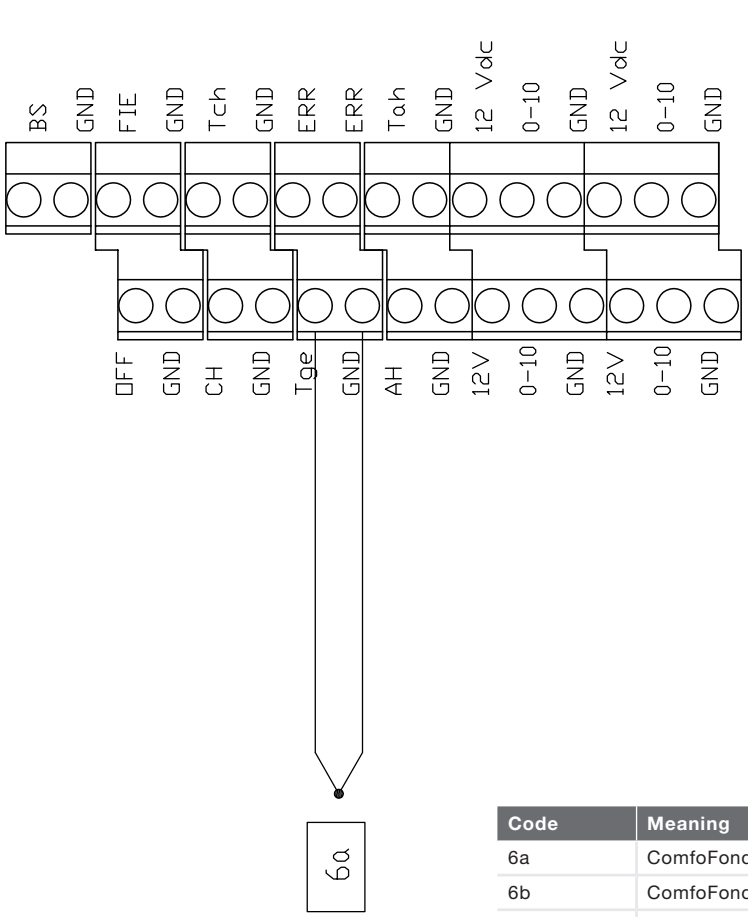


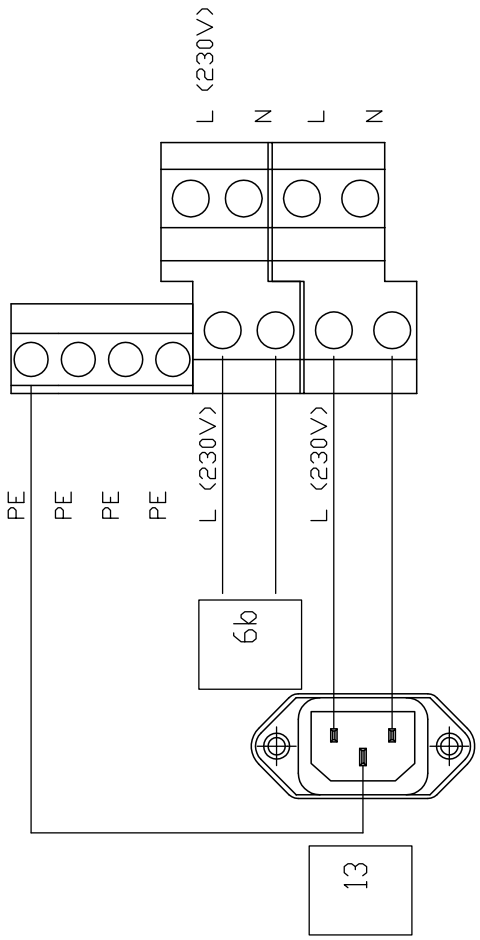
ComfoFond-L Q TR



ComfoFond-L Q ST

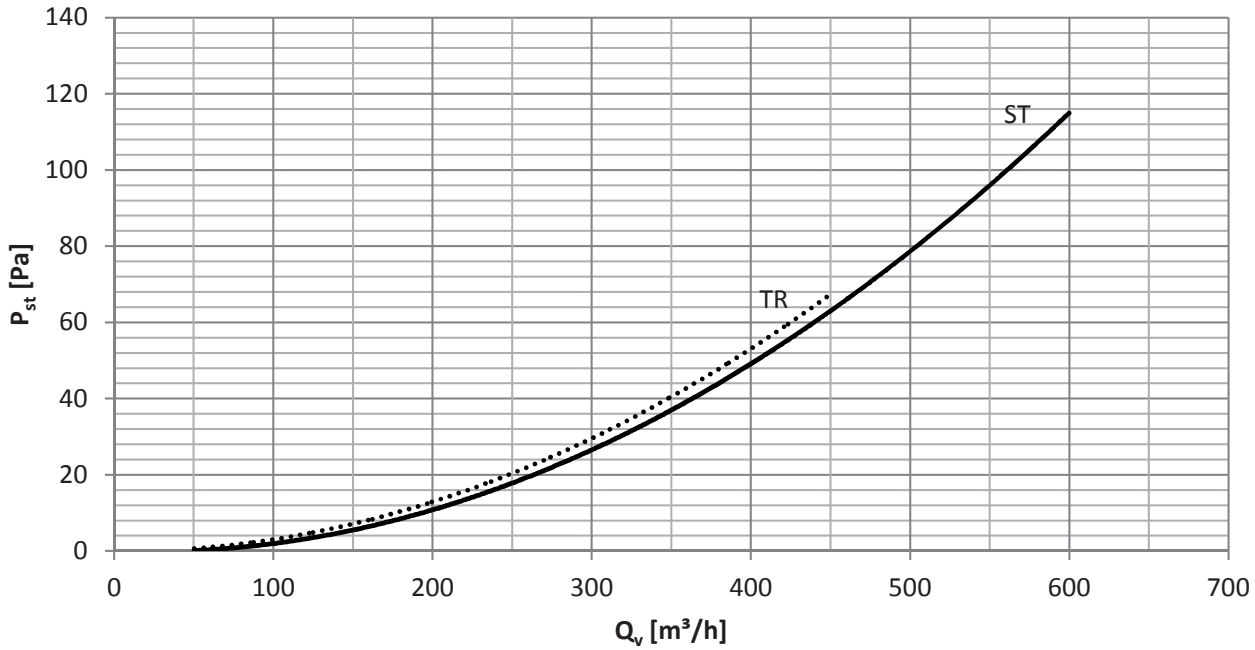
VII Wiring diagram





Code	Meaning
6a	ComfoFond-L Q sensor
6b	ComfoFond-L Q pump
13	Mains power connector

VIII Air resistance graphs ComfoFond-L

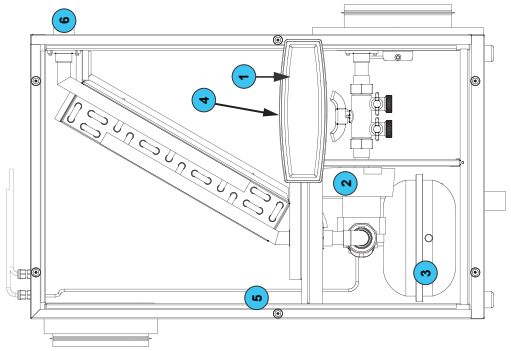


IX Circulation pump settings

Terrestrial heat collector diameter (Outer/Inner)	Terrestrial heat collector length	Circulation pump setting	
[mm]	[m]	max 350 m³/h	max 450 m³/h max 600 m³/h
25/18,0	65	7	-*
25/20.4	65-75	5	-*
25/20.4	76-90	6	-*
25/20.4	91-100	7	-*
32/26.2	65-100	4	5
32/26.2	101-150	5	6
32/26.2	151-200	6	7
32/26.2	201-250	7	-*
40/29.0	65-100	3	4
40/29.0	101-175	4	5
40/29.0	176-250	5	6
40/29.0	251-300	6	7
40/29.0	301-400	7	-*
40/32.6	65-100	3	4
40/32.6	101-200	4	5
40/32.6	201-325	5	6
40/32.6	326-450	6	7
40/32.6	451-600	7	-*

* The pump’s capacity is insufficient under these circumstances. Use a hose with a larger inner diameter.

X Service parts



Number	Part	Article number SAP	Article number
1	Filter set ISO Coarse (G4) / ISO Coarse (G4)	10001260	400100085
1	Filter ISO Coarse (G4)	40001373	400100066
1	Filter set ISO ePM1 (F7) / ISO ePM1 (F7)	10001261	400100086
2	Circulation pump Left	18514597	400600081
2	Circulation pump Right	18514596	400600080
3	Expansion vessel	18514598	400600082
4	Filter handle	40001378	400600087
5	Temperature sensor	400330012	400330012
6	Pressure gauge	400600104	400600104

XI Installation report

Date		Address	
Work instruction		Town/city	
Commissioning party		Residence	
Installed by		ComfoFond-L Q type*: TR/ST Left/Right *Delete as applicable	

Terrestrial heat collector details

Brine volume		Circulation pump setting	
Selected glycol %		ø Inside pipe	
Meeasured glycol %		Pipe length	

Pipe lay out

XII Maintenance log

Date	Activity	Intitials

North America

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