

INSTALLATION AND MAINTENANCE

CTS602i BY NILAN



VPR 120-560

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General information

Safety

Power supply



CAUTION

Always disconnect the power supply to the unit if an error occurs that cannot be rectified via the control panel.



CAUTION

If an error occurs on electrically conductive parts of the unit, always contact an authorised electrician to rectify the error.



CAUTION

Always disconnect the power to supply to the unit before opening the unit doors, for instance for installation, inspection, cleaning and filter change.

Pressure equipment



WARNING

Exercise great caution when handling cooling circuit components. They have a pressure of up to 50 bar and, if damaged, they can cause personal injury.

Introduction

General information prior to installation

The following documents will be supplied with the unit:

- Installation and service instructions
- Software instructions
- Wiring diagram
- Test report

The instructions can be downloaded from www.nilan.dk/da-dk/forside/download.

If you have questions regarding installation and operation of the unit after having read the instructions, please contact your nearest Nilan dealer. A list of Nilan dealers is available on www.nilan.dk/forhandlere.

The purpose of these instructions is to advise the installer on correct installation and maintenance of the unit.



ATTENTION

In order to avoid discoloration of the metal sheets, remove the protective foil packaging from the unit immediately after delivery. Discoloration is caused by a chemical reaction triggered by condensation between the foil and the galvanized sheets. Then, if necessary, cover the unit with tarpaulin to protect it.

The unit is delivered from the factory, tested and ready for operation.

Disclaimer

In order to achieve correct operation of the unit and to ensure the safety of persons and equipment, the instructions must be followed. Nilan A/S disclaims all responsibility for damages resulting from usage of the unit and/or accessories conflicting with the directions and instructions of this manual.

Symbols explained



WARNING

Violation of instructions marked with a warning symbol could be hazardous to life.



ATTENTION

Violation of instructions marked ATTENTION could pose risk of personal injury or damage to equipment.

Application of instruction manual

This instruction manual applies to Nilan's ventilation and heat recovery unit, hereafter referred to as unit. Information on accessories that are included and other additional equipment can be found in the Accessories section.

Data plate

Nilan's data plate is located on the inside of the electrical cabinet, which is mounted on the unit. The data plate holds the following information:

1. Unit type
2. Order no.
3. Serial no.

 NILAN DK 8722  1727			
VPN750			
Item no.	: 7500	Refrigerant	: R407C
Serial no.	: 420534004		: 14500g
Order no.	: 80874	PS - LT	: 8,0bar
Year built	: 2018	PS - HT	: 28,0bar
Voltage	: 3x400V	Fluid group	: 2
Frequency	: 50Hz	Category	: II
I max. / Fuse	: 3x50A	Module	: A1
Fuse Elec. heat	: A		:
P. Elec. heat	: kW	Heatpipe	: C02
P. max.	: 16,6kW		: 6x1850g
P. motor	: 7,6kW	Amb. temp.	: 60°C MAX.
SN: 420534004			
Contains fluorinated greenhouse gases covered by the Kyoto Protocol			

Note!

When contacting Nilan A/S with questions regarding a product, please be ready to quote the unit type, order no. and serial no. This information will enable the service department to identify any relevant information about your unit. The service department will then be able to provide you with information and to answer questions about the unit, its parts and the software used.

Warnings and rules

Inappropriate use



WARNING

The unit must not be used for extraction of shavings or in areas with a risk of explosive gases.

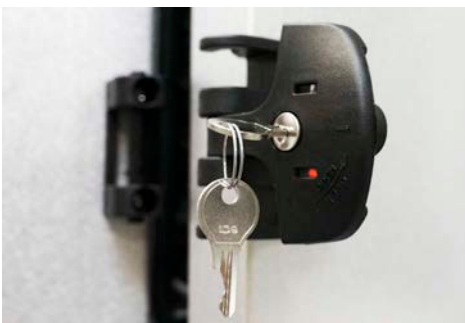
No duct connection



ATTENTION

If one or more of the spouts are not connected to a duct, a protective net with a mesh width of max. 20 mm must be fitted on this/these.

Keep unit locked during operation



During operation, the unit must always be locked via the cylinder lock in the handle.

REMEMBER to remove the key from the lock.

Opening the unit



WARNING

Do not open the service doors until the power supply has been disconnected on the safety switch and the fans have stopped.

Unit in standby mode



ATTENTION

When a ventilation unit is not in operation, humidity from the rooms may penetrate into the ducts and create condensation. Condensate water may leak from the valves and cause damage to furniture and floors.

Condensation may also form inside the unit, which can damage its electronics and fans.

Unit type

Product description

The VPR 120-560 series is a ventilation and heat recovery unit with cooling and heating functions developed especially for commercial properties with an air exchange of up to 6,600 m³ per hour.

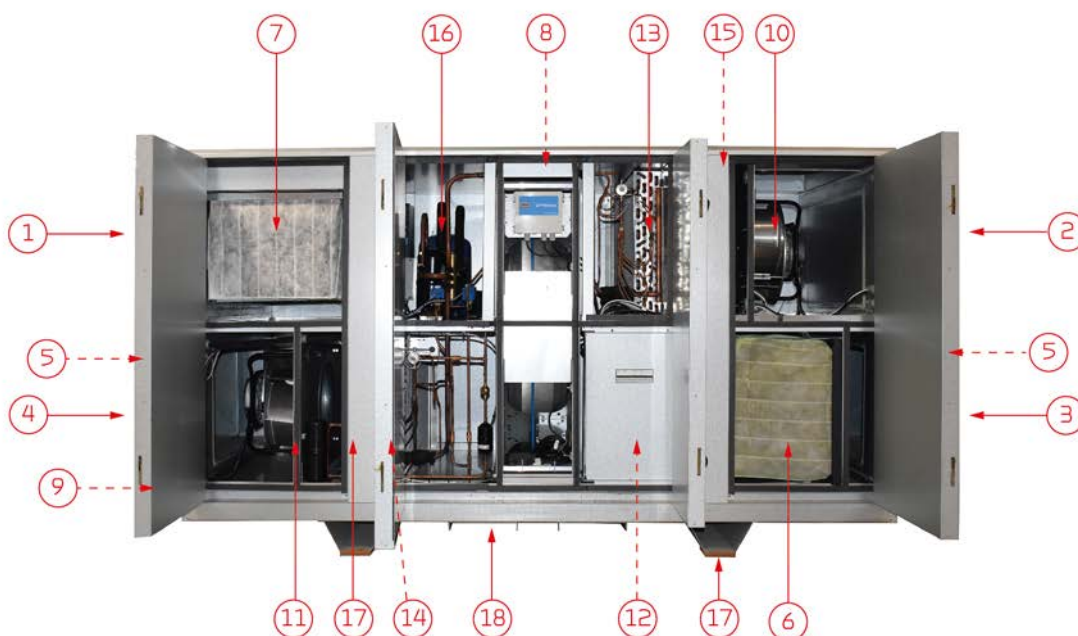
Heat recovery takes place primarily via a high-efficiency rotary heat exchanger. It can be supplemented with the integral heat pump to ensure that the supply air gets heated up so the user does not experience a draught during ventilation.

The reversible heat pump can reverse the cooling circuit so it cools the supply air in the summer and helps ensure a comfortable indoor climate that is not too hot.

The software in the CTS602i control system ensures that the rotary heat exchanger and the heat pump work together to achieve the greatest effect and to keep energy consumption at a very low level.

The evaporator and the condenser are located on both sides of the rotary heat exchanger. This gives you the full benefit of the performance of the heat exchanger in both heating mode and cooling mode. The result is a high heating and cooling effect.

Right-facing version:



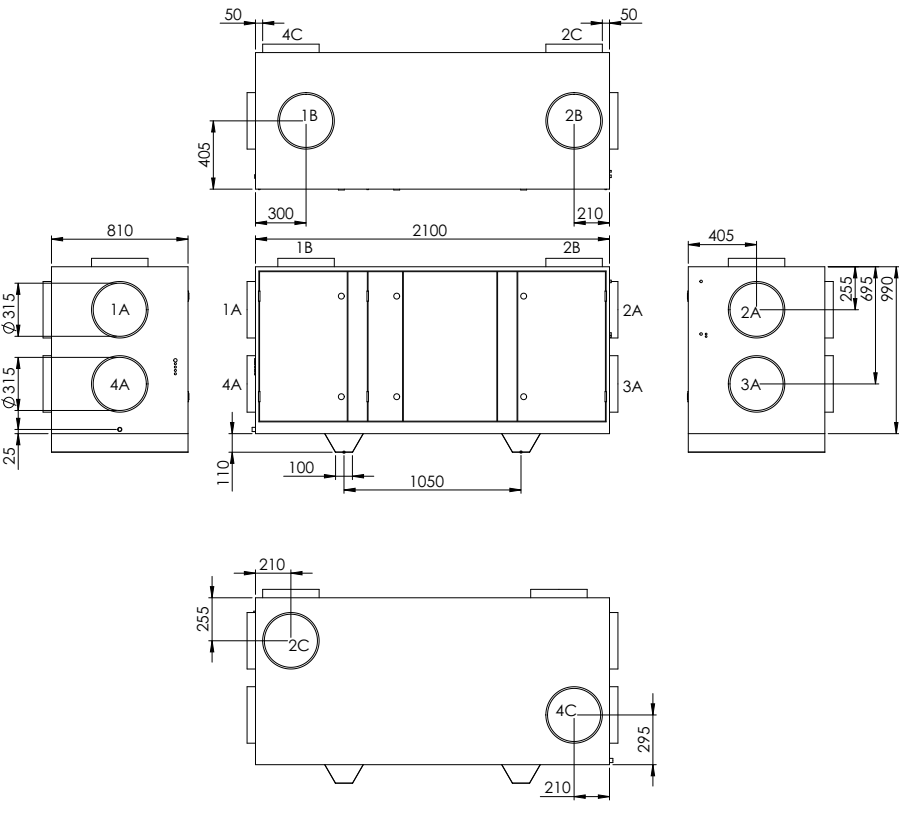
1. Outdoor air duct connection
2. Supply air duct connection
3. Extract air duct connection
4. Discharge duct connection
5. Electrical connections
6. Extract air filter
7. Outdoor air filter
8. Rotary heat exchanger
9. Condensate drain

10. Supply air fan
11. Extract air fan
12. Automation system
13. Condenser
14. Evaporator
15. After-heating element (water or electrical)
16. Compressor
17. Base foot
18. Support for a lift or a forklift

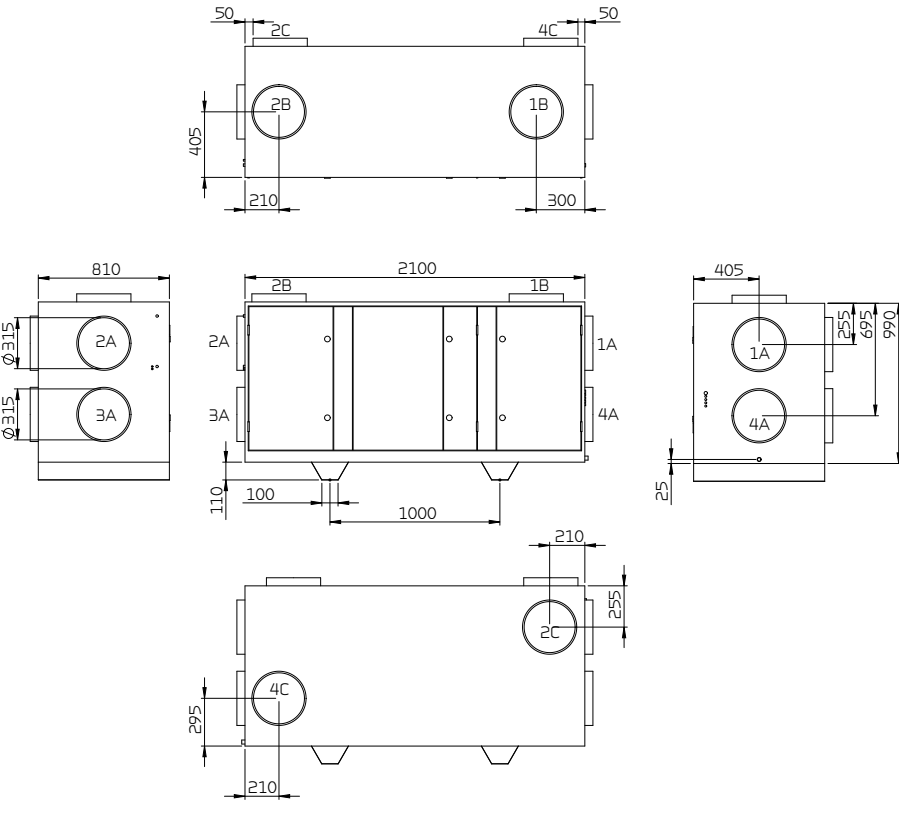
Dimensional drawing VPR120

All listed measurements are in mm.

Right model:



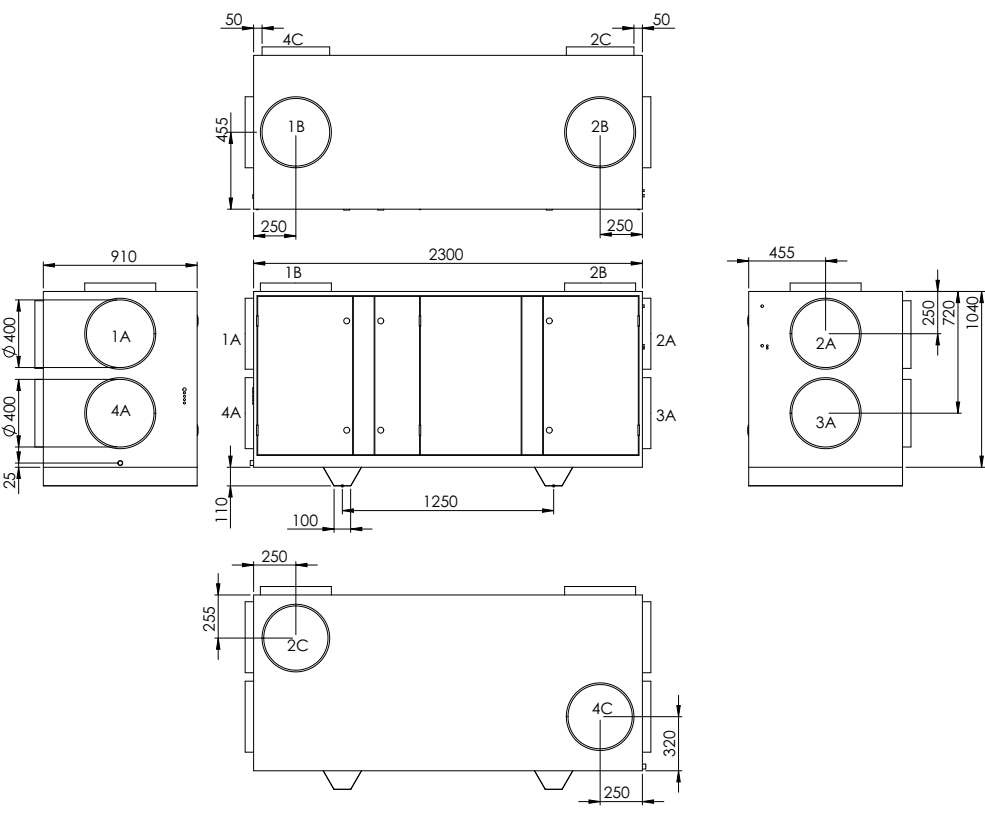
Left model:



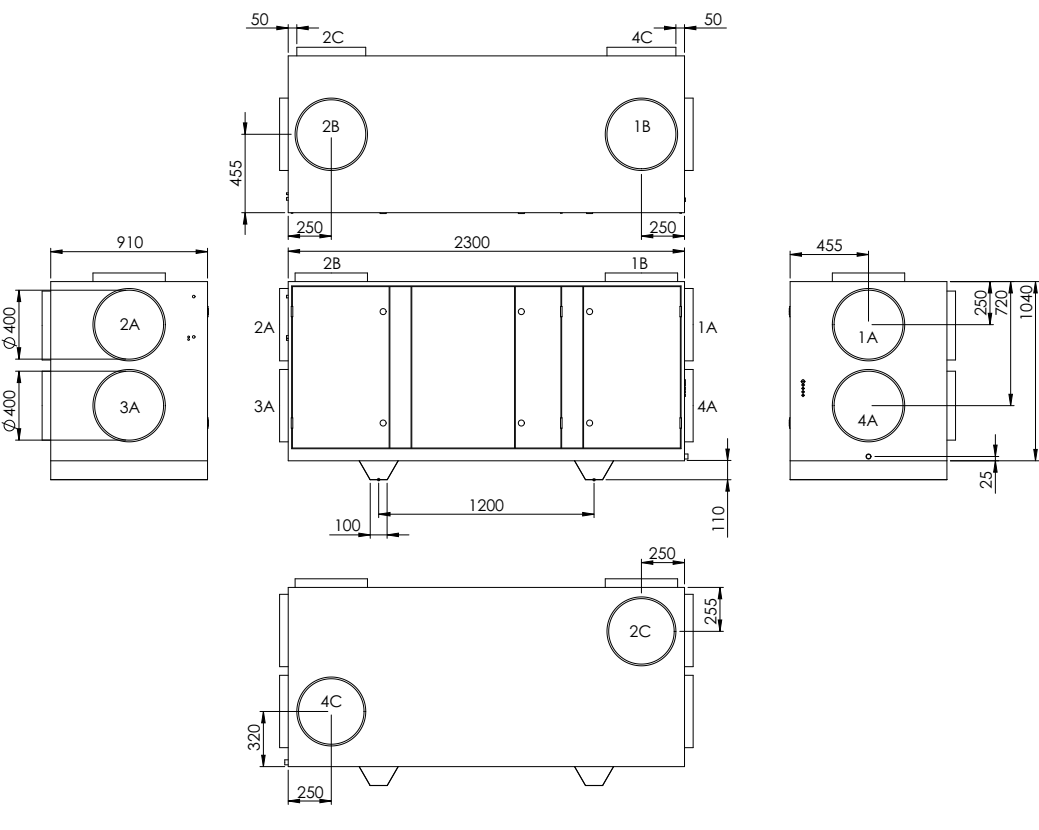
Dimensional drawing VPR240

All listed measurements are in mm.

Right model:



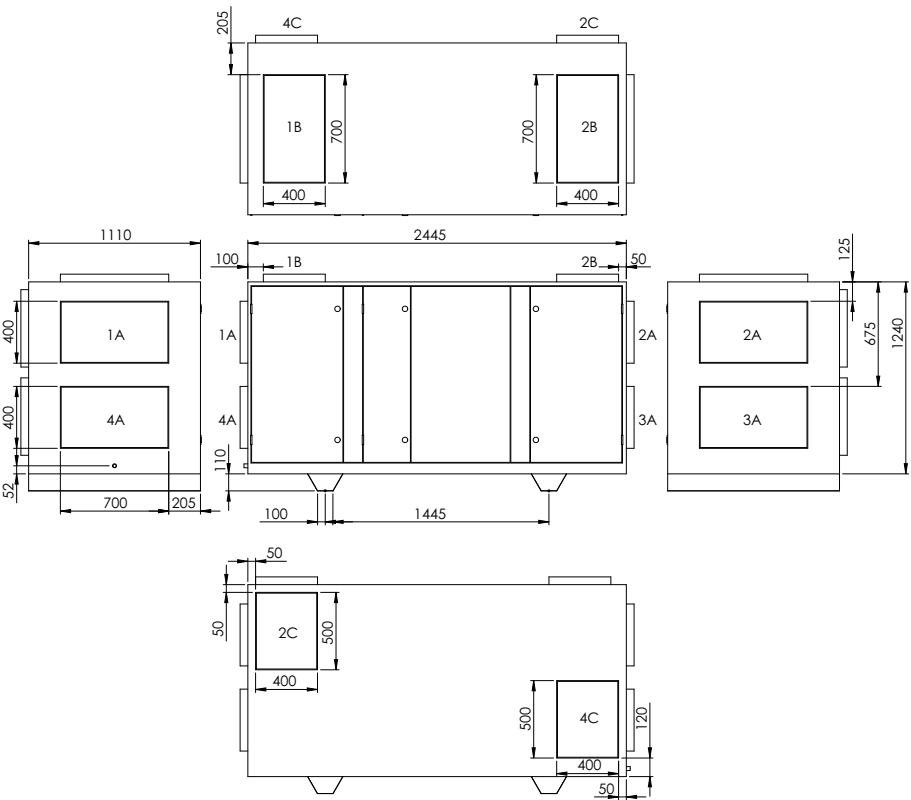
Left model:



Dimensional drawing VPR360

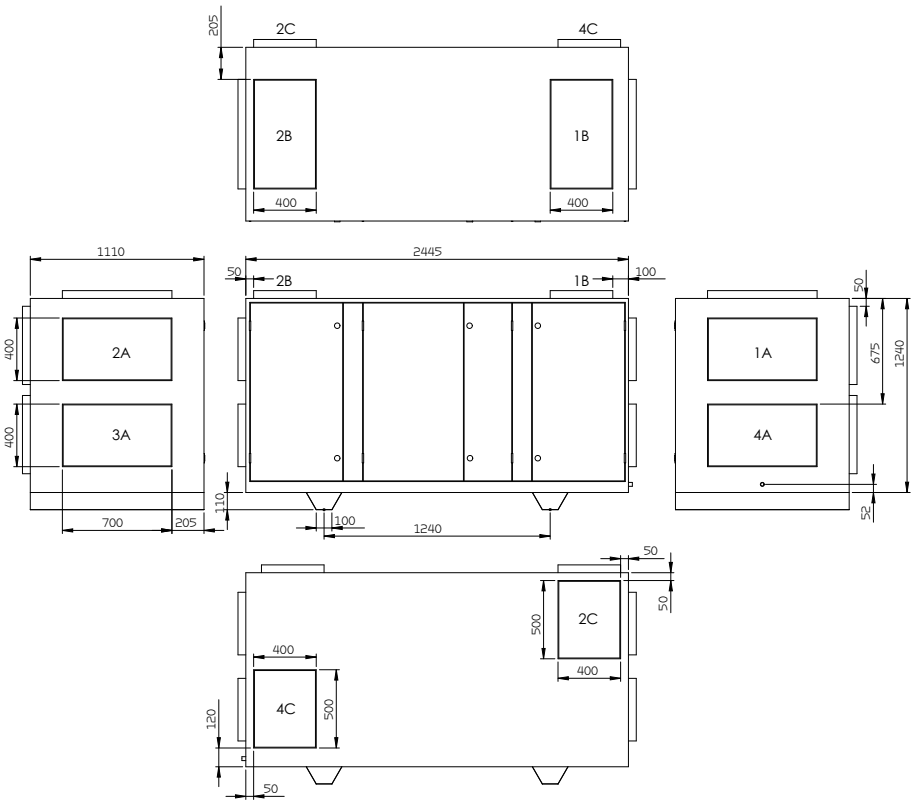
All listed measurements are in mm.

Right model:



- 1. Outdoor air
 - 2. Supply air
 - 3. Extract air
 - 4. Discharge air
- A. Gable location
B. Top location
C. Rear location

Left model:

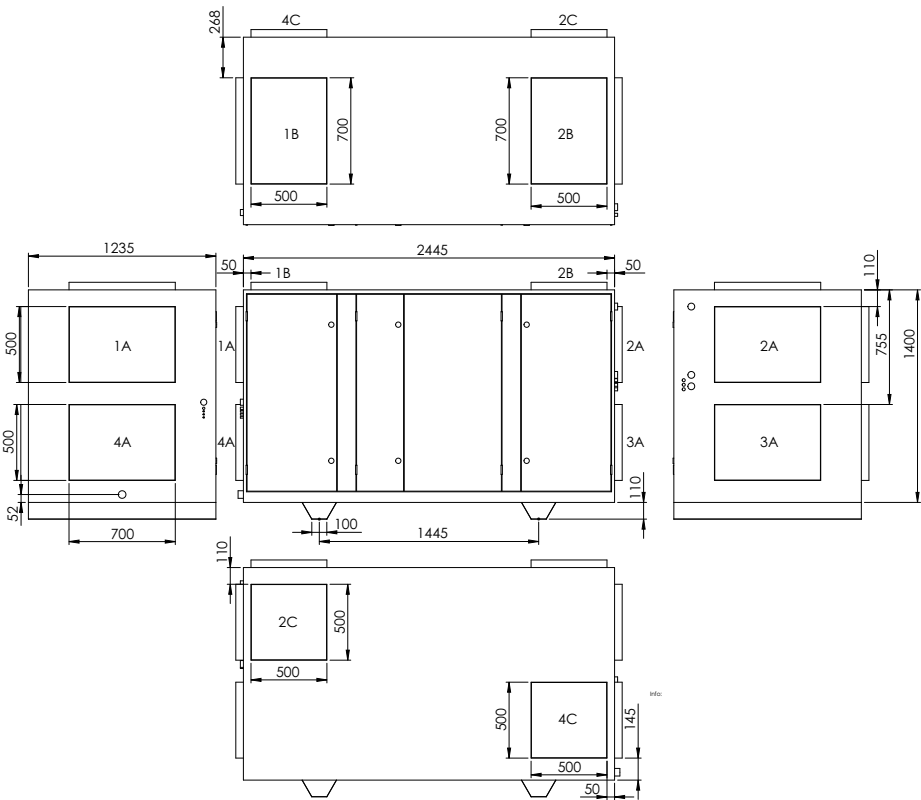


- 1. Outdoor air
 - 2. Supply air
 - 3. Extract air
 - 4. Discharge air
- A. Gable location
B. Top location
C. Rear location

Dimensional drawing VPR480-560

All listed measurements are in mm.

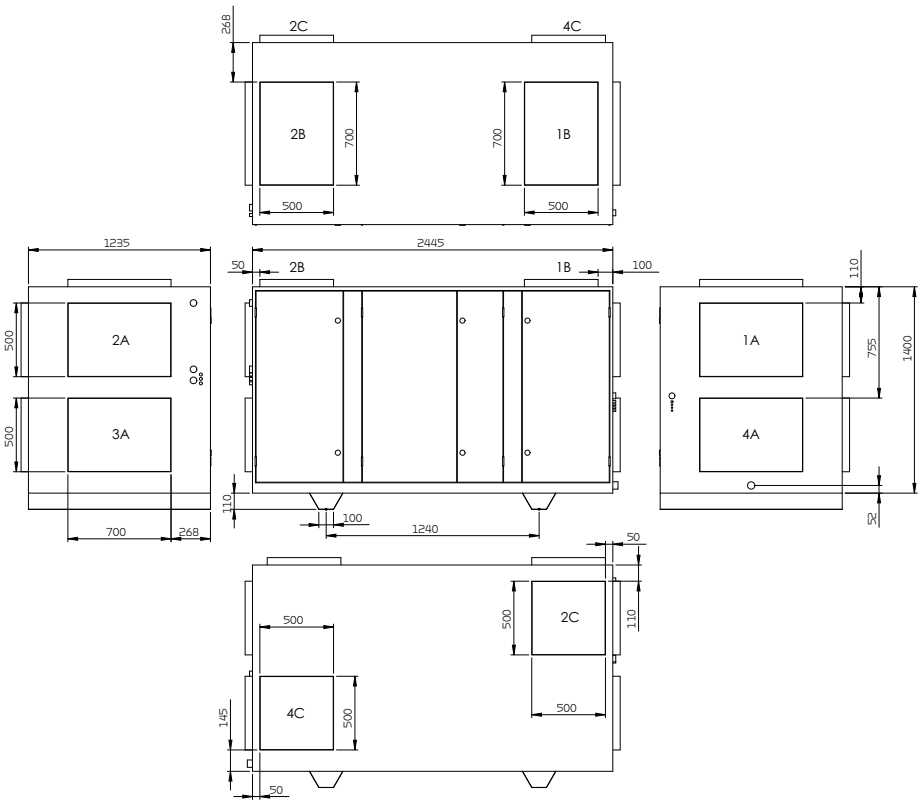
Right model:



- 1. Outdoor air
- 2. Supply air
- 3. Extract air
- 4. Discharge air

- A. Gable location
- B. Top location
- C. Rear location

Left model:

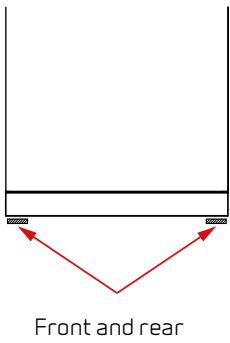
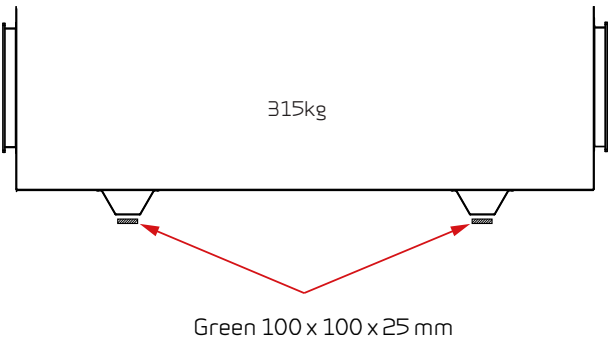


- 1. Outdoor air
- 2. Supply air
- 3. Extract air
- 4. Discharge air

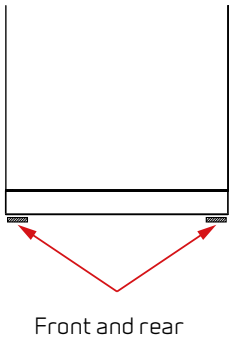
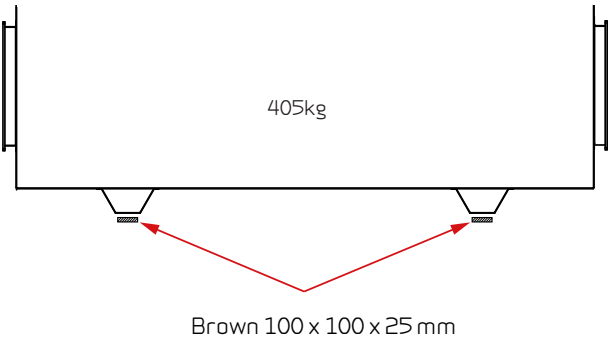
- A. Gable location
- B. Top location
- C. Rear location

Placing vibration dampers

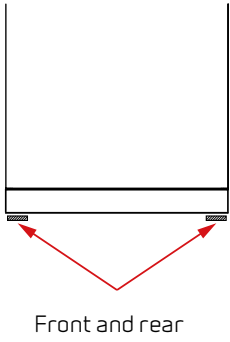
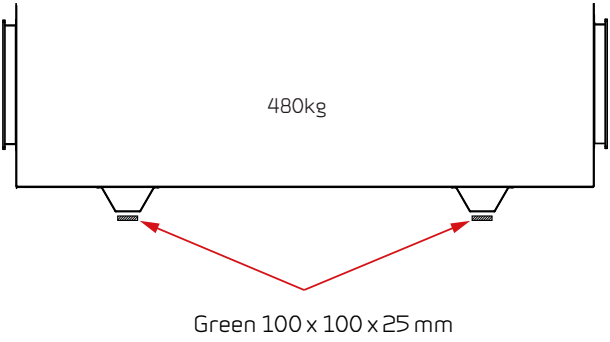
VPR120



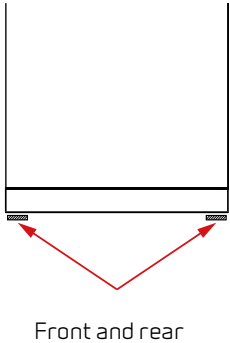
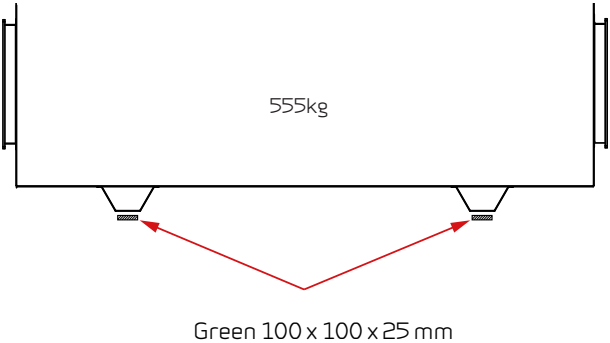
VPR240



VPR360

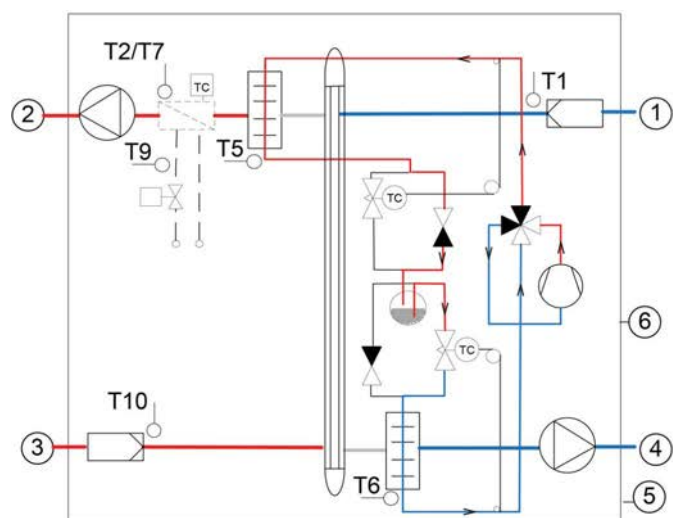


VPR480-560



Functional diagram VPR120-560

Heating



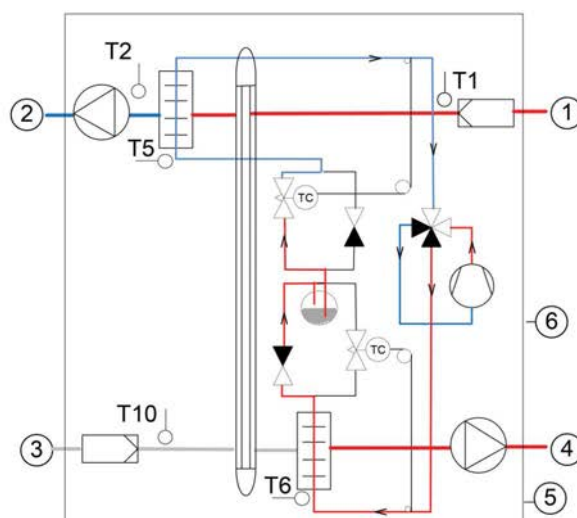
Connections:

1. Outdoor air
2. Supply air
3. Extract air
4. Discharge air
5. Condensation drain
6. Electric or water heating element

Control:

- T1: Outdoor air temperature
T2/T7: Supply air temperature
T5: Condenser temperature
T6: Evaporator temperature
T9: Frost protection water after heating element
T10: Room temperature

Cooling



Accessories

Electrical after-heating element - integral



You will need to order an after-heating element if, for instance, you want to use the ventilation unit for heating the building.

The electrical after-heating element is installed in the ventilation unit at the factory.

Water after-heating element - integral



You will need to order an after-heating element if, for instance, you want to use the ventilation unit for heating the building.

The water after-heating element is installed in the unit at the factory and it comes with a 3-way valve and a Danfoss Actuator.

Shut-off damper



Shut-off damper for external mounting comes in a pack of 2 together with 230V damper motors.

If the unit is to be installed outdoors, the damper motors should be fitted with a cover with protection rating IP55 (not supplied by Nilan).

CO₂-sensor



If you want the ventilation level to regulate in accordance with how many people are in the building, you can order a unit with an integral CO₂-sensor.

On the control panel you set the CO₂-level you want. If this level is exceeded, ventilation will increase to the set fan speed level.

Humidity sensor

If you want to regulate the fan speed level in accordance with the humidity level in the extract air, you can order a unit with an integral humidity sensor.

The unit can change the fan speed level to low or high humidity level.

Pressure control



The motor for the extract and/or supply air fan can be controlled by one or two pressure transmitters. These should be mounted in the extract and/or supply air duct.

The standard version is delivered with pressure transmitters and a 5 m cable, including power supply.

Pressure-controlled filter alarm



As standard, the control system has a time-controlled filter alarm that can be set between 30 and 360 days.

If you want an accurate indication of when to change the filter, we recommend that you order a pressure-controlled filter alarm. It displays the pressure drop over the filters in the CTS control system regularly. You preset a final pressure drop in the control system, and an alarm will indicate when this pressure drop has been reached and the filters need replacing.

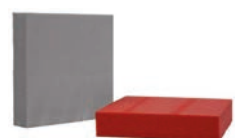
Water trap with ball



A regular water trap could potentially dry out. If this happens, the water trap stops working, air is drawn into the ventilation unit, and condensate water cannot drain away via the condensate drain. Condensate water will then leak from the unit onto the floor and potentially cause damage.

We therefore recommend that you install a water trap with ball to ensure that the condensate drain always works. Should the water trap dry out, the ball will prevent air from being drawn into the system, and condensate water will drain away freely.

Vibration absorbers



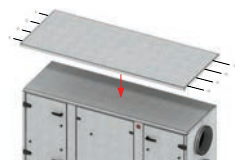
Vibration absorbers (sylomer pads) ensure that vibrations from the unit to the underlying surface are dampened effectively. The vibration absorbers are placed under the unit.

Handle with cylinder lock



If you want to be able to lock the service doors to the unit, you can purchase handles with a cylinder lock and key.

Top cover



If the unit is to be installed outdoors, you can order a top cover for protection against rain and snow.

Extension cable HMI user panel for 8-pole plug



The user panel for the ventilation unit is connected to a short cable so that it can be mounted near the unit. The panel can also be mounted on the front of the unit.

If the unit is located in a place where you cannot immediately see the user panel, e.g. in a technical room or on a ceiling, you can order a 10 or 20 m extension cable with connectors so that the user panel can be placed in a place where the user can see it.

It is important that the user panel is placed so that the user can see any alarms such as filter alarm.

Installation

Handling

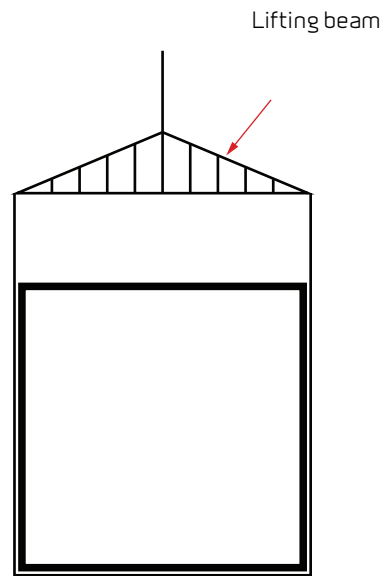
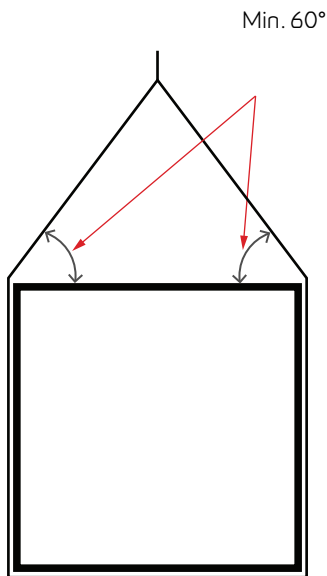
Unwrapping

The unit is delivered wrapped in foil. In order to protect the galvanized sheets on the unit from discoloration, immediately remove the foil. You may consider covering the unit with tarpaulin until installation.

Transport after unwrapping

When you are going to position and install the unit, you can transport or move it in two different ways:

- Lifting the unit from underneath with a pallet truck. Units with a pre-mounted foundation can be lifted directly with a pallet truck - take care NOT to damage the base feet.
- If you are lifting the unit using ropes/straps, the base angles must be more than 60°. If this is impossible due to a lack of space, a lifting beam or similar must be used.



ATTENTION

Visible transport damages must be reported immediately. Hidden transport damages must be reported within 7 days of delivery. When reporting transport damages, photo documentation is required.

Please see Incoterms 2010 for terms of delivery, warranties, limitation periods and compensation limits etc.

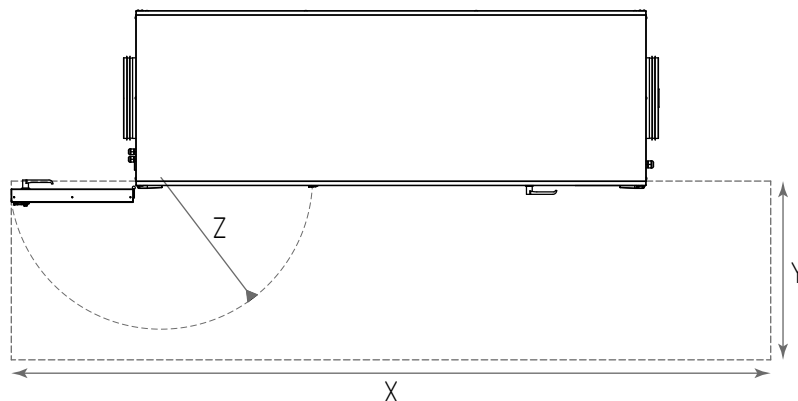
Installation

Positioning the unit

Leave plenty of free space in front of the unit (see table).

When positioning the unit, you should always consider future service and maintenance. You have to be able to replace filters easily as well as fans and other components. There has to be enough room for you to clean the unit easily. When cleaning the unit, water may leak from the condensate drain. There must therefore be enough space to install a water trap in connection with the condensate drain.

X and Y = Recommended service distance. Z = Door swing radius.



Unit	X (mm)	Y (mm)	Z (mm)
VPR120	3150	810	525
VPR240	3450	910	575
VPR360	3645	1110	600
VPR480	3645	1235	600
VPR560	3645	1235	600



ATTENTION

It is important that the unit is installed in level to obtain a proper drain from the condensate tray.



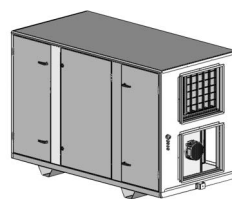
ATTENTION

Even though the unit is quiet and has low vibrations, you should still take vibrations into account. To create separation between the unit and the base, it is therefore recommended to install vibration dampers under the unit. To other building parts there should be approx. 10 mm distance.

Positioning and installing the unit

Step 1

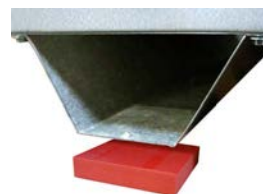
Position the unit exactly on the allocated spot.



Step 2

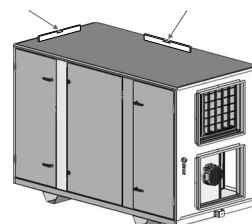
Place a Sylomer vibration damper under each end of both base feet.

1. Nilan base foot
2. Vibration damper (Sylomer)



Step 3

Check the unit is level.



Outdoor installation

When installing the unit outdoors, the required level of storm protection depends on how exposed the unit is. It is the responsibility of the installer to ensure that the unit is adequately secured.

When installing a unit outdoors, it is recommended that you purchase a top cover to protect the unit against the elements.

Electrical installation

Electrical connections

Safety



ATTENTION

All work must be carried out by qualified persons and in compliance with existing legislation and regulations.



ATTENTION

It is important that the power is off, if you do work to the electrical components of the unit.

It is important to check that wires are not damaged or squeezed during connection and use.

Connections overview

All electrical connections are located on the right and the left side of the unit respectively next to the duct connections.

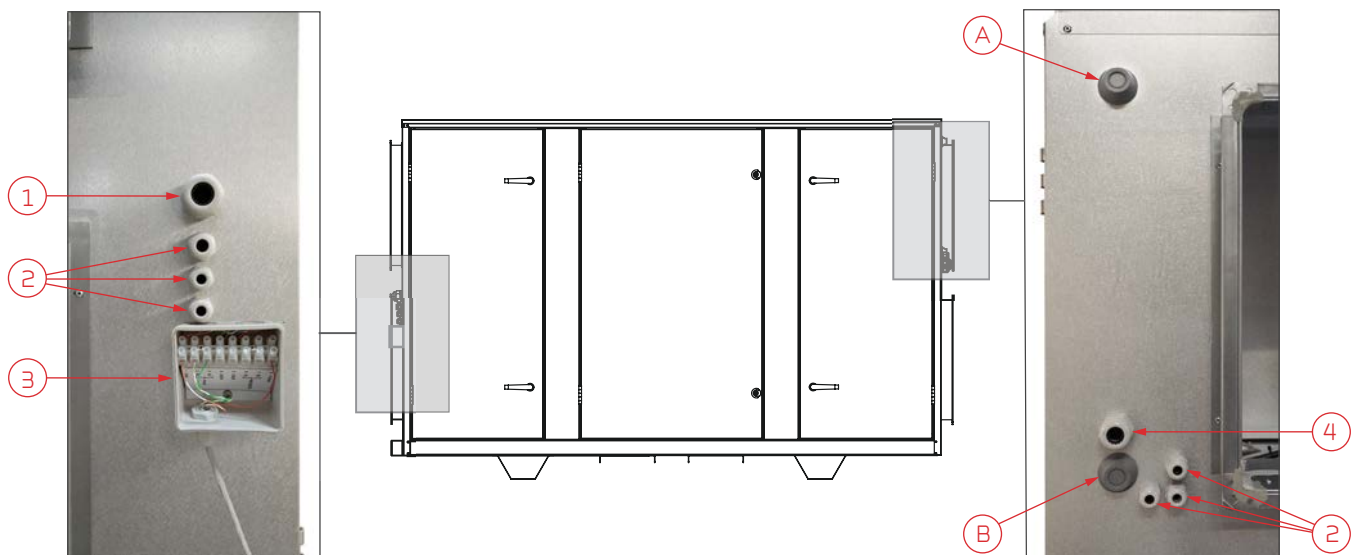
1. Connection of power supply cable for VPR
2. Cable grommets for electrical connections and external sensors
3. Connection of HMI control panel, Modbus and user selection
4. Connection of electrical after-heating element (if installed)

Connection of water after-heating element (if installed)

A: Supply flow

B: Return flow

Illustration of a right-facing version:



Electrical connection of the unit

Power supply



WARNING

Power supply, including safety switch, must be installed by a certified electrician.

Connect the ventilation unit to 3 x 400 V+N+J.

See also the wiring diagram supplied with the unit.

Unit

Illustration of a right-facing version:



1. 3 x 400V 50 Hz - Power supply ventilation unit
2. 3 x 400V 50 Hz - Power supply for electrical after-heating element (accessory)

NB! Remember safety switch!

Ampere consumption depending on selected compressor and fans:

Unit	Compressor*		Fans in total**
	MTZ [Amp]	VTZ (Amp)	Max. power [Amp]
VPR120	5.0		5.6
VPR240	8.0	7.4	6.2
VPR360	9.5	12	5.6
VPR480	15	12	7.8
VPR 560	18	16	7.8

* Configure the unit with either MTZ compressor or VTZ compressor.

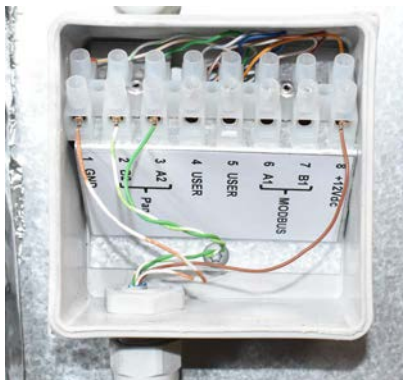
** The current ampere consumption by the fans depends on air volume and pressure loss.

HMI Control panel

Moving the control panel

The control panel has a factory-fitted 1.5 m wire. It is important that the control panel is placed in a visible spot so the user can monitor the operation and see potential alarms. You may therefore have to move the control panel.

The wire for the control panel is connected up to an electrical junction box on the same side of the ventilation unit where the power supply for the unit is situated.



Nilan can supply a 10 or 20 m connection cable with an RJ12 connector. You can also customise a cable yourself of up to 50 m in length. Use a standard LAN cable for this.

Wall bracket

Mount the HMI panel on the wall using the integrated wall bracket..

The panel should be placed in a visible spot so it is possible to change settings and to monitor warnings or alarms regarding operation of the unit.



The wall bracket is located at the back of the panel. You can detach it by loosening the bracket at the bottom of the panel. You can remove it.



Mount the wall bracket on the wall using 2 screws.

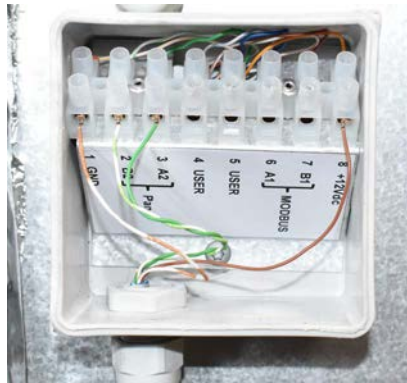


Click the RJ12 plug into place at the bottom of the HMI panel. The wire can run down along the wall, into the wall or through the groove at the back of the panel.

Electrical connection of accessories

Connection of Modbus

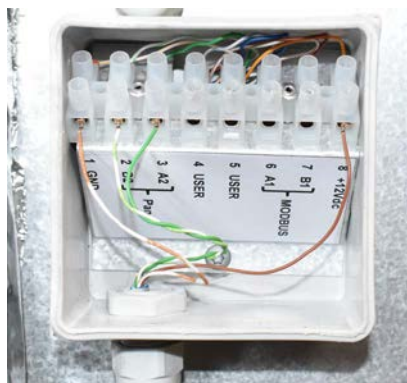
You can connect up the Modbus communication in the same electrical junction box where the control panel is connected up.



Nilan's ventilation units with a CTS602i control system communicate Modbus RS485. You can download the Modbus protocol from our website.

Connection of User selection 1

You can connect up input to the user selection functions in the same electrical junction box where also the control panel is connected up.



- Connect User selection 1 to 1 GND, 4 User and 5 User

Electrical after-heating element



WARNING

The electrical after-heating element must be connected up by a certified electrician.



WARNING

The power supply cable must be connected up via a maintenance switch (accessory).



ATTENTION

The communication cable should be mounted on the circuit board in accordance with the wiring diagram.

If you have ordered an electrical after-heating element as an accessory, a heating element type EB for the VPM 120-560 series will be factory installed.

The following heating elements EB 5-21 kW are suitable for the VPM/VPR-series:

Ventilation unit	EB5 kW	EB7 kW	EB14 kW	EB21 kW
VPM/VPR 120	X			
VPM/VPR 240		X		
VPM/VPR 360			X	
VPM/VPR 480			X	X
VPM/VPR 560			X	X

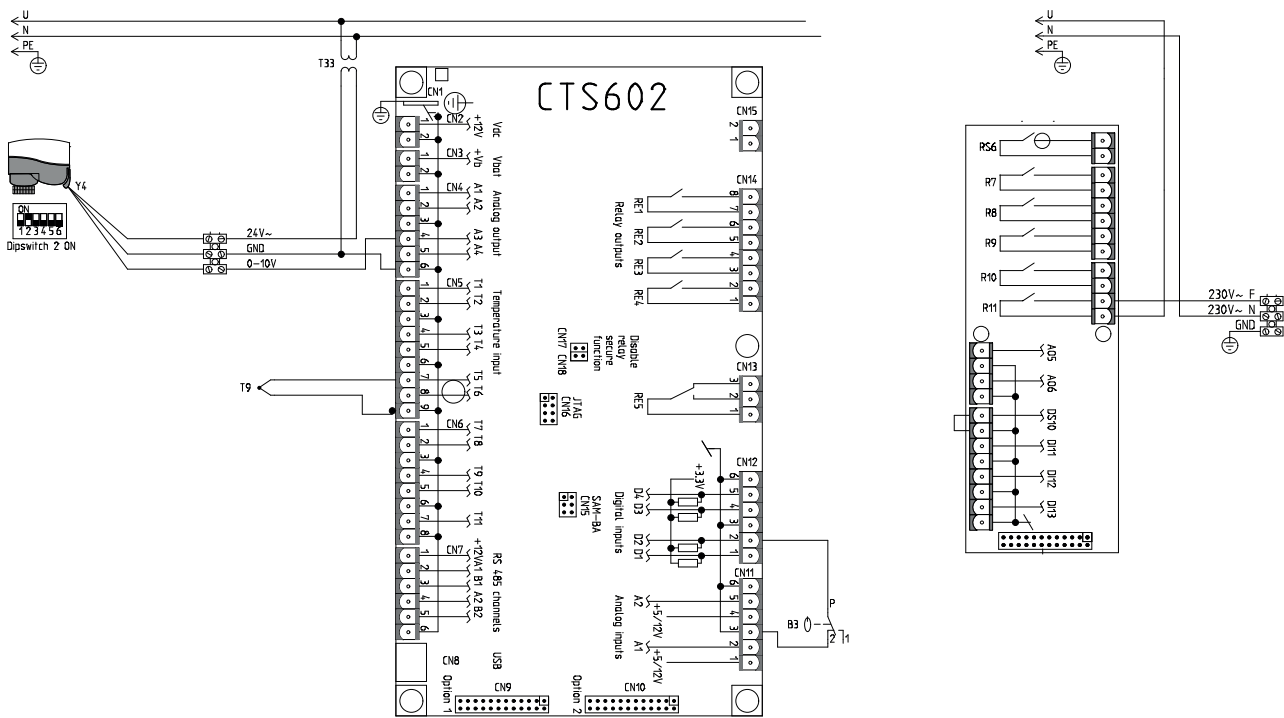
Water after-heating element



WARNING
The circulation pump must be connected up by a certified electrician.



When running an electrical cable to the circulation pump, the most suitable cable grommets are located on the right side of the ventilation unit if you have a right-facing version, and on the left side if you have a left-facing version.



Plumbing installation

Condensate drain

Important information

The unit comes with an Ø20 mm condensate drain (PVC, GF-fittings). The condensate drain is located on the side of the unit under the discharge duct connection. It is marked with a yellow label.



ATTENTION

You must install a water trap in connection with the condensate drain to ensure that condensate water can drain away. There must be a slope of min. 1 cm per meter from the water trap to the drain.



ATTENTION

If you install the ventilation unit outside the climate screen, it is important to prevent the condensate drain from freezing up. You can do this by using a heating cable. Frost protection of the unit is the installer's responsibility.



ATTENTION

During operation, negative pressure of up to 1,000 Pa may occur in the unit, corresponding to a 100 mm water column. The water trap must therefore be installed as shown below to prevent return flow.

The connection of the water trap must be airtight. Otherwise air will be drawn into the ventilation unit and it will prevent condensate water from draining away. It could cause water damage if the condensate tray were to overflow and condensate water were to leak from the ventilation unit.

If a water trap dries out, air will be drawn into the ventilation unit and this will prevent condensate water from draining away. You should therefore check the water trap regularly and top up with water when necessary, especially in the autumn and in the spring when less condensate water is formed. Increasing the height of the water trap beyond the minimum requirements will minimise the need for topping up.



USEFUL INFORMATION

As an accessory, Nilan can supply a water trap with ball. When the water trap dries out, the ball closes it up and ensures that air cannot be drawn into the ventilation unit. When condensate water is formed again, it will lift the ball, and the water will be able to drain away without problems.

After you have installed the water trap, test its function in the following way (the unit must be connected to the duct system): Fill the condensate tray with water, close the unit door and start the ventilation unit at the highest fan speed level. Allow it to run for several minutes. Open the door and check that the water has drained from the condensate tray.

Connection of water trap

It is important to connect up the water trap in compliance with the measurements below. If the water trap is placed outside the climate screen, it should be protected against frost.

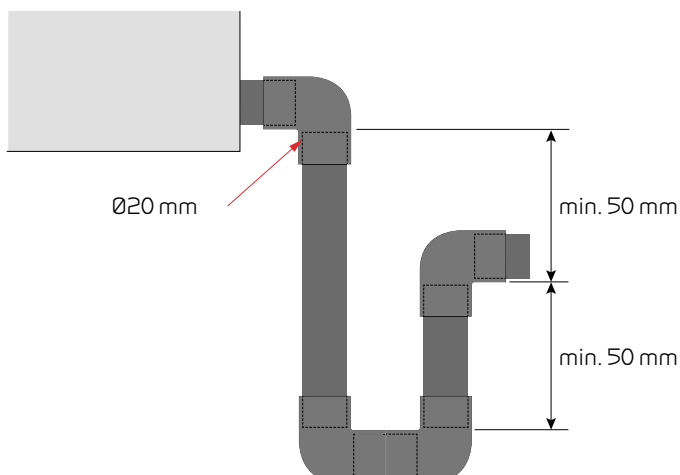


Illustration of connection on the side of the ventilation unit

Plumbing connections - accessories

Connection of water trap with ball

It is important to connect up the water trap in compliance with the measurements below. If the water trap is placed outside the climate screen, it should be protected against frost.



Water trap and accessories

1. Water trap with $\varnothing 32$ mm spout
2. Reducing fitting $\varnothing 20$ mm
3. Reducing fitting for $3/4"$
4. Reducing fitting for $1/2"$ tube

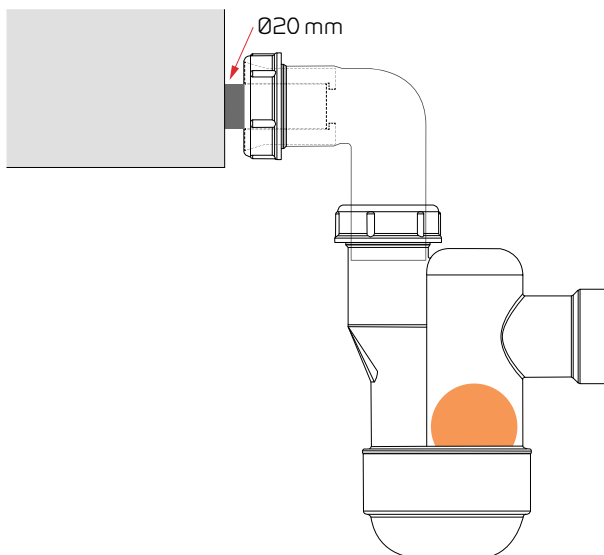
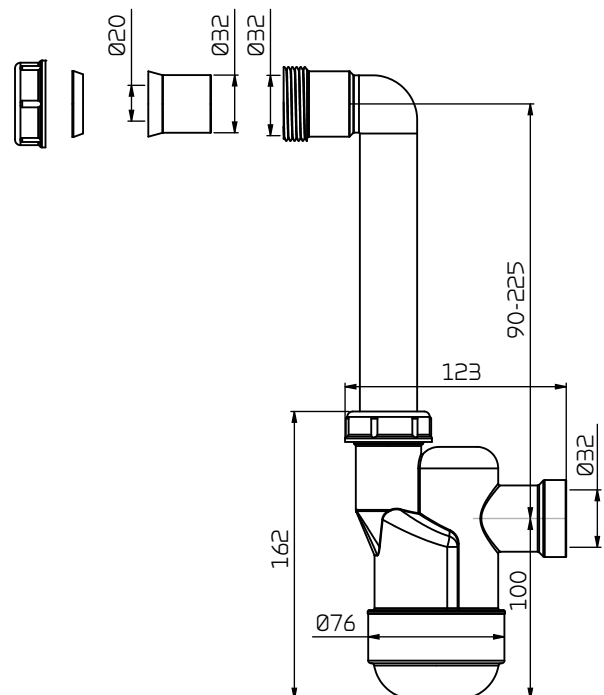


Illustration of connection on the side of the unit



Dimensional drawing

Water after-heating element



WARNING

The mixing loop must be connected up to the heating element by a certified plumber.



ATTENTION

If the ventilation unit is located outside the climate screen of the building, it must be protected against frost.

If you purchase a water after-heating element with your unit, it will be built into the unit at the factory. The water after-heating element is regulated outside the ventilation unit.

The heating element comes with temperature sensor T9, frost thermostat B3, actuator (Danfoss AME 140724V) and control valve (3-way valve).

Connect up the system, air it and check it for potential leaks. Now, you can start the ventilation unit. Once the system has been adequately flushed, check and clean the sediment trap.



ATTENTION

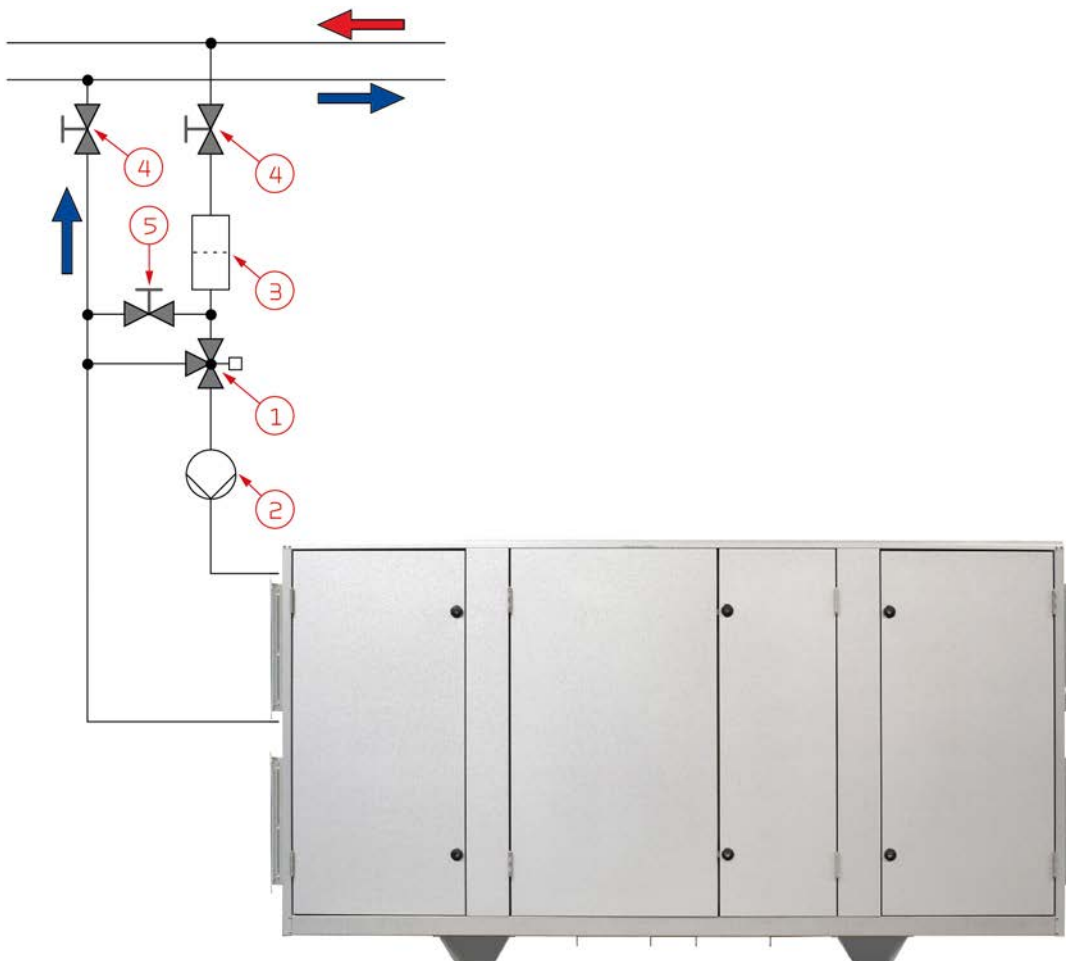
In order to achieve stable regulation of the heating element, the distance between the mixing loop and the heating element should not exceed 3 m.



ATTENTION

The installer must ensure frost protection of the pipes.

Example of mixing circuit installation



Nilan delivery:

1. Actuator and control valve

Not delivered by Nilan

2. Circulation pump
3. Sediment trap
4. Shut off valve
5. Bypass valve

Supply flow

Return flow



Important regarding Danfoss actuator type AME 140

Reinstallation of the actuator must be done as follows:

1. Turn off the power supply and remove the actuator cover
2. Release the gear by pressing and holding the button at the bottom of the casing, while turning the spindle fully (anticlockwise)
3. Install the actuator and turn on the power supply
4. DIP-switch no. Move 1 to ON and then to OFF
5. Calibration runs automatically for up to 6 minutes (the diode is flashing during calibration. After completion, the light stays on)
6. Put the cover on the actuator

Performance data for integral water after-heating elements

The data in the tables are based on a temperature before the heating element of 10°C and on 30% relative humidity

VPM/VP120

The heating element has two rows of pipes and a 3/4" RG connection.

Control valve (accessory): Select when ordering.

Flow/return temperature	Air volume m ³ /h	Supply air temp. °C	Output kW	Pressure drop (water) kPa	Pressure drop (air) kPa	Water volume l/h
70/40	500	39.2	5.09	1.85	6.16	148
	800	34.8	6.91	3.22	6.91	200
	1000	32.7	7.92	4.12	19.20	230
	1200	31.1	8.83	5.02	25.90	256
60/30	500	31.4	3.73	1.08	6.16	108
	800	28.0	5.02	1.85	6.91	145
	1000	26.4	5.73	2.35	19.20	165
	1200	25.2	6.37	2.85	25.90	184
50/30	500	29.0	3.31	1.84	6.16	143
	800	26.1	4.49	3.20	6.91	194
	1000	24.8	5.15	4.09	19.20	222
	1200	23.7	5.73	4.98	25.90	248

VPM/VP240

The heating element has two rows of pipes and a 3/4" RG connection.

Control valve (accessory): Select when ordering.

Flow/return temperature	Air volume m ³ /h	Supply air temp. °C	Output kW	Pressure drop (water) kPa	Pressure drop (air) kPa	Water volume l/h
70/40	1000	37.3	9.51	3.08	8.90	276
	1500	33.5	12.30	4.91	17.30	356
	2000	30.9	14.60	6.71	27.70	423
	2400	24.9	16.20	8.13	37.40	469
60/30	1000	30.0	6.96	1.78	8.90	201
	1500	27.1	8.93	2.81	17.30	258
	2000	25.1	10.50	3.81	27.70	304
	2400	24.0	11.70	4.58	37.40	337
50/30	1000	27.8	6.19	3.06	8.90	267
	1500	25.3	7.99	4.87	17.30	345
	2000	23.6	9.48	6.65	27.70	409
	2400	22.6	10.5	8.04	37.40	454

VPM/VP360

The heating element has two rows of pipes and a 3/4" RG connection.

Control valve (accessory): Select when ordering.

Flow/return temperature	Air volume m ³ /h	Supply air temp. °C	Output kW	Pressure drop (water) kPa	Pressure drop (air) kPa	Water volume l/h
70/40	1000	41.4	11.00	2.78	4.63	318
	2000	34.8	17.30	6.43	14.40	501
	3000	31.1	22.10	10.10	28.10	641
	3600	29.6	24.50	12.20	37.80	712
60/30	1000	33.3	8.12	1.64	4.63	234
	2000	28.2	12.70	3.71	14.40	365
	3000	25.4	16.10	5.75	28.10	464
	3600	24.2	17.80	6.93	37.80	514
50/30	1000	30.5	7.15	2.78	4.63	309
	2000	26.2	11.30	6.39	14.40	487
	3000	23.8	14.40	10.00	28.10	622
	3600	22.7	16.00	12.10	37.80	690

VPM/VP480-560

The heating element has two rows of pipes and a 3/4" RG connection.

Control valve (accessory): Select when ordering.

Flow/return temperature	Air volume m ³ /h	Supply air temp. °C	Output kW	Pressure drop (water) kPa	Pressure drop (air) kPa	Water volume l/h
70/40	2000	36.9	18.70	2.58	9.41	543
	3000	33.1	24.10	4.11	18.30	700
	4800	29.0	31.80	6.78	39.50	921
	5600	27.7	34.60	7.93	50.90	1002
60/30	2000	29.6	13.70	1.49	9.41	395
	3000	26.7	17.50	2.34	18.30	505
	4800	23.7	22.80	3.80	39.50	659
	5600	22.7	24.80	4.42	50.90	716
50/30	2000	27.5	12.20	2.56	9.41	526
	3000	25.0	15.70	4.06	18.30	678
	4800	22.3	20.60	6.69	39.50	891
	5600	21.5	22.40	7.82	50.90	969

Ventilation installation

Duct system

Legislation



ATTENTION

All work must be carried out by qualified persons and in compliance with existing legislation and regulations.

Duct connections

All spouts for duct connections have an LSM20 flange profile.

Balancing

Important information



ATTENTION

In order to optimise operation of the ventilation unit, it is important that it is balanced correctly.

Nilan recommends that this is carried out by professionals.



ATTENTION

If you have purchased a unit with pressure control, the duct system should be set in the pressure control boxes when the ventilation unit is being balanced.

Service and maintenance

Important information



WARNING

Always disconnect the power supply on the safety switch and wait for the fans to stop before you start maintenance and cleaning.



ATTENTION

By opening the front doors, you can easily access the inside of the unit for maintenance and cleaning.

Service

Maintenance schedule

In order to ensure optimal operation of the ventilation unit, achieve long service life, ensure a high degree of hygiene and thereby a good indoor climate, it is important to maintain and clean the ventilation unit as recommended by Nilan A/S.

The schedule below is a guideline for maintenance intervals for the unit under normal operating conditions. Maintenance should be adapted to current operating conditions.

Component	Action	Once a year	In case of alarm
Filters	See the section on filter change		X
Filter frame holders	<ul style="list-style-type: none">• Check that gaskets in the filter frame holders form a tight seal	X	
Gaskets and sealing strips	<ul style="list-style-type: none">• Check that they form a tight seal	X	
Fans	<ul style="list-style-type: none">• Check function• Clean the fan wheels	X	
Heating element (if installed)	<ul style="list-style-type: none">• Check function• Clean the slats in the heating element• Check the motor valve and the circulation pump	X	
Heat exchanger	<ul style="list-style-type: none">• Check function• Clean the slats in the heat exchanger	X	
Heat pump	<ul style="list-style-type: none">• Check function• Check filling volume• Clean the slats in the condenser and the evaporator	X	
Duct connections	<ul style="list-style-type: none">• Check seal	X	
Condensate drain	<ul style="list-style-type: none">• Check that water trap is functioning	X	
Safety functions	<ul style="list-style-type: none">• Check temperature sensors• Check fire thermostat if installed	X	
Dampers	<ul style="list-style-type: none">• Check the open/close function	X	
Ventilation unit	<ul style="list-style-type: none">• Clean internally with damp cloth• Clean externally	X	



ATTENTION

Maintenance should be carried out by a professional service company specialising in ventilation systems.



ATTENTION

When cleaning the ventilation unit, care should be taken not to damage ANY parts including, for instance, insulation strips, copper parts, ducts and slats. Electrical installations should likewise be protected from water and cleaning products.

Filter replacement



WARNING

Always disconnect the power supply on the safety switch and wait for the fans to stop before opening the door.

Also remember the safety switch for the electrical after-heating element (if installed).



ATTENTION

Nilan recommends, as a minimum, filters of the types ISO ePM10 > 60% filter (M5) or ISO ePM1 > 50% filter (F7)

Using the wrong filters can cause leakages in the ventilation unit and reduce the filtration function.

The data and curves specified in the manual are based on the use of original filters. The certification of the ventilation unit is likewise only valid when original filters are used.



ATTENTION

If the ventilation unit has a filter monitor (a filter pressure switch or a pressure transmitter), this will indicate when filters need replacing.



ATTENTION

Be aware of the flow direction when fitting new filters in the ventilation unit.

Spare parts

Filter VPR 120

Type	Number	Nilan article number
ISO ePM10 >60% (M5)	1	3948
ISO ePM1 50% (F7)	1	3949

Filter VPR 240

Type	Number	Nilan article number
ISO ePM10 >60% (M5)	1	39481
ISO ePM1 50% (F7)	1	39491

Filter VPR 360

Type	Number	Nilan article number
ISO ePM10 >60% (M5)	2	3944
ISO ePM1 50% (F7)	2	39511

Filter VPR 480

Type	Number	Nilan article number
ISO ePM10 >60% (M5)	2	3944
ISO ePM1 50% (F7)	2	3946

Filter VPR 560

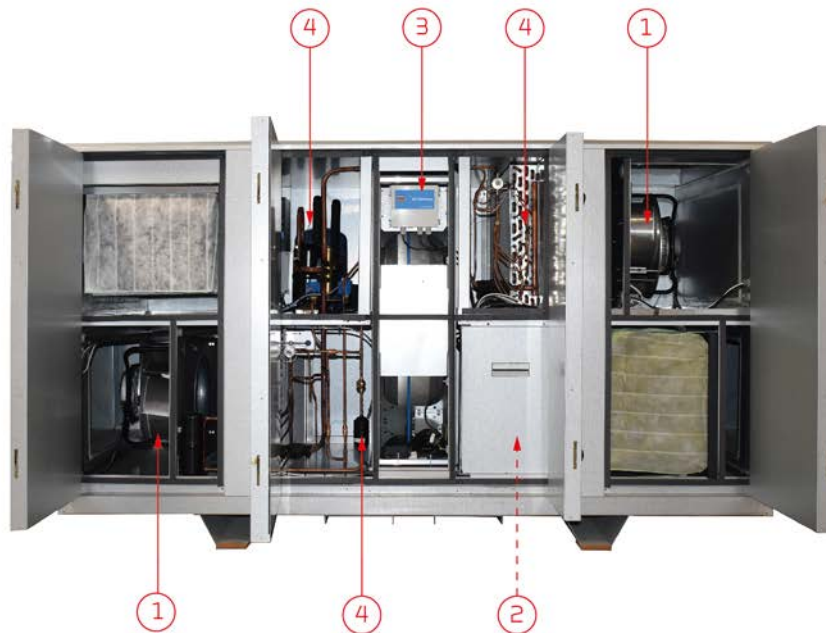
Type	Number	Nilan article number
ISO ePM10 >60% (M5)	2	3944
ISO ePM1 50% (F7)	2	3946

Disposal

The environment - part of the solution

At Nilan A/S we recognize our responsibility in minimizing the environmental impact of our products. We consider the impact on the environment in all aspects of production, operation and subsequent disposal. We recognize our responsibility in minimizing consumption of resources. We work continuously to improve our products and the production process in order to limit our impact on the environment.

Right-facing version:



The only tools necessary are Torx screwdrivers, a wrench and perhaps side-cutting pliers for cutting wires.

1. Remove the fans and dispose of them as electronic waste
2. Pull out the PCB and the electronics from behind the door and dispose of them as electronic waste
3. Dispose of the control box as electronic waste
4. Compressor and heat pump system:



ATTENTION

When disposing of units with heat pumps, it is important to contact the local authorities for information about the correct disposal procedure.

The heat pump contains the refrigerants R134a / R410a, which are harmful to the environment if not handled correctly.

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