121456EN-01
2024-10

ProNordic S180R

INSTRUCTIONS TRANSLATED FROM ORIGINAL LANGUAGE

ART.NR. 171500

EN

STARTUP GUIDE

Air handling unit

Symbols used

These products bear a number of symbols used for labelling the actual product and in installation and user documentation.

Supply air

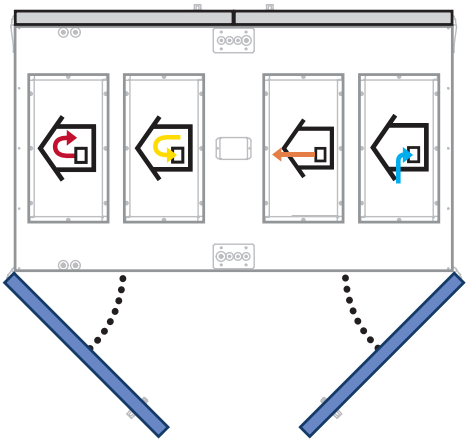
Extract air

Exhaust air

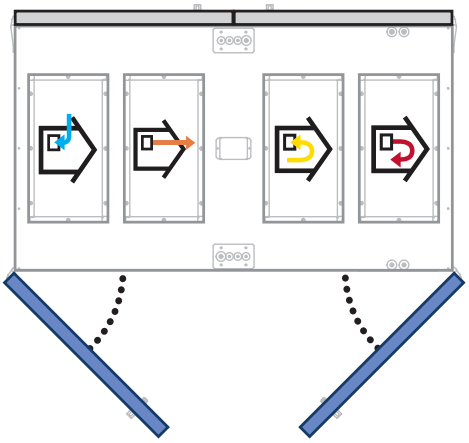
Outdoor air

DANGER!
ELECTRICITY

DANGER!
DO NOT TOUCH



EXAMPLE OF NIPPLE LOCATIONS
(shown as a right model)



EXAMPLE OF NIPPLE LOCATIONS
(shown as left model)

DANGER! When a text box is this colour, it means that a life-threatening or serious personal injury may be the consequence of not following the instructions.

NOTICE! When a text box is this colour, it means that a poor utilisation ratio or product operating issues may be the consequence of not following the instructions.

CAUTION! When a text box is this colour, it means that material damage may be the consequence of not following the instructions.

INFO! When a text box is this colour, it means that it contains important information.

SAFETY INSTRUCTION

- To avoid the risk of fire, electric shock or injury, read all the safety instructions and warning texts before using the unit.
- All electrical connections must be carried out by qualified electricians.
- The unit must not be used to extract combustible or flammable gases.
- It is the installer's responsibility to carry out a full safety and function assessment of the appliance.
- All electrical power to the unit must be shut off before carrying out service or maintenance, including cleaning:
  1. Switch off the unit in the following menu on the handheld terminal: 'Start page > SERVICE SWITCH > Off'.
  2. Wait until the unit has stopped.
  3. Cut the power with the all-pole switch.

- This unit is only designed for ventilation air in homes and commercial buildings.
- To maintain a good indoor climate, comply with regulations and avoid condensation damage, the unit must never be stopped apart from during service/ maintenance or in connection with an accident.
- The unit must not be operated without the filters being in place.
- All plumbing work must be carried out by an authorised plumber.

- The location of the water battery must be approved by a plumber owing to the risk of water leaks.
- Check whether the unit's operating voltage is 3~230V (Norway only) or 3N~400V.
- The electric battery must be configured in accordance with the operating voltage.

- This device may be used by children aged 8 and over, by people with physical, sensory or mental functional impairments and by people who lack experience or knowledge, provided that they are supervised or have been instructed in how to use the device safely and have been informed about and understand any risks.
- Children may not play with the device.
- Children may not perform cleaning and user maintenance without supervision.
- The unit must not be accessible to the general public, i.e. installed in a technical room to which only operating personnel or authorized personnel have access.

See the following documents for further information about the product:
118076 automatic control instructions
118109 wiring diagram
For spare parts, see www.flexit.com

Overview

This document provides a simple overview of the completion of the right/left variant of the air handling unit, connection of the most common accessories, and commissioning of the unit.
For more information about the unit, controls, electrical diagrams, etc., visit www.flexit.com or scan the QR code to access the various guides.

Installation and maintenance instruction ProNordic S180R

User manual CS2500

Wiring diagram ProNordic S180R

Note! Before connecting the power supply, refer to the attached installation and maintenance manual for information on safety instructions regarding electrical connections, power requirements, ground fault circuit interrupter, etc.

Right-Hand and Left-Hand Model

The unit is supplied preconfigured as a right-hand model but can easily be converted to a left-hand model using a few simple steps described in this guide.

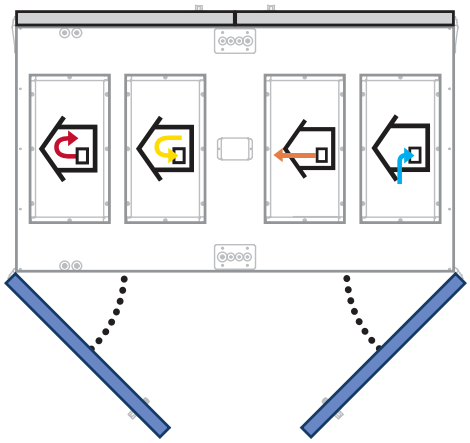
Our products are subject to continuous development and we therefore reserve the right to make changes. We also disclaim liability for any printing errors that may occur.

Contents

1. Completion of right model....6
1.1. Finalization of right model....6
1.2. Conversion to left model....8
2. Adjustment of pressure balance over the rotor....10
3. Connection instructions....11
4. Automation “Quick guide”....12
4.1. HMI ProPanel....12
4.2. Settings....12
4.2.1. Introduction....12
4.2.2. Select language....12
4.2.3. Login....13
4.2.4. Set time/time channels....13
4.2.5. Set the calendar and timing program....13
4.2.6. Week schedule....14
4.2.7. Day schedule....14
4.2.8. Calendar (exceptions and stop)....15
4.3. Adjust setpoints for speeds and temperatures....16
4.4. Service switch....16
4.5. Extract air regulation....16
4.6. Changing the flow display units....16
4.7. Alarm handling....16

1. Completion of right model

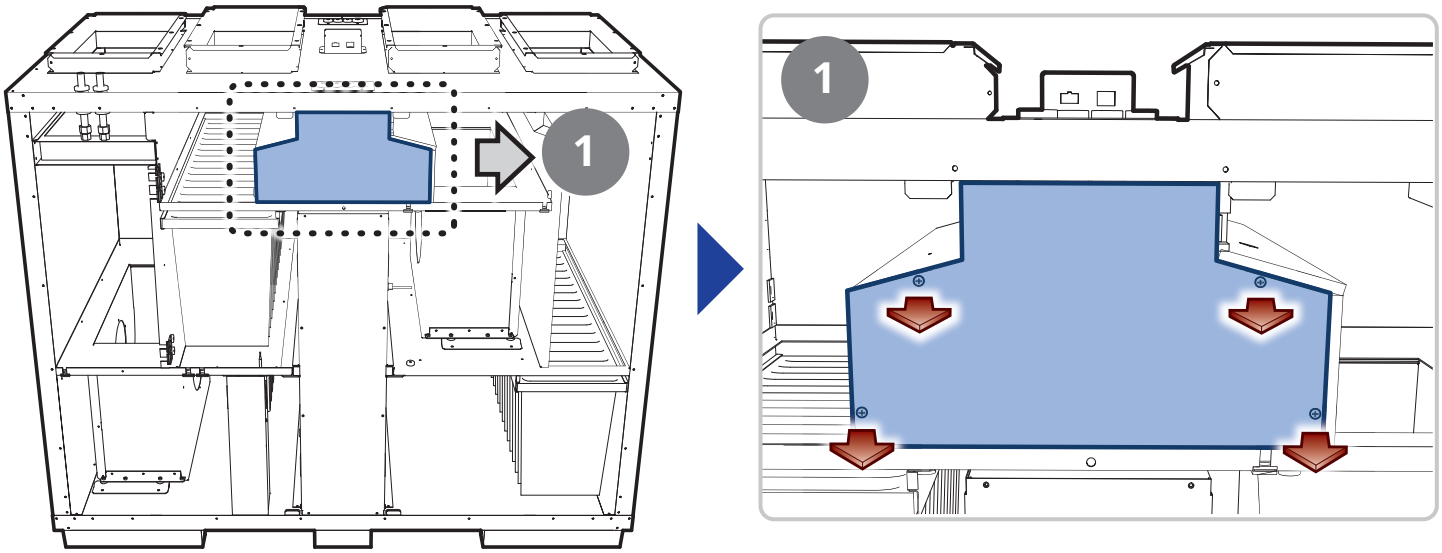
The unit is supplied as a right model, but even though it is to be installed/used as a right model, it must be completed through a few simple steps. See below.

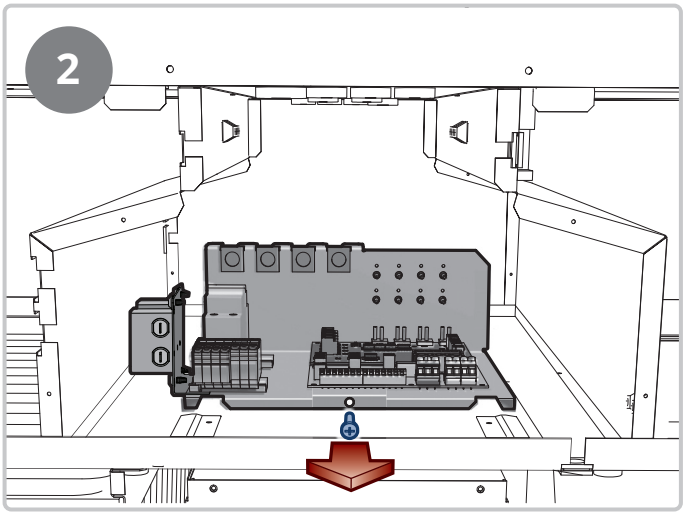


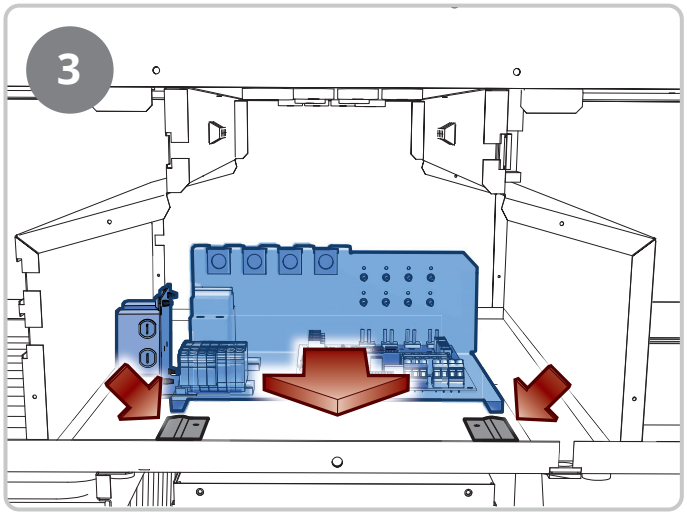
Right model

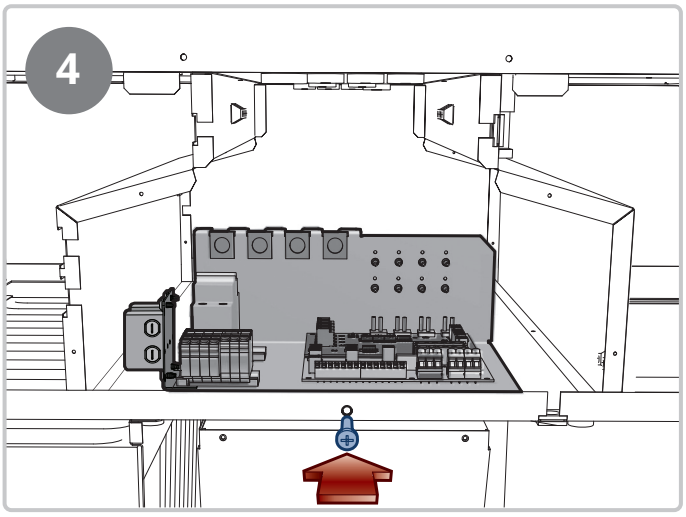
Follow the steps below to complete the unit as a right model.

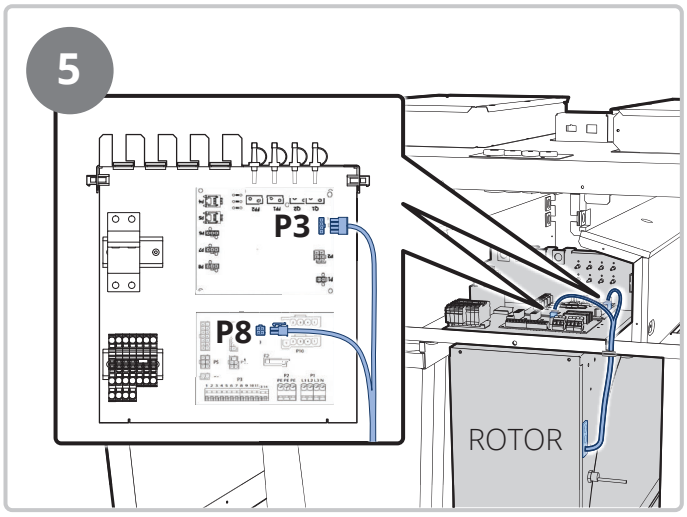
1.1. Finalization of right model









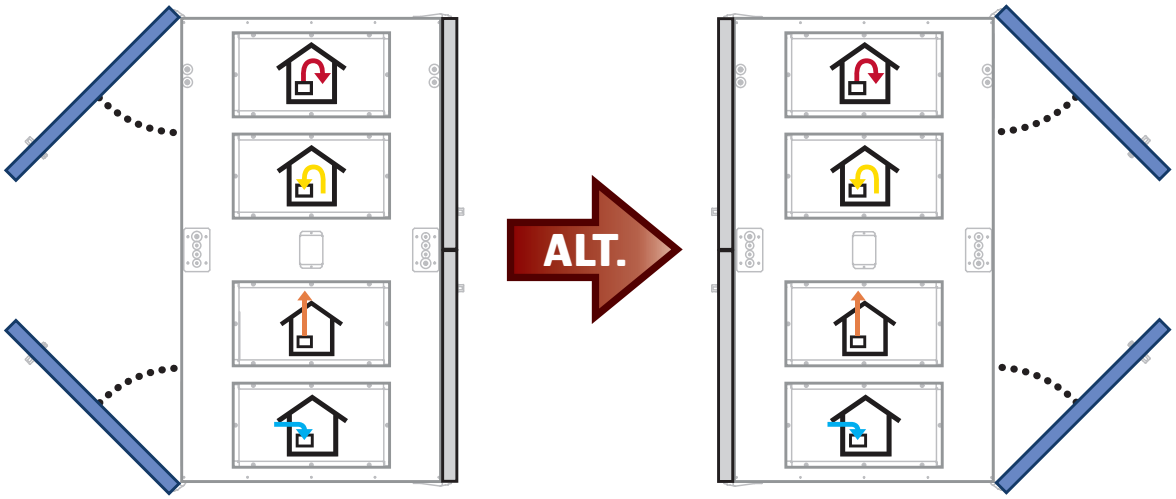


The unit is now fully configured and ready to start up.

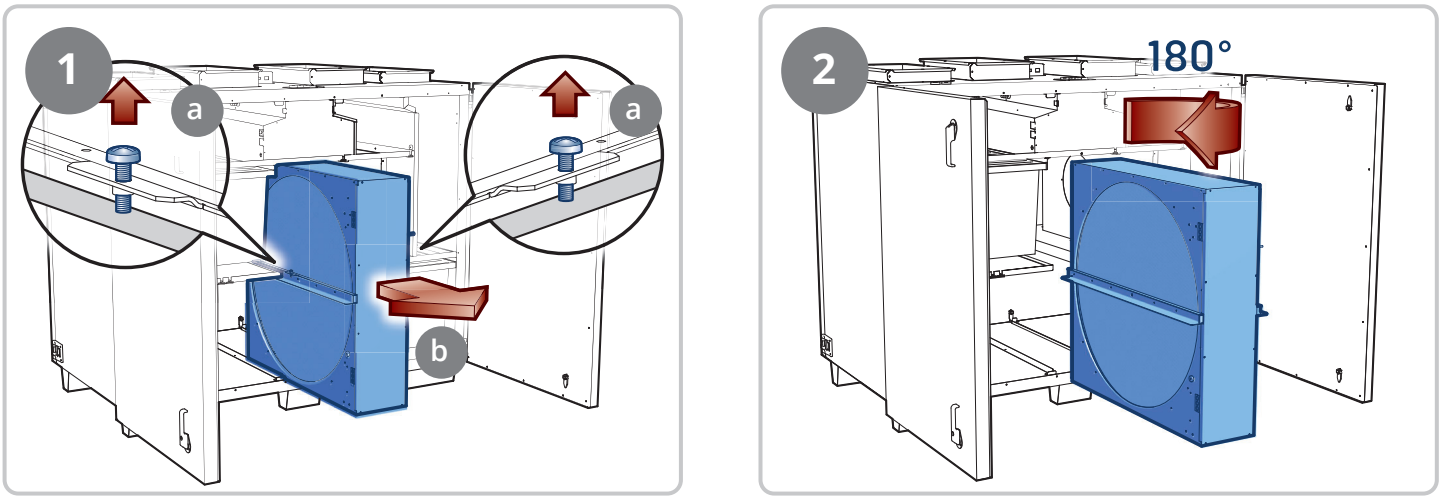
1.2. Conversion to left model

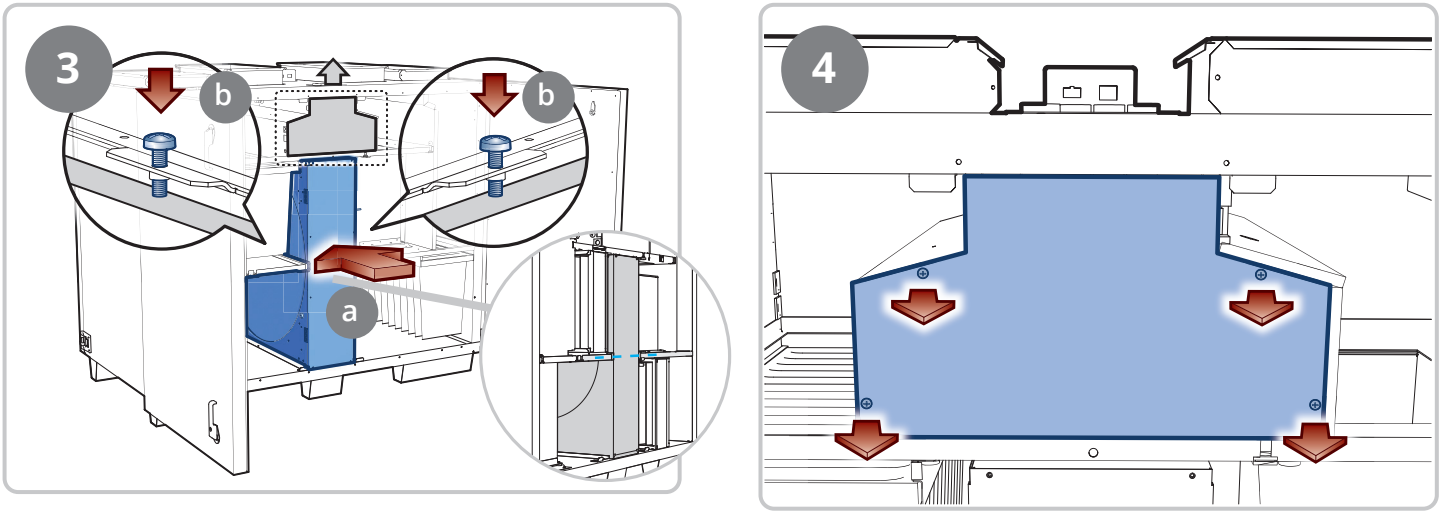
The unit is supplied as a right model but is prepared for easy conversion to a left model. Follow the steps below to convert the unit to a left model.

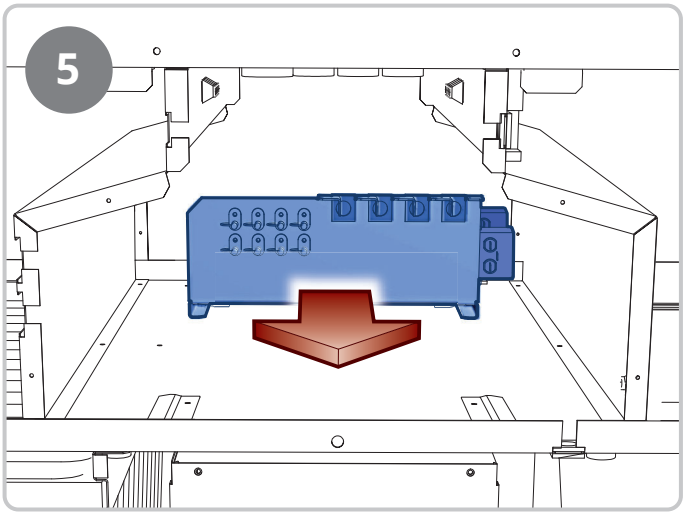
Standard, outdoor air right → **Can be configured as left model**

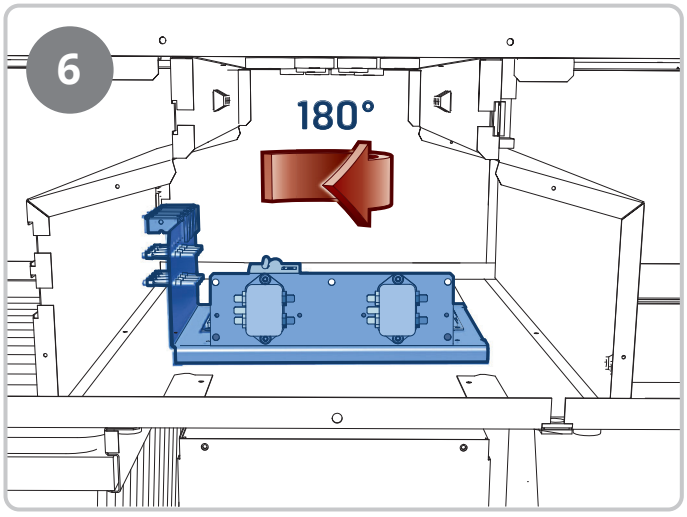


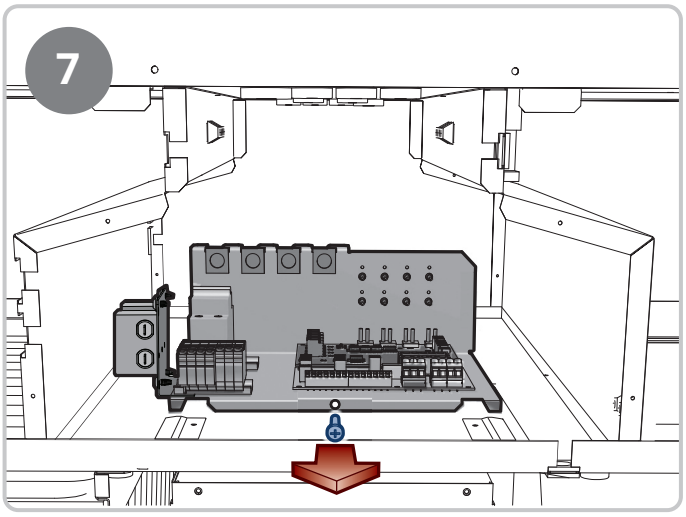
Right model *Left model*

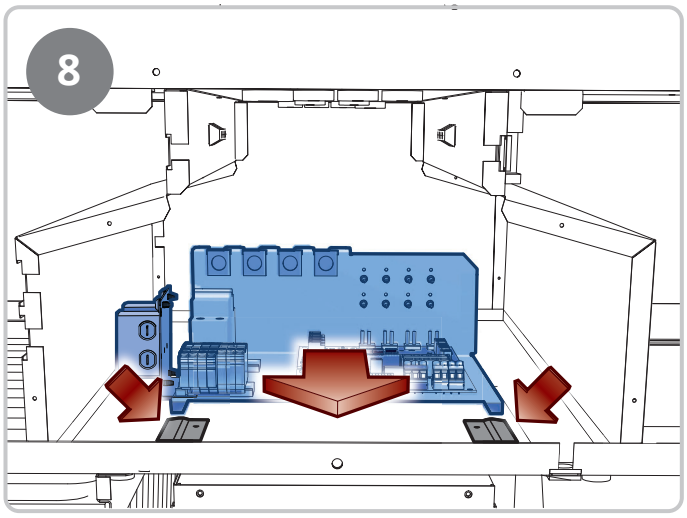


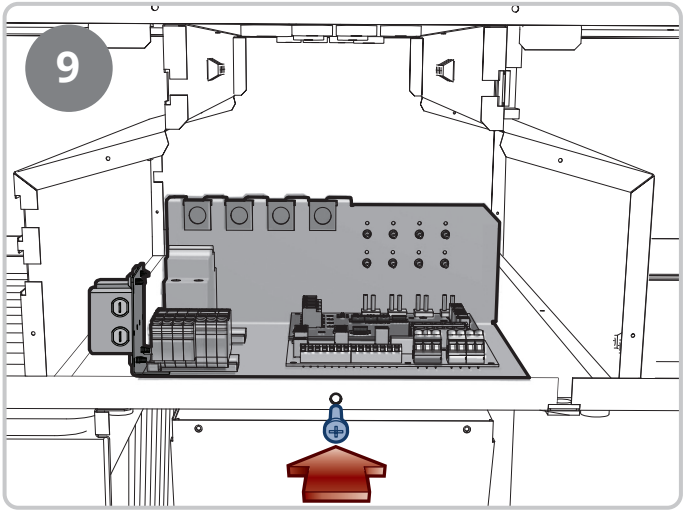


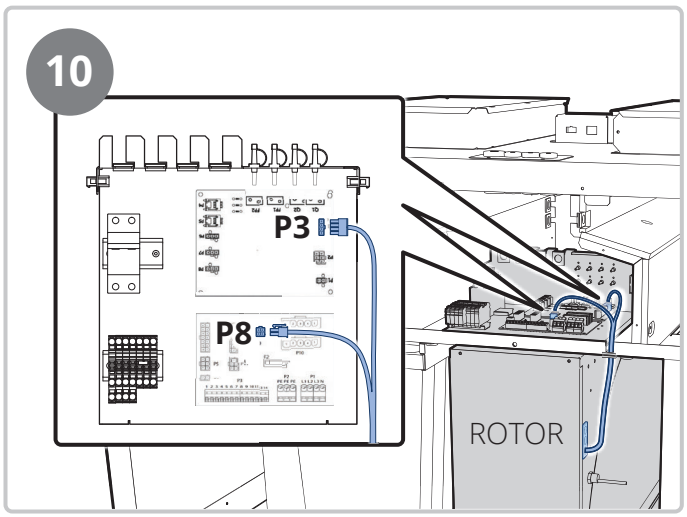










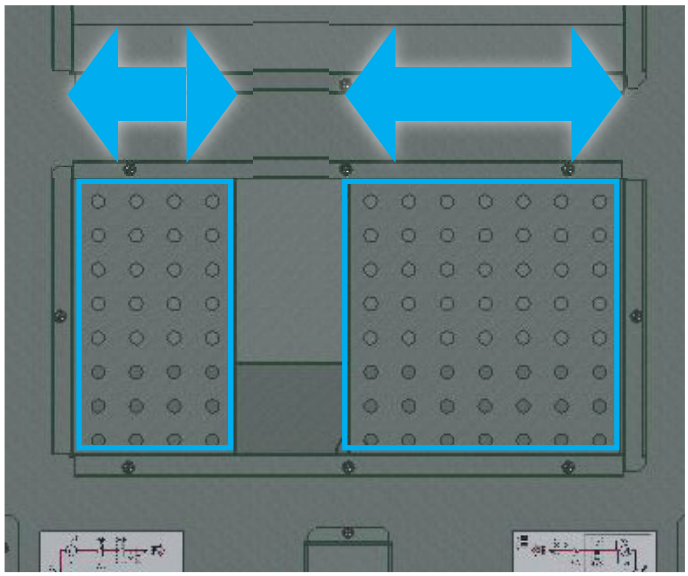


The unit is now fully configured and ready to start up.

2. Adjustment of pressure balance over the rotor

Adjust the pressure balance over the rotor

To set the correct pressure balance over the rotor and minimise the risk of leakage between extract air and supply air, an adjustment air damper is fitted to the extract air muff on the unit. This can be adjusted to prevent extract air from leaking over to the supply air via the rotor.

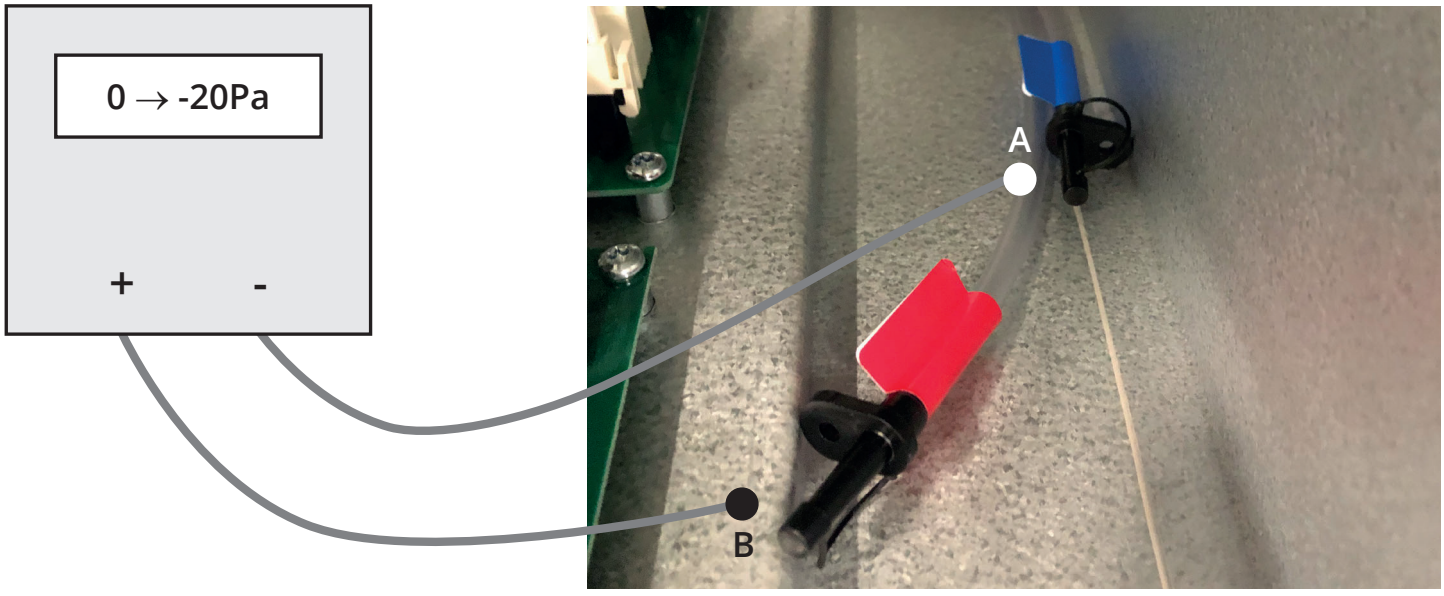


throttle = less leakage

open = more leakage

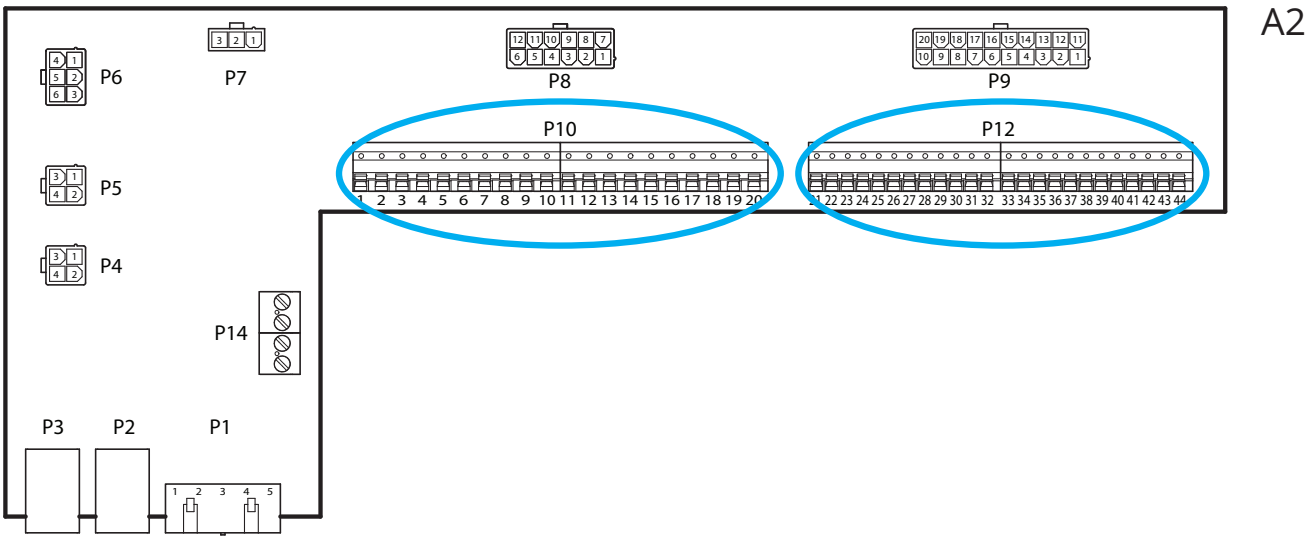
Connect the pressure gauge with the –hose to A (blue hose in the unit) and the +hose to B (red hose in the unit). Run the unit at the correct operating point for the system in question.

The negative pressure in the extract air part must be 0–20Pa higher than in the supply air part (the instrument must display negative pressure).
If it is not, adjust with air damper DA3 (on the extract air muff) until the correct pressure is reached.



3. Connection instructions

Dampers and other external accessories are connected to the terminals below. For more information, refer to the accessory guide or the user manual for the automation system, which can be downloaded from the website.



External accessories

Terminal block P10 has the following signals:

Block	Funktion	Description
1	L1 Ut (230V)	Power supply external accessories
2	N	Power supply external accessories
3	L1 Ut (230V)	Power supply Outdoor air damper
4	L1 230V	Control signal Outdoor air damper ON/OFF
5	N	Power supply Outdoor air damper
6	L1 Ut (230V)	Power supply Exhaust air damper
7	L1 230V	Control signal Exhaust air damper ON/OFF
8	N	Power supply Exhaust air damper
9	C	Pot.free contact (Cooling DX2 or Fire damper) ON/OFF
10	NO	Pot.free contact (Cooling DX2 or Fire damper) ON/OFF
11	N/A	No connection
12	C	Pot.free contact (Sum alarm/AUX Operating mode indication) ON/OFF
13	NO	Pot.free contact (Sum alarm/AUX Operating mode indication) ON/OFF
14	NO	Pot.free contact Cooling (DX1 or Pump) ON/OFF
15	C	Pot.free contact Cooling (DX1 or Pump) ON/OFF
16	L1 Ut (230V)	Power supply external accessories
17	NO	Pot.free contact Heating WB1 (pump) ON/OFF
18	C	Pot.free contact Heating WB1 (pump) ON/OFF
19	N	Power supply external accessories
20	N/A	No connection

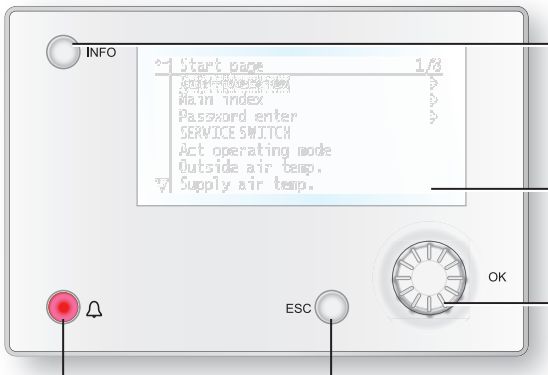
Terminal block P12 has the following signals:

Block	Funktion	Description
21	AO 0-10V	Control signal Cooling (valve or DX)
22	G0	Signal ground Cooling
23	DI	Signal External control step 1
24	G0	Signal ground External control step 1
25	DI	Signal External control step 2
26	G0	Signal ground External control step 2
27	DI alarm	Signal Fire/Smoke input
28	G0	Signal ground External control step 3
29	AI 0-10V	Signal Air quality (e.g CO_2)
30	G0	Signal ground Air quality
31	AO 0-10V	Control signal Heating WB1 (valve)
32	24VAC	Power supply Heating WB1 (valve), Fire damper position feedback, Fire/smoke,
33	G0	Signal ground Heating WB1 (valve)
34	DI	Signal External control step 3
35	DI	Signal Fire damper position feedback
36	G0	Signal ground
37	AO 0-10V	Control signal AUX damper
38	G0	Signal ground AUX damper
39	Universal I/O	Spare
40	G0	Spare
41	CE-	Process bus accessories (e.g. KNX-LTE)
42	CE+	Process bus accessories (e.g KNX-LTE)
43	AI 0-10V	Supply fan external setpoint (e.g VAV)
44	AI 0-10V	Extract fan external setpoint (e.g VAV)

4. Automation “Quick guide”

4.1. HMI ProPanel

A central element in the system is the HMI (control panel), where you can adjust settings and take readings. The control panel consists of an 8-line graphic display, indicator lamps and controls for the settings. Here is a short introduction to the control panel showing how to enter the initial settings in the system.



Info button
Press to enter the main menu
- Off = Stop, cool down
- Red lamp = Fire
- Green lamp, steady = Normal operation
- Flashing green = Starting, Night operation test, Nighttime cooling or Night heating/nighttime cooling.
- Orange lamp, steady = Emergency stop, Alarm stop
- Flashing orange lamp = Fire damper exercise, not in service
- Alternating green/orange = Manual control of output or operating mode

Display
Shows information

Dial
- Turn anticlockwise/clockwise to go up/down in menus or to change values
- Press the button to enter a menu or change a value
- Hold the button down to go directly to the login menu if the value you want to change
- requires login.

Alarm button
- Flashing red = alarm
- Red lamp, steady = alarm acknowledged but remaining

ESC button
- Returns to the previous menu page
- Cancels current editing

4.2. Settings

4.2.1. Introduction

The first time the system is started, you need to go through some simple steps to ensure that the system will function.

If a heating coil has been installed in the ventilation unit, this must be configured in the control system (see heating coil manual). There is a quick menu for accessing the commonest functions on the control panel, Language, Timing program and Set point settings.

4.2.2. Select language

To change the language on delivery:

Start page > Quick menu > Commissioning > Language selection

Select your preferred language.

4.2.3. Login

In order to make changes to the system, it is normally necessary to log in. There are four authority levels in the system, and three of them are password protected. The level at which the user is currently logged in is shown by the number of keys in the top left hand corner of the display. The menus show more options or fewer, depending on the level at which you are logged in.

The following key symbols will be used from now on in the manual to describe the login level before the different menus/functions can be made visible and editable. The same key symbols are shown at the top left of the control panel.

The following actions are possible at the different levels:

Level 1: No restrictions, no password required.

- Read access to all menus except system parameters, configuration and detail menus.
- Read access to alarm lists and alarm history.

Level 2: End user, password 1000.

One key symbol

- All rights as for level 1, plus:
- Read access to all menus except configuration menus.
- Write access to the most important setpoints (Setpoints/Settings > Setpoints).
- Alarms and alarm history can be acknowledged and reset.

Level 3: System administrator, password 2000.

Two key symbol

- All rights as for level 2, plus:
- Rights to all menus except I/O configuration and system settings.

Level 4: OEM, password given only in consultation with the Flexit service organisation.

Three key symbol

- All rights as for level 3, plus:
- Rights to all menus and system settings.

Start page > Main menu > Enter PIN

4.2.4. Set time/time channels

Start page > Quick menu > SetUp > Date/ Time Input

4.2.5. Set the calendar and timing program

Start page > Quick menu > SetUp > Timeswitch program

General

This section describes functions and settings for the timing program and calendars.

When no object with higher priority (for example Manual control <> Auto) is activated, the system can be switched off or the steps changed via the timing program.
A maximum of six switch-over times can be specified per day.
The calendar stop overrides the calendar exception, which in turn overrides the normal timing program (only in operating mode). Up to 10 periods or exception days can be specified for each calendar.

NB. Both setpoints for fan steps and temperature setpoints (comfort /economy) are controlled by the timing program.

4.2.6. Week schedule

Parameter	Value	Function
Present value	---	Switch-over according to schedule
Monday		Shows current command when the current day is Monday. The latest time that can be entered for a day is 23:59. Go to the daily switch-over schedule for Mondays.
Copy schedule	-Mo -Tu-Fr -Tu-Su -Tu -We -Th -Fr - Sa -Su -Ecpt	Copies times for the timing program from Monday to Tuesday-Friday/Tuesday-Sunday. -Passive (no copying). -Copying starts. Return to the display screen. -Exception
Tuesday		Same function as for Monday.
...		...
Sunday		Same function as for Monday.
Exception		Shows current command when the current day is an exception day. Go to the daily switch-over schedule for exception days.
Period: Start		(Only Authority level 3.) Start date for weekly schedule. *,**. 00 means that the weekly schedule is always activated. ---> Activate weekly schedule.
Period: End		(Only Authority level 3.) Start date and time for disabling of weekly schedule.

4.2.7. Day schedule

Parameter	Value	Function
Present value	---	Switch-over according to the schedule when the current weekday is the same as the switch-over day
Day schedule	-Passive -Active	Status for current week or exception day: -Current weekday (system day) is not the same as the switch-over day. -Current weekday (system day) is the same as the switch-over day.
Time-1		This is locked to 00:00
Value-1	Off Eco.St1 Comf.St1 Eco.St2 Comf.St2 Eco.St3 Comf.St3	Indicates the unit's operating mode when Time-1 occurs
Time-2	00:01-23:59	Switch-over time 2. *:* ---> Time inactivated
Value-2 ... Value-6	Off Eco.St1 Comf.St1 Eco.St2 Comf.St2 Eco.St3 Comf.St3	Indicates the unit's operating mode when Time-2 occurs
Time-3 Time-6	00:01-23:59	Switch-over time 3-6. *:* ---> Time deactivated

4.2.8. Calendar (exceptions and stop)

Exception days can be defined in the calendar.
These can include specific days, periods or weekdays.
Exception days override the weekly schedule.

Calendar exceptions
Switch-over follows the weekly schedule and the exceptions specified in the daily schedule when a switch-over time is activated in the calendar exception.

Calendar stop
The system is turned off when the calendar stop is activated.

Parameter:

Start page > Quick menu > SetUp > Timeswitch program > Calendar execption

Start page > Quick menu > SetUp > Timeswitch program > Calendar fix off

Parameter	Value	Function
Current value	-Passive -Active	Shows whether a calendar time is activated: - No calendar time activated - Calendar time activated
Selection -x	-Date -Interval -Weekday -Passive	Specification of exception type: -A certain day (e.g. 1 May) -A period (e.g. holiday) -A certain weekday -Times are deactivated This value must always be placed last, after the date
-(Start) Date		-Selection-x = interval: Enter the start date for the period -(Selection-x = Date: Enter specific date)
-End date		-Selection-x = interval: Enter the end date for the period The end date must be later than the start date
Weekday		-Selection-x = only weekdays: Enter a weekday.

Example: Selection-x = Date

Only the time for (start) is relevant.

- (Start)Date = *,01.01.16
  Result: 1 January 2016 is an exception date.
- (Start)Date = Mo,*.*.00
  Every Monday is an exception day
- (Start)Date = *,*.Even.00

All days in even months (February, April, June, August, etc.) are exception days.

Example: Selection-1 = interval

The times for (Start)Date and End date are adjusted.

- (Start)Date = *,23.06.16 / -End date = *,12.07.16.

  23 June 2016 until end of 12 July 2016 are exception days (for example holidays).
- (Start)Date = *,23.12.16 / End date = *,31.12.16

  23-31 December are exception days every year. Time End date = *,01.01.16 will not work, because 1 January comes before 23 December.
- (Start)Date = *,23.12.16 / -End date = *,01.01.17.

  23 December 2016 up to and including 1 January 2017 are exception days.
- (Start)Date = *,*.*.17 / -End date = *,*.*.17

Warning! This means that the exception is always active!
The system is constantly in exception mode or turned off.

Example: Selection-1 = Weekday

Selection-1 = Weekday

The times for weekdays are adjusted.

- Weekday = *,Fr,*

  Every Friday is an exception day.
- Weekday = *,Fr,Even
  Every Friday in even months (February, April, June, August, etc.) is an exception day.
- Weekday = *,*,*

Warning! This means that the exception is always active!
The system is constantly in exception mode or turned off.

4.3. Adjust setpoints for speeds and temperatures

Start page > Quick menu > Settings > Setpoints/Settings

Parameter	Function
All settings	>
Comfort htg stpt	Indicates the temperature setpoint for comfort operation (daily operation)
Economy htg stpt	Indicates the temperature setpoint for economy operation (nighttime setback)
Sply fan st 1 stpt	Indicates the supply airflow step 1
Sply fan st 2 stpt	Indicates the supply airflow step 2
Sply fan st 3 stpt	Indicates the supply airflow step 3
Sply fan st 4 stpt	Indicates the supply airflow step 4
Sply fan st 5 stpt	Indicates the supply airflow step 5
Extr fan st 1 stpt	Indicates the extract airflow step 1
Extr fan st 2 stpt	Indicates the extract airflow step 2
Extr fan st 3 stpt	Indicates the extract airflow step 3
Extr fan st 4 stpt	Indicates the extract airflow step 4
Extr fan st 5 stpt	Indicates the extract airflow step 5

4.4. Service switch

The service switch is used to stop the unit for servicing.
NB. If the electric coil was active when the unit was turned off, there will be 180 seconds run-on time before the unit stops cooling the coil.

Start page > SERVICE SWITCH

Parameter	Function
Auto	The unit is controlled via time channel
Off	Service mode, the unit is stationary

4.5. Extract air regulation

As standard, the unit is configured to regulate the temperature via the supply air, but can easily be configured to regulate this via the extract air instead. To do this, go into the following menu:

Start page > Main menu > Configuration > Configuration 1 > Tmp control mode

Parameter	Function
Supply	Temperature regulation is controlled by the supply air temperature
ExtrSplyC	Temperature regulation is controlled as a function of the extract and supply air sensors and maintains the set extract air temperature

After making a change in a configuration menu, RESTART.

Start page > Main menu > Configuration > Configuration 1 > Restart required! > Execute

RESTART

To adjust limitations to the inlet temperature in the case of extract air regulation.

Start page > Quick menu > Settings > Setpoints/Settings

Parameter	Function
Supply tmp min	Indicates the lowest permitted supply air temperature
Supply tmp max	Indicates the highest permitted supply air temperature,

4.6. Changing the flow display units

The standard setting for the unit is m^3/h, but can easily be changed to l/s. When the units are changed, the setpoint values for airflow are automatically recalculated.

Start page > Main menu > Configuration > Configuration 2 > Flow display

Parameter	Function
No	Not used
l/s	Shows the airflow in l/s
m^3/h	Shows the airflow in m^3/h

After making a change in a configuration menu, RESTART.

Start page > Main menu > Configuration > Configuration 2 > Restart required! > Execute

RESTART

4.7. Alarm handling

If an alarm has been triggered, it will be shown by the flashing alarm symbol. You can get more information by pressing the alarm button. To reset the alarm, press the alarm button twice and select 'Confirm/Reset ' and then Execute in the menu.

The product is listed in the database for building products that can be used in **Nordic Swan Ecolabelled buildings.**

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