

Heating

Cooling

Fresh Air

Clean Air






Foreword



Read this document carefully before use.

With this document you can operate and perform the maintenance of the ComfoAir Q in a safe and optimal manner. In this document the ComfoAir Q will be referred to as “the unit”. The unit is subject to continuous development and improvement. Thus the unit may be slightly different from the given descriptions.

The pictograms that follow are used in this document:

| Symbol | Meaning |
|---|--|
|  | Point of interest. |
|  | Risk of compromised performance or damage of the ventilation system. |
|  | Risk of personal injury. |



Questions

Please contact the supplier if you have any questions or would like to order a new document or new filters. The contact details of the main supplier can be found on the back page of this document.

Use of the unit

The unit may only be used when it is properly installed according to the instructions and guidelines in the installer manual of the unit.

The unit can be used by:

- children aged from 8 years and above;
- persons with reduced physical capabilities;
- persons with reduced sensory capabilities;
- persons with reduced mental capabilities;
- persons with lack of experience and knowledge, if they have been given supervision or instruction concerning use of the unit in a safe way and understand the hazards involved.

Children shall not play with the unit. Cleaning and user maintenance shall not be carried out by children without supervision.

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¹ This menu is only visible when errors occur.

² This menu is only visible when the advanced mode is active.

1 Introduction and safety

The unit is a balanced ventilation system with heat recovery in order to create energy-efficient ventilation in houses. Balanced ventilation means that pollutants from the kitchen, bathroom, wc(s) and possibly the utility room are extracted, while the same amount of fresh air is supplied into the living room and bedrooms. Gaps under or near doors ensure a good through-flow in the dwelling.

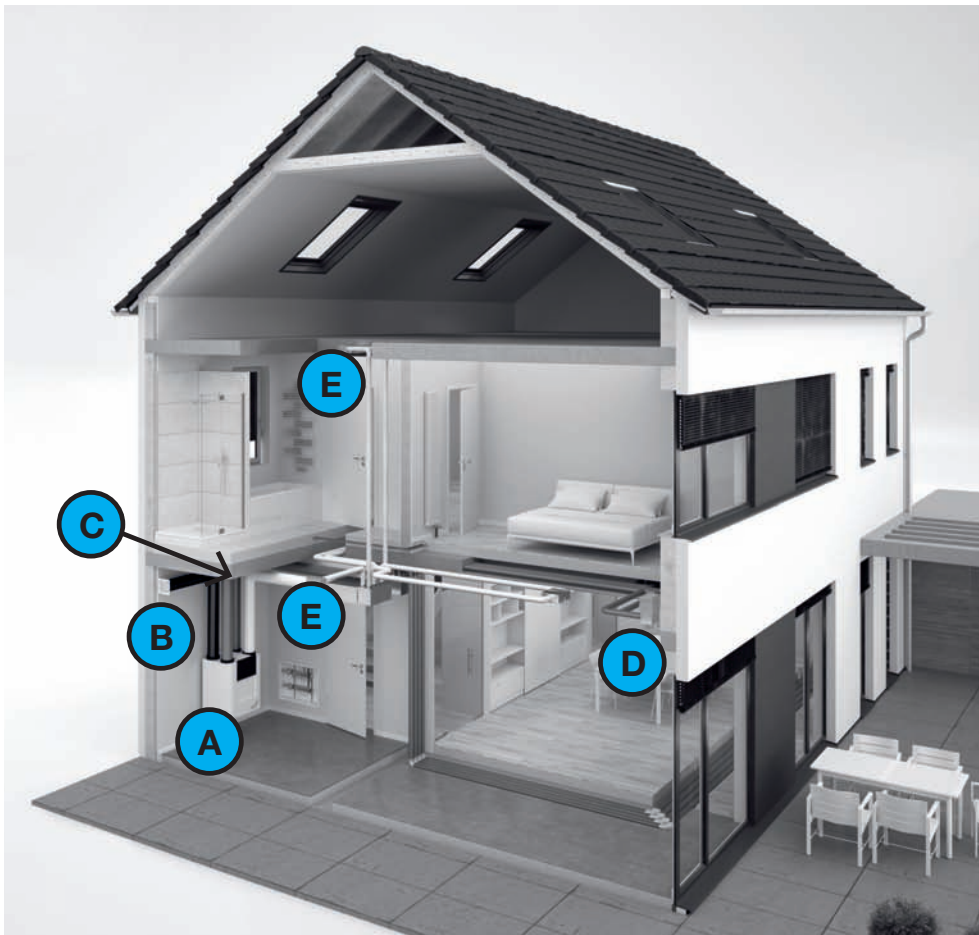
⚠ Ensure that the gaps under or near doors are never obstructed. For example by furniture, draught excluders or deep-pile carpet.

A balanced ventilation system consists of:

- The unit (A);
- Duct system for the intake of outdoor air (B);
- Duct system for the exhaust of indoor air (C);
- Supply valves and/or grilles in the living room and bedrooms (D);
- Extract valves and/or grilles in the kitchen, bathroom, wc and (if present) the utility room (E).

Safety instructions







- Always obey the safety regulations, warnings, comments and instructions given in this document. When the safety regulations, warnings, comments and instructions in this document are not obeyed personal injury or damage to the unit can occur.
- After installation all parts that can cause personal injury are secured behind the casing. You need tools to open the casing;
- The installation, commissioning and maintenance must be carried out by a certified engineer unless the instructions state otherwise. A non-certified engineer can cause personal injury or damage the performance of the ventilation system;
- Do not modify the unit or the specifications given in this document. A modification can cause personal injury or damage the performance of the ventilation system;
- Do not disconnect the power of the unit, unless told otherwise in the manual of the unit. This can lead to a build-up of moisture and result in problems with mould;
- Replace the filters (at least) every six months. This will insure a comfortable and healthy air quality and will protect the unit from pollution;
- Do not open the casing. The installer makes sure that all parts that can cause personal injury are behind the casing;
- Place the user manual back on the unit after use. Then the next reader can find it there.



2 Description

2.1 Available operating devices

One or more operating devices can be connected to operate the unit. Some devices only provide manual control, other devices provide additional automatic control. Such automatic control is based on measurements of temperature, relative humidity or other conditions. One or more of the operating devices that follow can be connected to operate the unit:

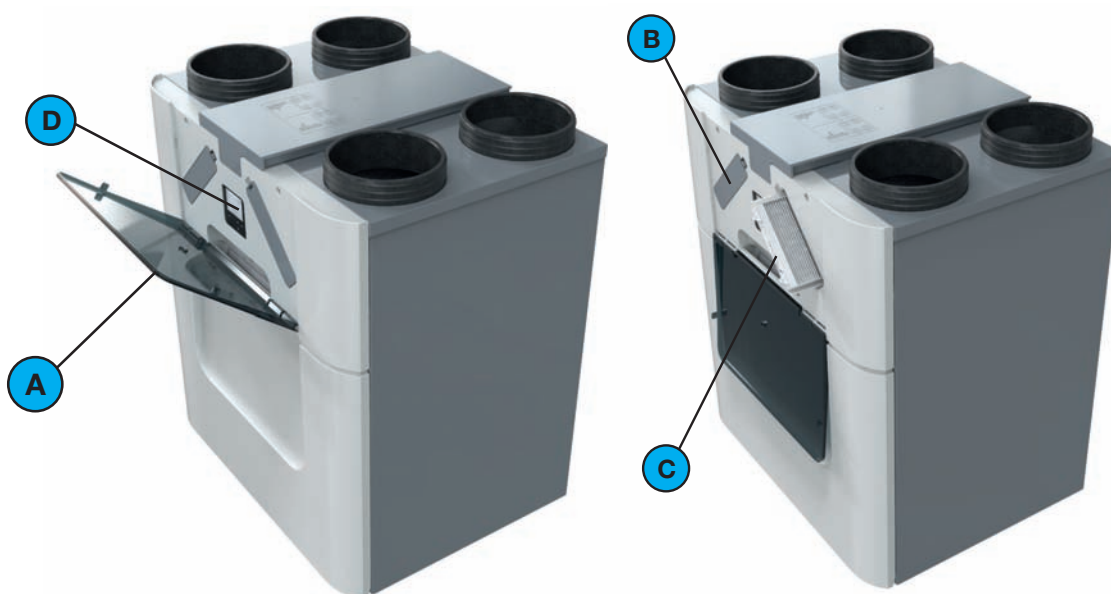
| Appearance Example | Name | Function |
|---|--------------------------------|--|
|  | Zehnder ComfoSense C 67 | For remote manual and automatic control of the unit. The automatic control is based on the unit settings and adjustable scheduler. This is a wired control with a wireless receiver. |
|  | Zehnder ComfoSwitch C 67 | For basic remote manual and automatic control of the unit. The automatic control is based on the unit settings. This is a wired control. |
|  | Zehnder Control App | For remote manual and automatic control of the unit with a smartphone or tablet. The automatic control is based on the adjustable scheduler. This is a controller connected to the ComfoConnect LAN C. |
|  | Zehnder Timer RF | For remote manual control of the unit. This is a wireless control. |
|  | Zehnder CO ₂ sensor | For remote automatic control of the unit, based on the amount of measured CO ₂ . This is a wired sensor connected to the Option Box. |
|  | Bathroom switch | To manually switch the unit to the BOOST function from the bathroom. This is a wired switch connected to the Option Box. |

2.2 Optional ancillaries

The installer can combine several devices with the unit to extend the possibilities.

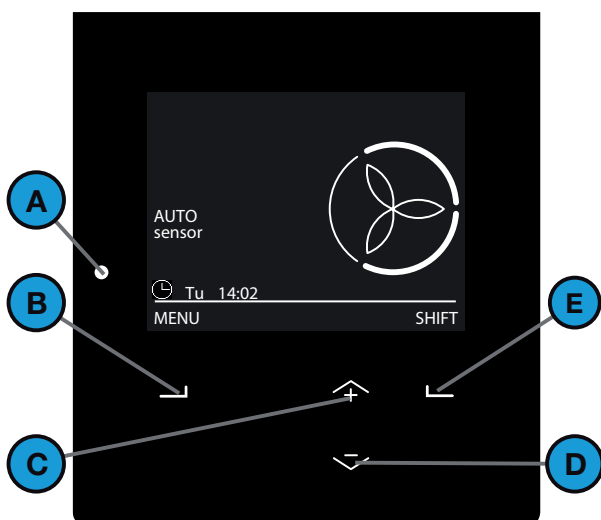
| Appearance Example | Name | Function |
|---|---|---|
|  | Zehnder ComfoFond-L Q (or regulated sub-soil heat exchanger) | Pre-condition the temperature of the outdoor airflow before it enters the unit. This ancillary is connected to the Option Box. |
|  | Zehnder ComfoCool Q600 | Decrease the temperature and pre-condition the humidity of the supply air. |
|  | Zehnder ComfoAir Q pre-heater | Increase the temperature of the outdoor airflow in order to protect the heat exchanger against frost. |
|  | Zehnder Option Box | Provide additional connectivity options. |
|  | Zehnder ComfoConnect KNX C | Provide KNX connectivity options. |
|  | Zehnder ComfoConnect LAN C | Provide LAN connectivity options for remote control. |
|  | Standby switch | Stop the unit remotely. This ancillary is connected to the Option Box. |
|  | Error contact | Remotely check the error status of the unit. This ancillary is connected to the Option Box. |
|  | External filter | Filter pollen from the outdoor air. |
|  | Post-heater | Increase the temperature of the supply air. This ancillary is connected to the Option Box. |
|  | Unregulated sub-soil heat exchanger | Pre-condition the temperature of the outdoor airflow before it enters the unit. |
|  | Extractor Hood (non powered) | Extract cooking smells and moisture from the kitchen.  A powered extractor hood must never be installed on the same ducting as the unit. This will compromise the performance of the system. |

2.3 Overview of the unit



| Position | Part |
|----------|---|
| A | Semi-transparent visor for access to the display and the filter caps. |
| B | 2 filter caps for easy access to the filters. |
| C | 2 filters for air filtering. |
| D | Display to operate the unit. |


2.4 Overview of the display

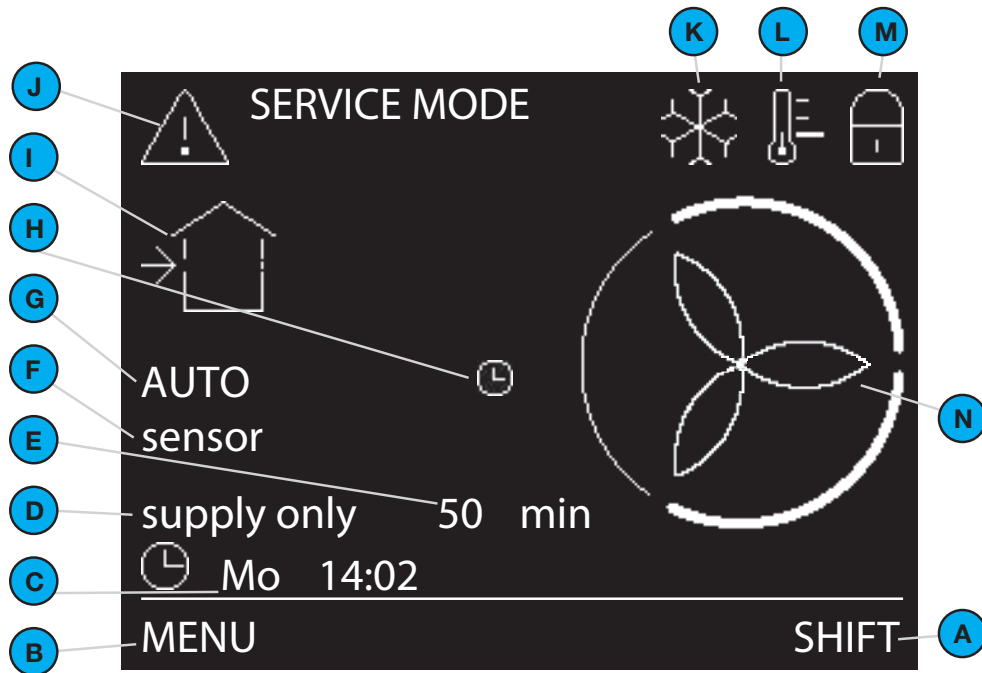





| Position | Part |
|----------|--|
| A | Status indicator LED light. |
| B | Universal button. The function depends on the current text on the display. |
| C | Up button to: <ul style="list-style-type: none"> ■ Increase fan speed; ■ Increase value; ■ Select the previous item. |
| D | Down button to: <ul style="list-style-type: none"> ■ Decrease fan speed; ■ Decrease value; ■ Select the next item. |
| E | Universal button. The function depends on the current text on the display. |









2.4.1 Overview of the basic main screen

The basic mode provides access to general settings and information.

The symbol  is displayed in the left top corner of the menus when the basic mode is active.




| Position | Part |
|----------|--|
| A | Current function of the universal button below it. |
| B | Current function of the universal button below it. |
| C | Current day and time. |
| D | Current operating function. |
| E | Remaining time of current operating function. |
| F | Current sensor mode: <ul style="list-style-type: none"> ■ SENSOR = sensor is overruling the current set airflow; ■ sensor = sensor can overrule the current set airflow; ■ no text = sensor can not overrule the current set airflow. |
| G | Current ventilation mode: <ul style="list-style-type: none"> ■ AUTO = the airflow is set by the scheduler; ■ MANUAL = the airflow is set by the user. |
| H | Temporary override of the SCHEDULER VENTILATION. |
| I | Current fan mode: <ul style="list-style-type: none"> ■ no icon = both fans are in operation (BALANCE); ■  = extract fan is not in operation (SUPPLY ONLY); ■  = supply fan is not in operation (EXTRACT ONLY); ■  = both fans are not in operation (SERVICE MODE). |

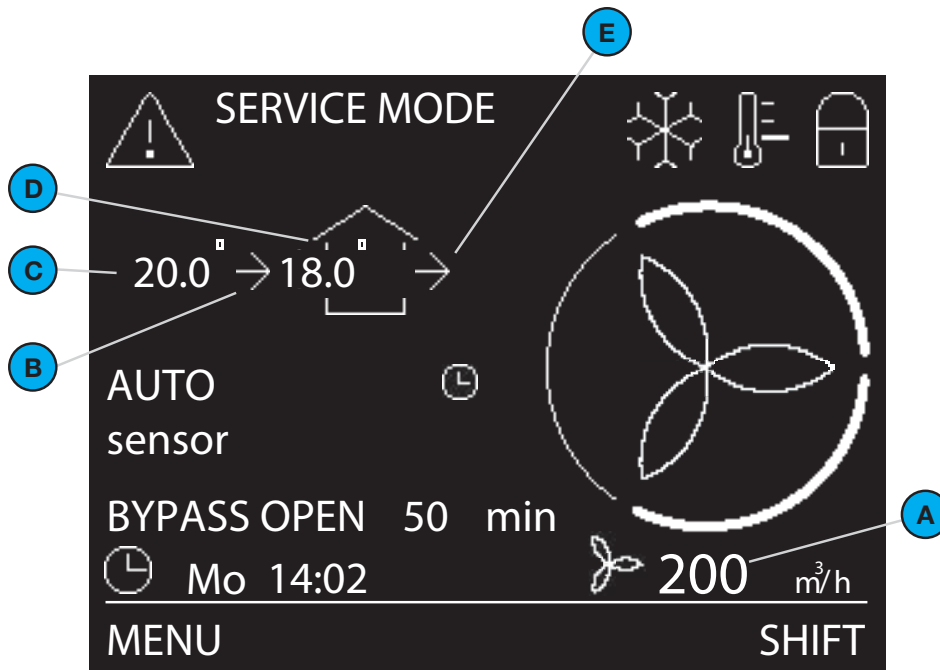
| Position | Part |
|----------|---|
| J | Current warning or error message: <ul style="list-style-type: none"> ■  = Warning; ■  = Error. |
| K | ComfoCool Q600 is in operation. |
| L | Current set temperature profile: <ul style="list-style-type: none"> ■ no icon = NORMAL. ■  = WARM; ■  = COOL. |
| M | Child lock is in operation. |
| N | Current set airflow: <ul style="list-style-type: none"> ■  = PRESET A (Away) ■  = PRESET 1 (Low) ■  = PRESET 2 (Middle) ■  = PRESET 3 (High) |

2.4.2 Overview of the advanced main screen

The advanced mode provides access to more detailed information on the settings.

All information from the basic mode is also accessible in the advanced mode.

The symbol  is displayed in the left top corner of the menus when the advanced mode is active.



| Position | Part |
|----------|---|
| A | Current airflow volume in m ³ /h or l/s. |
| B | Current supply fan mode: ■ no icon = fan is not in operation; ■ → = fan is in operation. |
| C | Current outdoor air temperature in °C or °F. (Only visible when the supply fan is active) |
| D | Current supply air temperature °C or °F. (Only visible when the supply fan is active) |
| E | Current extract fan mode: ■ no icon = fan is not in operation; ■ → = fan is in operation. |

2.4.3 Overview of the visual signals of the LED

| Status | Function |
|--|--|
| On | The unit is operating correctly. |
| Off | The display is in use or there is no power. |
| Flashing slowly, every second. | Warning: ■ Change filters; ■ SERVICE MODE. |
| Flashing rapidly, four times a second. | Error. |

3 Operation

Read the manual of the connected operating devices to see how to use them.

Read this document to see how to use the display on the unit

3.1 How to use the display on the unit

The main screen will start automatically when you open the visor. In case of an error or warning messages the display will also start when the visor is closed. The display will always stop automatically after 15 minutes of no activity. Press any key to restart the display.

3.1.1 Start/stop child lock

Select and hold MENU in the main screen for 4 seconds.

3.1.2 Switch between user modes

When in basic mode:

1. Select SHIFT in the main screen.
2. Select ADVANCED.

When in advanced mode:

1. Select SHIFT in the main screen.
2. Select BASIC.

3.1.3 How to navigate through the menu

1. Select MENU to get access to the menus.
2. Use the up and down button to navigate forward and back through the menus.
3. When the selection arrow is in front of the desired option select CONFIRM.

When you are done with all your operating options:

1. Select BACK until you reach the main screen.
2. Close the visor.

3.1.4 Manually set the airflow

To set a temporary airflow press the up or down button to select the desired temporary airflow.

When the next step of the SCHEDULER VENTILATION starts or after a maximum of two hours the unit will automatically switch back to AUTO mode.

To set a permanent airflow:

1. Navigate to TASK MENU.
2. Navigate to AUTO/MANUAL.
3. Navigate to MANUAL.
4. Select the desired airflow with the up and down button.
5. Select CONFIRM.
6. Select CONFIRM.

Stop the MANUAL mode:

1. Repeat step 1 and 2.
2. Navigate to AUTO.

3.1.5 Set the airflow to a maximum (BOOST) for a specific duration

1. Navigate to TASK MENU.
2. Navigate to BOOST.
3. Navigate to TIMER.
4. Select the desired duration with the up and down button.
5. Select CONFIRM.

Stop the boost before the end of the duration:

1. Repeat step 1 and 2.
2. Navigate to OFF.

3.1.6 Stop the airflow for a specific duration

1. Navigate to TASK MENU.
2. Navigate to VENTILATION.
3. Navigate to
 - SUPPLY ONLY if you would like to stop extracting air;
 - EXTRACT ONLY if you would like to stop supplying air (if available);
4. Select the desired duration with the up and down button.
5. Select CONFIRM.
6. Select CONFIRM.

Start the airflow before the end of the duration:

1. Repeat step 1 and 2.
2. Navigate to BALANCE.

3.1.7 Set the airflow to a minimum for the period of your absence (PRESET A)

1. Navigate to TASK MENU.
2. Navigate to AWAY.
3. Navigate to UNTIL.
4. Set your expected return time with the up and down button.
5. Select CONFIRM after each set number.

Stop the away mode before the end of the time:

1. Repeat step 1 and 2.
2. Navigate to OFF.

3.1.8 Set the temperature profile

1. Navigate to TASK MENU.
2. Navigate to TEMPERATURE PROFILE.
3. Navigate to the desired temperature profile.

3.1.9 Set a schedule

Programming rules:

- When programs overlap, the shortest program is the leading program and overrule any longer program;
- In some cases the setting of the airflow may be increased by an automated software setting e.g. the settings of the SENSOR VENTILATION².

1. Navigate to TASK MENU.
2. Navigate to SCHEDULER.
3. Navigate to
 - VENTILATION if you would like to set a schedule for the airflow;
 - COMFOCOOL³ if you would like to set a schedule for the ComfoCool Q600.
4. Select
 - VIEW/EDIT to view/change a scheduler step;
 - DELETE to remove a scheduler step.
5. Select
 - NEW to create a new schedule step;
 - STEP to change or view the selected schedule step.
6. Navigate to the desired period.
7. Select your desired start time with the up and down button.
8. Select CONFIRM after each number.
9. Select your desired end time with the up and down button.
10. Select CONFIRM after each number.
11. Select/navigate to your desired setting.

3.1.10 Manually set the heat recovery control (bypass) for a specific duration

1. Navigate to TASK MENU.
2. Navigate to BYPASS.
3. Navigate to
 - OPEN if you would like to minimise the heat recovery control (outdoor air is supplied directly into the dwelling);
 - DISABLE if you would like to maximise the heat recovery control.
4. Select the desired duration with the up and down button.
5. Select CONFIRM.

Start the automatic heat recovery control before the end of the duration:

1. Repeat step 1 and 2.
2. Navigate to AUTO.
3. Select CONFIRM.
4. Select BACK.
5. Select BACK.

3.1.11 Stop the ComfoCool Q600 for a specific duration

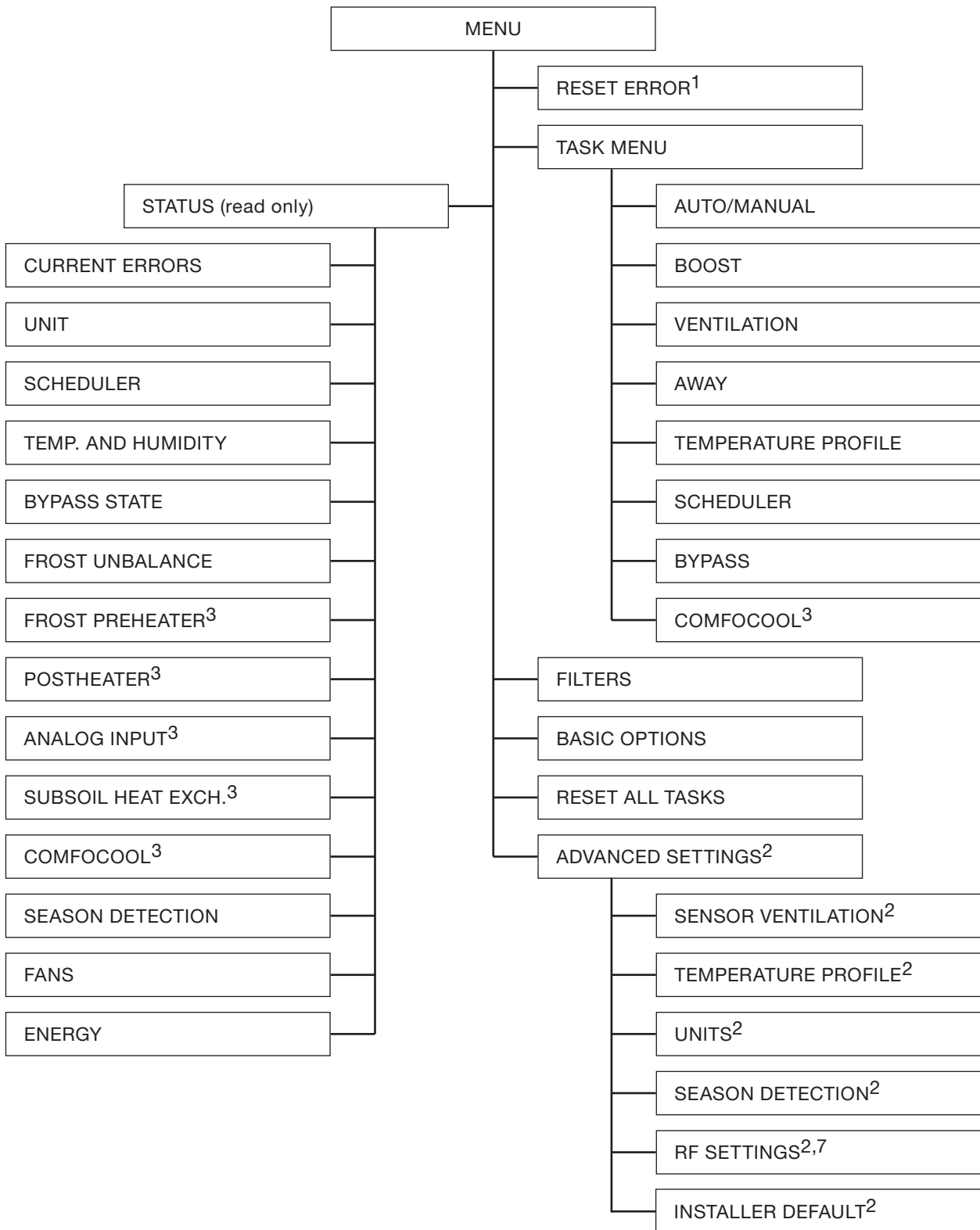
1. Navigate to TASK MENU.
2. Navigate to COMFOCOOL³.
3. Navigate to OFF.
4. Select the desired duration with the up and down button.
5. Select CONFIRM.

Start the ComfoCool Q600 before the end of the duration:

1. Repeat step 1 and 2.
2. Navigate to AUTO.

³ This menu is only visible when the accessory is connected to the unit.

3.2 Menu structure



¹ This menu is only visible when errors occur.

² This menu is only visible when the advanced mode is active.

³ This menu is only visible when the accessory is connected to the unit.

⁷ This menu is only visible when the unit has RF functionality.

3.2.1 RESET ERROR¹

| Menu item | Function |
|--------------------------|---|
| RESET ERROR ¹ | To let the unit automatically solve errors. |

3.2.2 TASK MENU

| Menu item | Function |
|------------------------|--|
| AUTO/MANUAL | <p>To set the airflow.</p> <ul style="list-style-type: none"> ■ AUTO: the unit will change settings automatically according to the programmed SCHEDULER(s); (default setting) ■ MANUAL: the unit will set the airflow according to the input of the user (A/1/2/3). <p>In some cases the setting of the airflow may be increased by an automated software setting e.g. the settings of the SENSOR VENTILATION².</p> |
| BOOST | <p>To start the airflow PRESET 3 for a specific duration.</p> <ul style="list-style-type: none"> ■ TIMER: the unit will set the airflow to PRESET 3 for the set duration; ■ OFF: the unit will return to the normal airflow. (default setting) |
| VENTILATION | <p>To stop the airflow for a specific duration.</p> <ul style="list-style-type: none"> ■ BALANCE: the unit will start both supply and extract fan; (default setting) ■ SUPPLY ONLY: the unit will stop the extract fan for the set duration; ■ EXTRACT ONLY: the unit will stop the supply fan for the set duration (if available). |
| AWAY | <p>To set the airflow to a minimum flow rate for a specific duration.</p> <ul style="list-style-type: none"> ■ UNTIL: the unit will set the airflow to PRESET A for the set duration; ■ OFF: the unit will return to the normal airflow. (default setting) |
| TEMPERATURE PROFILE | <p>To set the amount of heat recovery control automatically.</p> <ul style="list-style-type: none"> ■ WARM: set if you prefer generally higher room temperature; ■ NORMAL: set if you prefer average room temperature; (default setting) ■ COOL: set if you prefer generally lower room temperature. <p>The effect of the set temperature profile on the indoor climate is mainly noticeable in the shoulder seasons (autumn and spring) and limited by nature. It will be more pronounced and less season-dependent in case the installation is equipped with one or more of the options that follow:</p> <ul style="list-style-type: none"> ■ active cooling (e.g. ComfoCool Q600); ■ heating devices (e.g. pre-heater and/or post-heater); ■ a regulated subsoil heat exchanger (e.g. ComfoFond-L Q). |
| SCHEDULER | <p>To set the settings automatically based on the set schedule. (This function is stopped in the permanent MANUAL mode)</p> |
| VENTILATION | <p>(Default: PRESET 2)</p> <ul style="list-style-type: none"> ■ VIEW/EDIT: view or set the schedule of the airflow. <ul style="list-style-type: none"> - NEW: create a new step within the schedule (period, start time, end time, airflow); - STEP: view or edit the selected step of the schedule. ■ DELETE: delete the set schedule of the airflow <ul style="list-style-type: none"> - STEP: delete the selected step of the schedule; - ALL: delete all the steps of the schedule. |
| | COMFOCOOL ³ |
| BYPASS | <p>To set the heat recovery control of the bypass functionality for a specific duration.</p> <ul style="list-style-type: none"> ■ AUTO: the unit will control the heat recovery control automatically; (default setting) ■ DISABLE: the unit will increase the heat recovery control to a maximum; ■ OPEN: the unit will decrease the heat recovery control to a minimum (if possible outdoor air is supplied directly into the dwelling). |
| COMFOCOOL ³ | <p>To stop the ComfoCool Q600 for a specific duration.</p> <ul style="list-style-type: none"> ■ AUTO: the unit will control the ComfoCool Q600 automatically; (default setting) ■ OFF: the unit will stop de ComfoCool Q600 for the set duration; |

¹ This menu is only visible when errors occur.

² This menu is only visible when the advanced mode is active.

³ This menu is only visible when the accessory is connected to the unit.

3.2.3 STATUS (read only)

| Menu item | Function |
|---------------------------------|---|
| CURRENT ERRORS | To view the codes of the current errors. |
| UNIT | To view the information about the unit. <ul style="list-style-type: none"> ■ HRU TYPE: view the type name of the unit; ■ FIRMWARE VERSION: view the firmware version of the unit; ■ SERIAL NUMBER: view the serial number of the main board in the unit. |
| SCHEDULER | To view the scheduler step in which the unit is currently running. <ul style="list-style-type: none"> ■ VENTILATION: view which step of the ventilation scheduler is in operation; ■ COMFOCOOL³: view which step of the ComfoCool Q600 scheduler is in operation. |
| TEMP. AND HUMIDITY | To view the current temperature and humidity of the airflows. <ul style="list-style-type: none"> ■ EXTRACT AIR TEMP.: view the current temperature of the extract airflow; ■ EXTRACT AIR HUM.: view the current humidity level of the extract airflow; ■ EXHAUST AIR TEMP.: view the current temperature of the exhaust airflow; ■ EXHAUST AIR HUM.: view the current humidity level of the exhaust airflow; ■ OUTDOOR AIR TEMP.: view the current temperature of the outdoor airflow; ■ OUTDOOR AIR HUM.: view the current humidity level of the outdoor airflow; ■ SUPPLY AIR TEMP.: view the current temperature of the supply airflow; ■ SUPPLY AIR HUM.: view the current humidity level of the supply airflow. |
| BYPASS STATE | To view the current state of the heat recovery control (bypass). <ul style="list-style-type: none"> ■ The percentage of bypassed air is shown. |
| FROST UNBALANCE | To view the current state of airflow unbalance caused by the frost protection function. <ul style="list-style-type: none"> ■ The percentage of supply air reduction is shown. |
| FROST PREHEATER ³ | To view the current state of the preheater caused by the frost protection function. <ul style="list-style-type: none"> ■ The current power of the preheater is shown. |
| POSTHEATER ³ | To view the current state of the post-heater. <ul style="list-style-type: none"> ■ The percentage of the post-heater control is shown. |
| ANALOG INPUT ³ | To view the current state of the analog input(s) <ul style="list-style-type: none"> ■ 0-10V 1³: view the voltage level of the first analog input. ■ 0-10V 2³: view the voltage level of the second analog input. ■ 0-10V 3³: view the voltage level of the third analog input. ■ 0-10V 4³: view the voltage level of the fourth analog input. |
| SUBSOIL HEAT EXCH. ³ | To view the current state of the regulated subsoil heat exchanger (e.g. ComfoFond-L Q). <ul style="list-style-type: none"> ■ STATE: view the current state of the regulated subsoil heat exchanger pump; ■ OUTDOOR AIR TEMP.: view the current outdoor air temperature; ■ GROUND TEMPERATURE: view the current temperature of the regulated subsoil heat exchanger brine liquid. |
| COMFOCOOL ³ | To view the current state of the ComfoCool Q600. <ul style="list-style-type: none"> ■ STATE: view the current ComfoCool Q600 mode and the current ComfoCool Q600 supply air temperature; ■ CONDENSER TEMP: view the current condenser temperature. |
| SEASON DETECTION | To view the current season detection state. <ul style="list-style-type: none"> ■ SEASON: view the current season mode; ■ LIMIT RMOT HEAT: view the set RMOT⁴ below which the (central) heating system is normally active; ■ LIMIT RMOT COOL: view the set RMOT⁴ above which the (central) cooling system is normally active; ■ CURRENT RMOT: view the current RMOT⁴. |
| FANS | To view the current state of the fans |
| SUPPLY FAN | <ul style="list-style-type: none"> ■ FAN SPEED: view the current speed of the fan. ■ FAN DUTY: view the current duty of the fan. ■ FLOW: view the current airflow of the fan. |
| EXTRACT FAN | <ul style="list-style-type: none"> ■ FAN SPEED: view the current speed of the fan. ■ FAN DUTY: view the current duty of the fan. ■ FLOW: view the current airflow of the fan. |
| ENERGY | To view the energy consumption and saved energy. |
| POWER CONSUMPTION | <ul style="list-style-type: none"> ■ VENTILATION: view the current electrical consumption of the fans. ■ PREHEATER: view the current electrical consumption of the preheater. ■ YEAR TO DATE: view the energy consumption of the fans since the beginning of the year. ■ TOTAL: view the total energy consumption of the fans since the moment of commissioning. |
| AVOIDED HEATING | <ul style="list-style-type: none"> ■ ACTUAL POWER: view the current avoided heating power. ■ YEAR TO DATE: view the avoided heating energy since the beginning of the year. ■ TOTAL: view the avoided heating energy since the moment of commissioning. |
| AVOIDED COOLING | <ul style="list-style-type: none"> ■ ACTUAL POWER: view the current avoided cooling power. ■ YEAR TO DATE: view the avoided cooling energy since the beginning of the year. ■ TOTAL: view the avoided cooling energy since the moment of commissioning. |
| TOTAL SAVINGS | <ul style="list-style-type: none"> ■ YEAR TO DATE: to view the total energy savings since the beginning of the year. ■ TOTAL: to view the total energy savings since the moment of commissioning. |

³ This menu is only visible when the accessory is connected to the unit.

⁴ RMOT = running mean outdoor temperature (average temperature over past five days).

3.2.4 FILTERS

| Menu item | Function |
|----------------|--|
| FILTER STATUS | To view within how many days the filters need to be changed. |
| CHANGE FILTERS | To change the filters, follow the instructions on the display. |

3.2.5 BASIC OPTIONS

| Menu item | Function |
|------------|--|
| CLOCK | To set the actual date and time. |
| LANGUAGE | To set the language on the display. (Default: English) |
| BRIGHTNESS | To set the level of brightness on the display. |

3.2.6 RESET ALL TASKS

| Menu item | Function |
|---------------------|---|
| RESET EXCL SCHEDULE | To reset all the tasks, excluding the set scheduler(s). |
| RESET INCL SCHEDULE | To reset all the tasks, including the set scheduler(s). |

3.2.7 ADVANCED SETTINGS²

| Menu item | Function |
|----------------------------------|--|
| SENSOR VENTILATION ² | To set the airflow automatically according to the built-in sensors of the unit. (demand control) |
| TEMPERATURE PASSIVE ² | <p>Increase the airflow automatically to maximise passive cooling or heating under favourable conditions. (bypass)</p> <ul style="list-style-type: none"> ■ ON: the unit will increase the airflow in the AUTO mode and MANUAL mode if requested by the built-in sensors; ■ AUTO ONLY: the unit will only increase the airflow in the AUTO mode if requested by the built-in sensors; ■ OFF: the unit will ignore the request to increase the airflow by the built-in sensors. (default setting) |
| TEMPERATURE ACTIVE ² | <p>Increase the airflow automatically to maximise active cooling or heating under favourable conditions. (ComfoCool Q600 / pre-heater / post-heater)</p> <ul style="list-style-type: none"> ■ ON: the unit will increase the airflow in the AUTO mode and MANUAL mode if requested by the built-in sensors; ■ AUTO ONLY: the unit will only increase the airflow in the AUTO mode if requested by the built-in sensors; ■ OFF: the unit will ignore the request to increase the airflow by the built-in sensors. (default setting) |
| HUMIDITY COMFORT ² | <p>Increase the airflow automatically to maintain a comfortable humidity level under favourable conditions. (By maximizing passive humidification or dehumidification)</p> <ul style="list-style-type: none"> ■ ON: the unit will increase the airflow in the AUTO mode and MANUAL mode if requested by the built-in sensors; ■ AUTO ONLY: the unit will only increase the airflow in the AUTO mode if requested by the built-in sensors; (default setting) ■ OFF: the unit will ignore the request to increase the airflow by the built-in sensors. |
| HUMIDITY PROTECTION ² | <p>Increase the airflow automatically to avoid moisture problems.</p> <ul style="list-style-type: none"> ■ ON: the unit will increase the airflow in the AUTO mode and MANUAL mode if requested by the built-in sensors; (default setting) ■ AUTO ONLY: the unit will only increase the airflow in the AUTO mode if requested by the built-in sensors; ■ OFF: the unit will ignore the request to increase the airflow by the built-in sensors. <p>The airflow will be increased if the outdoor humidity level is lower than the indoor humidity level and the relative humidity of the indoor air exceeds a level above which moisture problems can occur.</p> |

² This menu is only visible when the advanced mode is active.

| Menu item | Function |
|-----------------------------------|---|
| TEMPERATURE PROFILE ² | To set the settings of the temperature profile. |
| SET MODE ² | <ul style="list-style-type: none"> ■ ADAPTIVE: The desired indoor temperature to which the unit will adjust the heat recovery control varies with the outdoor climate (adaptive comfort technology). The set temperature can be increased or decreased with 1,5°C from the average setting by selecting the WARM or COOL temperature profile; (default setting) ■ FIXED: The desired indoor temperature to which the unit will adjust the heat recovery control is fixed and does not depend on the outdoor climate. The set temperatures can be changed in FIXED PRESETS for each temperature profile. |
| FIXED PRESETS ² | <ul style="list-style-type: none"> ■ WARM: set the temperature for the temperature profile mode WARM in FIXED mode; (Default = 24°C or 76°F) ■ NORMAL: set the temperature for the temperature profile mode NORMAL in FIXED mode; (Default = 20°C or 68°F) ■ COOL: set the temperature for the temperature profile mode COOL in FIXED mode. (Default = 18°C or 64°F) |
| UNITS ² | To change the displayed units of the temperature and airflow rate. |
| TEMPERATURE ² | <ul style="list-style-type: none"> ■ CELSIUS: the unit will display the temperature in degrees Celsius; (default setting) ■ FAHRENHEIT: the unit will display the temperature in degrees Fahrenheit. |
| FLOW ² | <ul style="list-style-type: none"> ■ m³/h: the unit will display the airflow rate in cubic meters per hour; ■ l/s: the unit will display the airflow rate in liters per second. (default setting) |
| SEASON DETECTION ² | To set the season detection for heat recovery control. |
| HEATING SEASON ² | <p>Prevent the unit from counteracting the effect of the (central) heating system.</p> <ul style="list-style-type: none"> ■ HEATING LIMIT RMOT⁴: set the heating-limit⁵ RMOT⁴ (Default: 11°C); ■ STARTS NOW: start the heating season and save the current RMOT⁴ as the heating-limit⁵. |
| COOLING SEASON ² | <p>Prevent the unit from counteracting the effect of the (central) cooling system.</p> <ul style="list-style-type: none"> ■ COOLING LIMIT RMOT⁴: set the cooling-limit⁶ RMOT⁴ (Default: 20°C); ■ STARTS NOW: start the cooling season and save the current RMOT⁴ as the cooling-limit⁶. |
| RF SETTINGS ^{2,7} | To set the settings of the RF sensor(s). |
| RF SENSOR PRIORITY ^{2,7} | <ul style="list-style-type: none"> ■ ON: the unit will translate the signal from an RF sensor to an airflow signal in the AUTO mode and MANUAL mode; (default setting) ■ AUTO ONLY: the unit will only translate the signal from an RF sensor to an airflow signal in the AUTO mode; ■ OFF: the unit will ignore the signal from an RF sensor. |
| RF SENSOR FUNCTION ^{2,7} | <ul style="list-style-type: none"> ■ FLOW PROPORTIONAL: the unit will translate the signal from an RF sensor to a corresponding airflow between the minimal and maximal set airflow. (default setting) ■ FLOW PRESET: the unit will translate the signal from an RF sensor to one of the preset airflows. |
| INSTALLER DEFAULT ² | <ul style="list-style-type: none"> ■ RESET: All software values mentioned in this document will be returned to the default settings. |

3.3 Use during disasters

If a disaster calls for you to close all doors and windows you must also stop the unit. You can do this in one of the following ways:

- Switch off the power supply of the outlet to which the unit is connected;
- Switch off the power supply group at the fuse box to which the unit is connected;
- Pull out the power supply cable from the outlet to which the unit is connected.

² This menu is only visible when the advanced mode is active.

⁴ RMOT = running mean outdoor temperature (average temperature over past 5 days).

⁵ heating-limit = the temperature below which the (central) heating system is normally active.

⁶ cooling-limit = the temperature above which the (central) cooling system is normally active.

⁷ This menu is only visible when the unit has RF functionality.

4 Certification and warranty

Warranty conditions

The unit 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 unit must not be dismantled without written permission from the manufacturer. Spare parts are only covered by the warranty 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;
- Parts are used that have not been supplied by the manufacturer;
- Non-authorized changes or modifications have been made to the unit;
- Installation has not been carried out according to the applicable regulations;
- The defects are due to incorrect connection, inexpert use, or contamination of the system.

On-site (dis)assembly costs are not covered by the terms of the warranty. This also applies to normal wear and tear. Zehnder retains the right to change the construction and/or configuration of its products at any time without being obliged to alter previously delivered products.

CE certification

Zehnder Group Nederland B.V.
Lingenstraat 2 • 8 028 PM Zwolle-NL
T +31 (0)38 4296911 • F + 31 (0)38 4225694
Company register Zwolle 05022293

Machine description

Complies with the following directives

Zwolle, 04-04-2016

Zehnder Group Nederland B.V.




A.C. Veldhuijzen,
Head of R&D
Competence Center ComfoSystems

Liability

The unit 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 unit or personal injury, for which the manufacturer cannot be held liable. The manufacturer is not liable for any damage originating from:

- Non-compliance with the safety, operating and maintenance instructions in this document;
- The use of components not supplied or recommended by the manufacturer.
Responsibility for the use of such components lies entirely with the installer;
- Normal wear and tear.

Disposal

 **Dispose of the unit in an environmentally friendly manner. Do not dispose of the unit with your domestic waste.**

1. Contact the supplier about the possibilities to return the unit.
2. If the unit cannot be returned, check the local regulations for the options on recycling the components.
3. Do not dispose of the batteries from the wireless (RF) operating devices as normal waste. They must be discarded at designated disposal locations.

EEC declaration of conformity

Heat recovery units: ComfoAir Q series

| | |
|-----------------------|----------------|
| Machinery Directive | (2006/42/EEC) |
| Low Voltage Directive | (2006/95/EEC) |
| EMC Directive | (2004/108/EEC) |

Information requirement for RVUs as per EU Regulation No. 1253/2014

Heat Recovery Unit Zehnder ComfoAir Q 350 ST

| | | | | | | | | | | | | |
|---|---|-------|-------|---|-------|-------|---|-------|-------|---|-------|-------|
| Supplier name or trade mark | Zehnder group | | | Zehnder group | | | Zehnder group | | | Zehnder group | | |
| Supplier's model identifier | ComfoAir Q 350 ST | | | ComfoAir Q 350 ST | | | ComfoAir Q 350 ST | | | ComfoAir Q 350 ST | | |
| SEC in [kWh/(m ² a)] for each climate zone (cold, average, warm) | -80.0 | -40.4 | -15.0 | -80.7 | -40.9 | -15.5 | -82.3 | -42.4 | -16.9 | -85.0 | -44.7 | -19.0 |
| SEC Class | A+ | A | E | A+ | A | E | A+ | A+ | E | A+ | A+ | E |
| Type of ventilation unit | Bidirectional RVU | | | Bidirectional RVU | | | Bidirectional RVU | | | Bidirectional RVU | | |
| Type of drive installed | Multi-speed drive | | | Multi-speed drive | | | Variable speed drive | | | Variable speed drive | | |
| Type of heat system ¹ | Recuperative | | | Recuperative | | | Recuperative | | | Recuperative | | |
| Thermal efficiency ² | 94% | | | 94% | | | 94% | | | 94% | | |
| Maximum flow rate [m ³ /h] ³ | 350 | | | 350 | | | 350 | | | 350 | | |
| Electric power input [W] ⁴ | 175 | | | 175 | | | 175 | | | 175 | | |
| Sound power level (L _{WA}) in [dB(A)] ⁵ | 40 | | | 40 | | | 40 | | | 40 | | |
| Reference flow rate in [m ³ /h] ⁶ | 245 | | | 245 | | | 245 | | | 245 | | |
| Reference pressure difference [Pa] | 50 | | | 50 | | | 50 | | | 50 | | |
| SPI in [W/(m ³ /h)] ⁷ | 0.20 | | | 0.20 | | | 0.20 | | | 0.20 | | |
| Control factor and typology | 1 Manual control | | | 0.95 Clock-controlled | | | 0.85 Central demand control | | | 0.65 Local demand control | | |
| Declared maximum internal and external leakage rates (%) ⁸ | Internal: 0.8% External: 1.2% | | | Internal: 0.8% External: 1.2% | | | Internal: 0.8% External: 1.2% | | | Internal: 0.8% External: 1.2% | | |
| Mixing rate ⁹ | - | | | - | | | - | | | - | | |
| Position and description of visual filter warning | Warning on the display of the unit or room controller | | | Warning on the display of the unit or room controller | | | Warning on the display of the unit or room controller | | | Warning on the display of the unit or room controller | | |
| Internet address for assembly and disassembly instructions | www.zehnder.co.uk | | | www.zehnder.co.uk | | | www.zehnder.co.uk | | | www.zehnder.co.uk | | |
| Airflow sensitivity to pressure variations [%] ¹⁰ | - | | | - | | | - | | | - | | |
| Indoor/outdoor air tightness [m ³ /h] ¹¹ | - | | | - | | | - | | | - | | |
| AEC (in kWh electricity/a) for each climate zone (cold, average, warm) | 21.1 | 6.7 | 6.3 | 11.6 | 6.2 | 5.8 | 10.3 | 5.0 | 4.5 | 8.5 | 3.1 | 2.6 |
| AHS (in kWh primary energy/a) for each climate zone (cold, average, warm) | 92.1 | 47.1 | 21.3 | 92.3 | 47.2 | 21.3 | 92.7 | 47.4 | 21.4 | 93.4 | 47.8 | 21.6 |

1: Type of heat recovery: „recuperative“ heat recovery is heat recovery without moving parts (plate heat exchanger).

2: Thermal efficiency: as per EN 13141-7:2010 at a reference flow rate of 50 Pa; as per EN 13141-8:2014 for non-ducted units.

3: Maximum flow rate at 100 Pa of external static pressure difference.

4: Electric power input at maximum flow rate.

5: Noise emitted from housing at reference flow rate.

6: Reference flow rate (70% of the maximum flow rate at 50 Pa of external static pressure difference as per EN 13141-7:2010).

7: As per EN 13141-7:2010 at reference flow rate.

8: As per EN 13141-7:2010; as per EN 13141-8:2014 for non-ducted units.

9: As per EN 13141-8:2014 for non-ducted units.

10: As per EN 13141-8:2014 for non-ducted units: airflow sensitivity to pressure variations at +20 Pa and -20 Pa.

11: As per EN 13141-8:2014 for non-ducted units.

SEC: Specific energy consumption.

SPI: Specific power input.

AEC: Annual electricity consumption.

AHS: Annual heating saved .

Information requirement for RVUs as per EU Regulation No. 1253/2014

Heat Recovery Unit Zehnder ComfoAir Q 350 ST Enthalpy

| Supplier name or trade mark | Zehnder group | | | Zehnder group | | | Zehnder group | | | Zehnder group | | |
|---|---|-------|-------|---|-------|-------|---|-------|-------|---|-------|-------|
| Supplier's model identifier | ComfoAir Q 350 ST Enthalpy | | | ComfoAir Q 350 ST Enthalpy | | | ComfoAir Q 350 ST Enthalpy | | | ComfoAir Q 350 ST Enthalpy | | |
| SEC in [kWh/(m ² a)] for each climate zone (cold, average, warm) | -73.2 | -36.9 | -13.4 | -74.2 | -37.6 | -14.0 | -76.5 | -39.4 | -15.6 | -80.5 | -42.4 | -17.9 |
| SEC Class | A+ | A | E | A+ | A | E | A+ | A | E | A+ | A+ | E |
| Type of ventilation unit | Bidirectional RVU | | | Bidirectional RVU | | | Bidirectional RVU | | | Bidirectional RVU | | |
| Type of drive installed | Multi-speed drive | | | Multi-speed drive | | | Variable speed drive | | | Variable speed drive | | |
| Type of heat system ¹ | Recuperative | | | Recuperative | | | Recuperative | | | Recuperative | | |
| Thermal efficiency ² | 83% | | | 83% | | | 83% | | | 83% | | |
| Maximum flow rate [m ³ /h] ³ | 350 | | | 350 | | | 350 | | | 350 | | |
| Electric power input [W] ⁴ | 175 | | | 175 | | | 175 | | | 175 | | |
| Sound power level (L _{WA}) in [dB(A)] ⁵ | 40 | | | 40 | | | 40 | | | 40 | | |
| Reference flow rate in [m ³ /h] ⁶ | 245 | | | 245 | | | 245 | | | 245 | | |
| Reference pressure difference [Pa] | 50 | | | 50 | | | 50 | | | 50 | | |
| SPI in [W/(m ³ /h)] ⁷ | 0.20 | | | 0.20 | | | 0.20 | | | 0.20 | | |
| Control factor and typology | 1 Manual control | | | 0.95 Clock-controlled | | | 0.85 Central demand control | | | 0.65 Local demand control | | |
| Declared maximum internal and external leakage rates (%) ⁸ | Internal: 1.8% External: 1.2% | | | Internal: 1.8% External: 1.2% | | | Internal: 1.8% External: 1.2% | | | Internal: 1.8% External: 1.2% | | |
| Mixing rate ⁹ | - | | | - | | | - | | | - | | |
| Position and description of visual filter warning | Warning on the display of the unit or room controller | | | Warning on the display of the unit or room controller | | | Warning on the display of the unit or room controller | | | Warning on the display of the unit or room controller | | |
| Internet address for assembly and disassembly instructions | www.zehnder.co.uk | | | www.zehnder.co.uk | | | www.zehnder.co.uk | | | www.zehnder.co.uk | | |
| Airflow sensitivity to pressure variations [%] ¹⁰ | - | | | - | | | - | | | - | | |
| Indoor/outdoor air tightness [m ³ /h] ¹¹ | - | | | - | | | - | | | - | | |
| AEC (in kWh electricity/a) for each climate zone (cold, average, warm) | 12.1 | 6.7 | 6.3 | 11.6 | 6.2 | 5.8 | 10.3 | 5.0 | 4.5 | 8.5 | 3.1 | 2.6 |
| AHS (in kWh primary energy/a) for each climate zone (cold, average, warm) | 85.3 | 43.6 | 19.7 | 85.8 | 43.9 | 19.8 | 86.9 | 44.4 | 20.1 | 89.0 | 45.5 | 20.6 |

1: Type of heat recovery: „recuperative“ heat recovery is heat recovery without moving parts (plate heat exchanger).

2: Thermal efficiency: as per EN 13141-7:2010 at a reference flow rate of 50 Pa; as per EN 13141-8:2014 for non-ducted units.

3: Maximum flow rate at 100 Pa of external static pressure difference.

4: Electric power input at maximum flow rate.

5: Noise emitted from housing at reference flow rate.

6: Reference flow rate (70% of the maximum flow rate at 50 Pa of external static pressure difference as per EN 13141-7:2010).

7: As per EN 13141-7:2010 at reference flow rate.

8: As per EN 13141-7:2010; as per EN 13141-8:2014 for non-ducted units.

9: As per EN 13141-8:2014 for non-ducted units.

10: As per EN 13141-8:2014 for non-ducted units: airflow sensitivity to pressure variations at +20 Pa and -20 Pa.

11: As per EN 13141-8:2014 for non-ducted units.

SEC: Specific energy consumption.

SPI: Specific power input.

AEC: Annual electricity consumption.

AHS: Annual heating saved .

Information requirement for RVUs as per EU Regulation No. 1253/2014
Heat Recovery Unit Zehnder ComfoAir Q 450 ST

| Supplier name or trade mark | Zehnder group | | | Zehnder group | | | Zehnder group | | | Zehnder group | | |
|---|---|-------|-------|---|-------|-------|---|-------|-------|---|-------|-------|
| Supplier's model identifier | ComfoAir Q 450 ST | | | ComfoAir Q 450 ST | | | ComfoAir Q 450 ST | | | ComfoAir Q 450 ST | | |
| SEC in [kWh/(m ² a)] for each climate zone (cold, average, warm) | -79.4 | -40.1 | -14.9 | -80.1 | -40.6 | -15.4 | -81.8 | -42.1 | -16.8 | -84.6 | -44.5 | -18.9 |
| SEC Class | A+ | A | E | A+ | A | E | A+ | A+ | E | A+ | A+ | E |
| Type of ventilation unit | Bidirectional RVU | | | Bidirectional RVU | | | Bidirectional RVU | | | Bidirectional RVU | | |
| Type of drive installed | Multi-speed drive | | | Multi-speed drive | | | Variable speed drive | | | Variable speed drive | | |
| Type of heat system ¹ | Recuperative | | | Recuperative | | | Recuperative | | | Recuperative | | |
| Thermal efficiency ² | 93% | | | 93% | | | 93% | | | 93% | | |
| Maximum flow rate [m ³ /h] ³ | 450 | | | 450 | | | 450 | | | 450 | | |
| Electric power input [W] ⁴ | 245 | | | 245 | | | 245 | | | 245 | | |
| Sound power level (L _{WA}) in [dB(A)] ⁵ | 45 | | | 45 | | | 45 | | | 45 | | |
| Reference flow rate in [m ³ /h] ⁶ | 315 | | | 315 | | | 315 | | | 315 | | |
| Reference pressure difference [Pa] | 50 | | | 50 | | | 50 | | | 50 | | |
| SPI in [W/(m ³ /h)] ⁷ | 0.20 | | | 0.20 | | | 0.20 | | | 0.20 | | |
| Control factor and typology | 1 Manual control | | | 0.95 Clock-controlled | | | 0.85 Central demand control | | | 0.65 Local demand control | | |
| Declared maximum internal and external leakage rates (%) ⁸ | Internal: 0.6% External: 1.1% | | | Internal: 0.6% External: 1.1% | | | Internal: 0.6% External: 1.1% | | | Internal: 0.6% External: 1.1% | | |
| Mixing rate ⁹ | - | | | - | | | - | | | - | | |
| Position and description of visual filter warning | Warning on the display of the unit or room controller | | | Warning on the display of the unit or room controller | | | Warning on the display of the unit or room controller | | | Warning on the display of the unit or room controller | | |
| Internet address for assembly and disassembly instructions | www.zehnder.co.uk | | | www.zehnder.co.uk | | | www.zehnder.co.uk | | | www.zehnder.co.uk | | |
| Airflow sensitivity to pressure variations [%] ¹⁰ | - | | | - | | | - | | | - | | |
| Indoor/outdoor air tightness [m ³ /h] ¹¹ | - | | | - | | | - | | | - | | |
| AEC (in kWh electricity/a) for each climate zone (cold, average, warm) | 12.1 | 6.7 | 6.3 | 11.6 | 6.2 | 5.8 | 10.3 | 5.0 | 4.5 | 8.5 | 3.1 | 2.6 |
| AHS (in kWh primary energy/a) for each climate zone (cold, average, warm) | 91.5 | 46.8 | 21.2 | 91.7 | 46.9 | 21.2 | 92.2 | 47.1 | 21.3 | 93.0 | 47.6 | 21.5 |

1: Type of heat recovery: „recuperative“ heat recovery is heat recovery without moving parts (plate heat exchanger).

2: Thermal efficiency: as per EN 13141-7:2010 at a reference flow rate of 50 Pa; as per EN 13141-8:2014 for non-ducted units.

3: Maximum flow rate at 100 Pa of external static pressure difference.

4: Electric power input at maximum flow rate.

5: Noise emitted from housing at reference flow rate.

6: Reference flow rate (70% of the maximum flow rate at 50 Pa of external static pressure difference as per EN 13141-7:2010).

7: As per EN 13141-7:2010 at reference flow rate.

8: As per EN 13141-7:2010; as per EN 13141-8:2014 for non-ducted units.

9: As per EN 13141-8:2014 for non-ducted units.

10: As per EN 13141-8:2014 for non-ducted units: airflow sensitivity to pressure variations at +20 Pa and -20 Pa.

11: As per EN 13141-8:2014 for non-ducted units.

SEC: Specific energy consumption.

SPI: Specific power input.

AEC: Annual electricity consumption.

AHS: Annual heating saved .

Information requirement for RVUs as per EU Regulation No. 1253/2014

Heat Recovery Unit Zehnder ComfoAir Q 450 ST Enthalpy

| Supplier name or trade mark | Zehnder group | | | Zehnder group | | | Zehnder group | | | Zehnder group | | |
|---|---|-------|-------|---|-------|-------|---|-------|-------|---|-------|-------|
| Supplier's model identifier | ComfoAir Q 450 ST Enthalpy | | | ComfoAir Q 450 ST Enthalpy | | | ComfoAir Q 450 ST Enthalpy | | | ComfoAir Q 450 ST Enthalpy | | |
| SEC in [kWh/(m ² a)] for each climate zone (cold, average, warm) | -71.3 | -35.9 | -13.0 | -72.4 | -36.7 | -13.6 | -74.9 | -38.6 | -15.2 | -79.3 | -41.8 | -17.6 |
| SEC Class | A+ | A | E | A+ | A | E | A+ | A | E | A+ | A | E |
| Type of ventilation unit | Bidirectional RVU | | | Bidirectional RVU | | | Bidirectional RVU | | | Bidirectional RVU | | |
| Type of drive installed | Multi-speed drive | | | Multi-speed drive | | | Variable speed drive | | | Variable speed drive | | |
| Type of heat system ¹ | Recuperative | | | Recuperative | | | Recuperative | | | Recuperative | | |
| Thermal efficiency ² | 80% | | | 80% | | | 80% | | | 80% | | |
| Maximum flow rate [m ³ /h] ³ | 450 | | | 450 | | | 450 | | | 450 | | |
| Electric power input [W] ⁴ | 245 | | | 245 | | | 245 | | | 245 | | |
| Sound power level (L _{WA}) in [dB(A)] ⁵ | 45 | | | 45 | | | 45 | | | 45 | | |
| Reference flow rate in [m ³ /h] ⁶ | 315 | | | 315 | | | 315 | | | 315 | | |
| Reference pressure difference [Pa] | 50 | | | 50 | | | 50 | | | 50 | | |
| SPI in [W/(m ³ /h)] ⁷ | 0.20 | | | 0.20 | | | 0.20 | | | 0.20 | | |
| Control factor and typology | 1 Manual control | | | 0.95 Clock-controlled | | | 0.85 Central demand control | | | 0.65 Local demand control | | |
| Declared maximum internal and external leakage rates (%) ⁸ | Internal: 1.6% External: 1.1% | | | Internal: 1.6% External: 1.1% | | | Internal: 1.6% External: 1.1% | | | Internal: 1.6% External: 1.1% | | |
| Mixing rate ⁹ | - | | | - | | | - | | | - | | |
| Position and description of visual filter warning | Warning on the display of the unit or room controller | | | Warning on the display of the unit or room controller | | | Warning on the display of the unit or room controller | | | Warning on the display of the unit or room controller | | |
| Internet address for assembly and disassembly instructions | www.zehnder.co.uk | | | www.zehnder.co.uk | | | www.zehnder.co.uk | | | www.zehnder.co.uk | | |
| Airflow sensitivity to pressure variations [%] ¹⁰ | - | | | - | | | - | | | - | | |
| Indoor/outdoor air tightness [m ³ /h] ¹¹ | - | | | - | | | - | | | - | | |
| AEC (in kWh electricity/a) for each climate zone (cold, average, warm) | 12.1 | 6.7 | 6.3 | 11.6 | 6.2 | 5.8 | 10.3 | 5.0 | 4.5 | 8.5 | 3.1 | 2.6 |
| AHS (in kWh primary energy/a) for each climate zone (cold, average, warm) | 83.4 | 42.6 | 19.3 | 84.0 | 43.0 | 19.4 | 85.3 | 43.6 | 19.7 | 87.8 | 44.9 | 20.3 |

1: Type of heat recovery: „recuperative“ heat recovery is heat recovery without moving parts (plate heat exchanger).

2: Thermal efficiency: as per EN 13141-7:2010 at a reference flow rate of 50 Pa; as per EN 13141-8:2014 for non-ducted units.

3: Maximum flow rate at 100 Pa of external static pressure difference.

4: Electric power input at maximum flow rate.

5: Noise emitted from housing at reference flow rate.

6: Reference flow rate (70% of the maximum flow rate at 50 Pa of external static pressure difference as per EN 13141-7:2010).

7: As per EN 13141-7:2010 at reference flow rate.

8: As per EN 13141-7:2010; as per EN 13141-8:2014 for non-ducted units.

9: As per EN 13141-8:2014 for non-ducted units.

10: As per EN 13141-8:2014 for non-ducted units: airflow sensitivity to pressure variations at +20 Pa and -20 Pa.

11: As per EN 13141-8:2014 for non-ducted units.

SEC: Specific energy consumption.

SPI: Specific power input.

AEC: Annual electricity consumption.

AHS: Annual heating saved .

Information requirement for RVUs as per EU Regulation No. 1253/2014
Heat Recovery Unit Zehnder ComfoAir Q 600 ST

| | | | | | | | | | | | | |
|---|---|-------|-------|---|-------|-------|---|-------|-------|---|-------|-------|
| Supplier name or trade mark | Zehnder group | | | Zehnder group | | | Zehnder group | | | Zehnder group | | |
| Supplier's model identifier | ComfoAir Q 600 ST | | | ComfoAir Q 600 ST | | | ComfoAir Q 600 ST | | | ComfoAir Q 600 ST | | |
| SEC in [kWh/(m ² a)] for each climate zone (cold, average, warm) | -75.7 | -37.2 | -12.6 | -76.6 | -38.0 | -13.3 | -78.9 | -40.0 | -15.1 | -82.6 | -43.0 | -17.8 |
| SEC Class | A+ | A | E | A+ | A | E | A+ | A | E | A+ | A+ | E |
| Type of ventilation unit | Bidirectional RVU | | | Bidirectional RVU | | | Bidirectional RVU | | | Bidirectional RVU | | |
| Type of drive installed | Multi-speed drive | | | Multi-speed drive | | | Variable speed drive | | | Variable speed drive | | |
| Type of heat system ¹ | Recuperative | | | Recuperative | | | Recuperative | | | Recuperative | | |
| Thermal efficiency ² | 90% | | | 90% | | | 90% | | | 90% | | |
| Maximum flow rate [m ³ /h] ³ | 600 | | | 600 | | | 600 | | | 600 | | |
| Electric power input [W] ⁴ | 345 | | | 345 | | | 345 | | | 345 | | |
| Sound power level (L _{WA}) in [dB(A)] ⁵ | 51 | | | 51 | | | 51 | | | 51 | | |
| Reference flow rate in [m ³ /h] ⁶ | 420 | | | 420 | | | 420 | | | 420 | | |
| Reference pressure difference [Pa] | 50 | | | 50 | | | 50 | | | 50 | | |
| SPI in [W/(m ³ /h)] ⁷ | 0.26 | | | 0.26 | | | 0.26 | | | 0.26 | | |
| Control factor and typology | 1 Manual control | | | 0.95 Clock-controlled | | | 0.85 Central demand control | | | 0.65 Local demand control | | |
| Declared maximum internal and external leakage rates (%) ⁸ | Intern: 0.6% Extern: 1.1% | | | Intern: 0.6% Extern: 1.1% | | | Intern: 0.6% Extern: 1.1% | | | Intern: 0.6% Extern: 1.1% | | |
| Mixing rate ⁹ | - | | | - | | | - | | | - | | |
| Position and description of visual filter warning | Warning on the display of the unit or room controller | | | Warning on the display of the unit or room controller | | | Warning on the display of the unit or room controller | | | Warning on the display of the unit or room controller | | |
| Internet address for assembly and disassembly instructions | www.zehnder.co.uk | | | www.zehnder.co.uk | | | www.zehnder.co.uk | | | www.zehnder.co.uk | | |
| Airflow sensitivity to pressure variations [%] ¹⁰ | - | | | - | | | - | | | - | | |
| Indoor/outdoor air tightness [m ³ /h] ¹¹ | - | | | - | | | - | | | - | | |
| AEC (in kWh electricity/a) for each climate zone (cold, average, warm) | 14.0 | 8.6 | 8.1 | 13.4 | 8.0 | 7.5 | 11.7 | 6.3 | 5.9 | 9.3 | 3.9 | 3.4 |
| AHS (in kWh primary energy/a) for each climate zone (cold, average, warm) | 89.6 | 45.8 | 20.7 | 89.9 | 46.0 | 20.8 | 90.6 | 46.3 | 20.9 | 91.8 | 46.9 | 21.2 |

1: Type of heat recovery: „recuperative“ heat recovery is heat recovery without moving parts (plate heat exchanger).

2: Thermal efficiency: as per EN 13141-7:2010 at a reference flow rate of 50 Pa; as per EN 13141-8:2014 for non-ducted units.

3: Maximum flow rate at 100 Pa of external static pressure difference.

4: Electric power input at maximum flow rate.

5: Noise emitted from housing at reference flow rate.

6: Reference flow rate (70% of the maximum flow rate at 50 Pa of external static pressure difference as per EN 13141-7:2010).

7: As per EN 13141-7:2010 at reference flow rate.

8: As per EN 13141-7:2010; as per EN 13141-8:2014 for non-ducted units.

9: As per EN 13141-8:2014 for non-ducted units.

10: As per EN 13141-8:2014 for non-ducted units: airflow sensitivity to pressure variations at +20 Pa and -20 Pa.

11: As per EN 13141-8:2014 for non-ducted units.

SEC: Specific energy consumption.

SPI: Specific power input.

AEC: Annual electricity consumption.

AHS: Annual heating saved .

Information requirement for RVUs as per EU Regulation No. 1253/2014

Heat Recovery Unit Zehnder ComfoAir Q 600 ST Enthalpy

| Supplier name or trade mark | Zehnder group | | | Zehnder group | | | Zehnder group | | | Zehnder group | | |
|---|---|-------|-------|---|-------|-------|---|-------|-------|---|-------|-------|
| Supplier's model identifier | ComfoAir Q 600 ST Enthalpy | | | ComfoAir Q 600 ST Enthalpy | | | ComfoAir Q 600 ST Enthalpy | | | ComfoAir Q 600 ST Enthalpy | | |
| SEC in [kWh/(m ² a)] for each climate zone (cold, average, warm) | -66.9 | -32.8 | -10.6 | -68.3 | -33.8 | -11.3 | -71.5 | -36.2 | -13.3 | -76.9 | -40.1 | -16.5 |
| SEC Class | A+ | B | E | A+ | B | E | A+ | A | E | A+ | A | E |
| Type of ventilation unit | Bidirectional RVU | | | Bidirectional RVU | | | Bidirectional RVU | | | Bidirectional RVU | | |
| Type of drive installed | Multi-speed drive | | | Multi-speed drive | | | Variable speed drive | | | Variable speed drive | | |
| Type of heat system ¹ | Recuperative | | | Recuperative | | | Recuperative | | | Recuperative | | |
| Thermal efficiency ² | 76% | | | 76% | | | 76% | | | 76% | | |
| Maximum flow rate [m ³ /h] ³ | 600 | | | 600 | | | 600 | | | 600 | | |
| Electric power input [W] ⁴ | 345 | | | 345 | | | 345 | | | 345 | | |
| Sound power level (L _{WA}) in [dB(A)] ⁵ | 51 | | | 51 | | | 51 | | | 51 | | |
| Reference flow rate in [m ³ /h] ⁶ | 420 | | | 420 | | | 420 | | | 420 | | |
| Reference pressure difference [Pa] | 50 | | | 50 | | | 50 | | | 50 | | |
| SPI in [W/(m ³ /h)] ⁷ | 0.26 | | | 0.26 | | | 0.26 | | | 0.26 | | |
| Control factor and typology | 1 Manual control | | | 0.95 Clock-controlled | | | 0.85 Central demand control | | | 0.65 Local demand control | | |
| Declared maximum internal and external leakage rates (%) ⁸ | Intern: 1.6% Extern: 1.1% | | | Intern: 1.6% Extern: 1.1% | | | Intern: 1.6% Extern: 1.1% | | | Intern: 1.6% Extern: 1.1% | | |
| Mixing rate ⁹ | - | | | - | | | - | | | - | | |
| Position and description of visual filter warning | Warning on the display of the unit or room controller | | | Warning on the display of the unit or room controller | | | Warning on the display of the unit or room controller | | | Warning on the display of the unit or room controller | | |
| Internet address for assembly and disassembly instructions | www.zehnder.co.uk | | | www.zehnder.co.uk | | | www.zehnder.co.uk | | | www.zehnder.co.uk | | |
| Airflow sensitivity to pressure variations [%] ¹⁰ | - | | | - | | | - | | | - | | |
| Indoor/outdoor air tightness [m ³ /h] ¹¹ | - | | | - | | | - | | | - | | |
| AEC (in kWh electricity/a) for each climate zone (cold, average, warm) | 14.0 | 8.6 | 8.1 | 13.4 | 8.0 | 7.5 | 11.7 | 6.3 | 5.9 | 9.3 | 3.9 | 3.4 |
| AHS (in kWh primary energy/a) for each climate zone (cold, average, warm) | 80.9 | 41.4 | 18.7 | 81.7 | 41.7 | 18.9 | 83.2 | 42.5 | 19.2 | 86.1 | 44.0 | 19.9 |

1: Type of heat recovery: „recuperative“ heat recovery is heat recovery without moving parts (plate heat exchanger).

2: Thermal efficiency: as per EN 13141-7:2010 at a reference flow rate of 50 Pa; as per EN 13141-8:2014 for non-ducted units.

3: Maximum flow rate at 100 Pa of external static pressure difference.

4: Electric power input at maximum flow rate.

5: Noise emitted from housing at reference flow rate.

6: Reference flow rate (70% of the maximum flow rate at 50 Pa of external static pressure difference as per EN 13141-7:2010).

7: As per EN 13141-7:2010 at reference flow rate.

8: As per EN 13141-7:2010; as per EN 13141-8:2014 for non-ducted units.

9: As per EN 13141-8:2014 for non-ducted units.

10: As per EN 13141-8:2014 for non-ducted units: airflow sensitivity to pressure variations at +20 Pa and -20 Pa.

11: As per EN 13141-8:2014 for non-ducted units.

SEC: Specific energy consumption.

SPI: Specific power input.

AEC: Annual electricity consumption.

AHS: Annual heating saved .

5 Maintenance

Zehnder recommends you to get a maintenance contract with an expert company. Some installers provide a maintenance contract in which the user maintenance can be integrated. Contact the supplier of the unit for a list of registered installers nearby.

| Part of system | Limit | Responsible | Procedure |
|--------------------------------|----------|-------------------------------|-----------------------------|
| Filters | 6 months | User | Replace the filters |
| Valves | 6 months | User | Clean the valves |
| Grilles | 6 months | User | Clean the grilles |
| Operating device | 6 months | User | Clean the operating device |
| Condensation drain | 6 months | User | Fill the condensation drain |
| System inspection and cleaning | 4 years | Installer or service engineer | - |

5.1 Replace the filters

When indicated you must replace the filters. The indication methods that follow are available:

- The LED light on the unit flashes;
- The display on the unit shows the warning message: CHANGE FILTERS NOW;
- The operating device can show a message. The manual of the operating device contains more information about the indication on filter replacement.

⚠ Replace the filters at least every six months. This will insure a comfortable and healthy air quality and will protect the unit from pollution.

When you need to replace the filters:

1. Order new filters.

Contact the installer of the unit for providing the correct filters or order online at www.epicair.co.uk.

| Filter set | Order number |
|-----------------------------|--------------|
| G4/G4 (1x/1x) | 400502012 |
| F7 ⁸ /G4 (1x/1x) | 400502013 |






The warranty becomes invalid if:

- Parts are used that have not been supplied by the manufacturer;
 - The unit is used without filters.
2. When the new filters have arrived open the visor.
 3. Select NOW on the warning message. For safety reasons the unit will stop the ventilation during the filter replacement instructions.

⚠ Do not disconnect the power of the unit, unless told otherwise in the manual of the unit. This can lead to a build-up of moisture and result in problems with mould.

⚠ Do the maintenance tasks within the given periods. If not, the performance of the ventilation system will decrease.

4. Follow all the instructions on the display.

| Item | Description |
|--|------------------------|
|  | Remove filter caps. |
|  | Remove old filters. |
|  | Insert supply filter. |
|  | Insert extract filter. |
|  | Insert filter caps |

- Select NEXT to go forward after every completed instruction.

- Select BACK to go back to the previous instruction.

5. Select CONFIRM to close the filter replacement instructions and start up the ventilation again.

6. Close the visor.

To postpone the filter replacement for one day, select IGNORE on the warning message. If you are ready to start filter replacement before the filter warning re-appears, navigate to CHANGE FILTERS in the FILTERS menu.

⁸ Standard available on the unit with pre-heater.

5.2 Clean the valves

⚠ Clean any valve present in your home at least every six months.

1. Keep hold of the valve on its outer edge and pull it completely out of the wall or ceiling with a rotating movement.
If a rubber ring is fitted: Take care when removing the valve to leave the rubber ring in place.



2. Mark the location and setting of the valve.
 - Do not change the settings of the valve as it would negatively influence the system performance;
 - Do not swap the valves with one another as it will negatively influence the system performance;
3. Remove the filter behind the valve (if present).



4. Clean the valve with a soft brush, vacuum cleaner or soapy water.

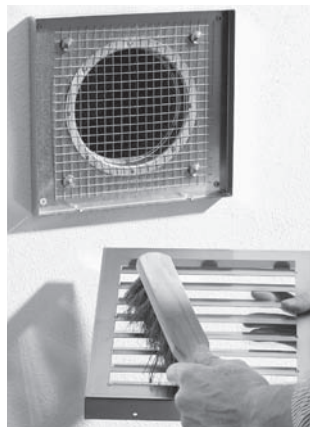


5. Rinse the valve well and dry.
6. Replace the filter behind the valve (if present).
7. Place the valve back in the wall or ceiling.

5.3 Clean the grilles

⚠ Clean any grille present in your home at least every six months.

1. Keep hold of the grille on its outer edge and pull it completely out of the wall or ceiling (if not screwed down).
2. Clean the grille with a soft brush or vacuum cleaner.



3. Clean the filter behind the grille (if present) with soft brush or vacuum cleaner.
 - Do not remove the foam behind the grille (if present) as it would negatively influence the system performance.
4. Place the grille back in the wall or ceiling.

5.4 Clean the operating device

Clean any operating device present in your home at least every six months. Use a dry duster or vacuum cleaner to remove the dust. Do not use water or any other liquid. Start the child lock on the display, to prevent any changes to the settings caused by accidentally pressing the buttons.

5.5 Fill the condensation drain

The condensation drain is connected to the domestic waste-water system. To prevent sewer smells from entering your home, the water seal of the domestic waste-water system must always contain water. You can achieve this by pouring a cup of water into the water seal.

6. Malfunctions

In the event of a malfunction:

- the LED light on the unit flashes;
- the display on the unit shows the corresponding malfunction code(s);
- the operating device can show a message. The manual of the operating device contains more information about the indication method.

The power to the unit should not be disconnected unless the unit is to be taken out of service due to a serious malfunction or any other compelling reasons.



Do not disconnect the power of the unit, unless told otherwise in the manual of the unit. This can lead to a build-up of moisture and results in problems with mould.



When the unit is installed in an area with a higher average humidity (such as bathroom or wc) the probability of condensation on the outside of the unit is high. This is almost the same as condensation on a window, on which no action is needed.

In the event of a filter malfunction, replace the filter as described in the maintenance chapter.

In the event of all other malfunctions follow these steps:

1. Navigate to RESET ERROR.
2. Select CONFIRM.
3. Wait for 5 minutes.

If the error reoccurs:

4. Navigate to STATUS.
5. Navigate to CURRENT ERRORS.
6. Write down all the malfunction code(s) (Select NEXT to view more errors).
7. Select BACK.
8. Navigate to UNIT
9. Navigate to HRU TYPE.
10. Write down the unit type.
11. Close the visor.
12. Contact the installer or service engineer and give him the noted information.

I Commissioning & Inspection Record

Part 2a - Installation details

| 2.1 Installation Checklist - General (all systems) | | Tick as appropriate | |
|--|--|---------------------|----|
| Has the system been installed in accordance with manufacturer's requirement | | Yes | No |
| Have relevant systems installation clauses been followed as details in tables 1, 3, 5 and 7 applicable | | Yes | No |
| Type of ductwork installed (e.g. rigid, semi-rigid) | | | |
| If any deviation from tables 1, 3, 5 and 7, these should be detailed here | | | |
| Description of installed controls (e.g. timer, central control humidistat, PIR, etc.) | | | |
| Location of document/override controls | | | |
| Signature | | | |
| Number (if applicable) | | | |
| Date of Installation (completion) | | | |

| 2.2 Installation Engineer's Details | |
|---|--|
| Engineer's Name | |
| Company | |
| Address Line 1 | |
| Address Line 2 | |
| Telephone Number | |
| Post Code | |
| Signature | |
| Competent Person Scheme/ Registration number (if applicable) | |
| Date of installation (completion) | |

| 2.3d Inspector's Details | |
|---|--|
| Name | |
| Company | |
| Address Line 1 | |
| Address Line 2 | |
| Telephone Number | |
| Post Code | |
| Signature | |
| Competent Person Scheme/ Registration number (if applicable) | |
| Date of installation (completion) | |

Part 2b - Inspection of installation

This section should be completed by the commissioning engineer prior to completing Part 3.

| 2.3a Visual inspections - General (all systems) | | |
|---|-----|----------------|
| Total installed equivalent area of background ventilators in dwelling | | mm |
| Total floor area of dwelling | | m ² |
| Does the total installed equivalent ventilator area meet the requirements given in tables 5.2a, 5.2b, or 5.2c in ADF? | Yes | No |
| Have all background ventilators been left in the open position? | Yes | No |
| Have the correct number and location of extract fans/terminals been installed that satisfies table 5.2a in ADF? | Yes | No |
| Is the installation complete with no obvious defects present? | Yes | No |
| Do all internal doors have sufficient undercut to allow air transfer between rooms (i.e. 10 mm over and above final floor finish) | Yes | No |
| Has all protection/packaging been removed (including background ventilators) such that system is fully functional? | Yes | No |
| For ducted systems, has the ductwork installation been installed in such manner that air resistance and leakage is kept to a minimum? | Yes | No |
| Are the correct number and size of background ventilators provided that satisfy ADF? | Yes | No |
| Has the entire system been installed such that there is sufficient access for routine maintenance and repair/replacement of components? | Yes | No |
| 2.3a Visual inspections - General (systems 3 and 4 only) | | |
| Have appropriate air terminal devices been installed to allow system balance? | Yes | No |
| Has the heat recovery unit (System 4 only) and all ductwork been effectively insulated where installed in unheated spaces? | Yes | No |
| Condensation connection is complete and drains to an appropriate location (System 4 only)? | Yes | No |
| 2.3c Other inspections - General (systems 1, 3 and 4 only) | | |
| Upon initial start up, was any abnormal sound or vibration experienced, or unusual smells detected? | Yes | No |

Part 3 - Airflow measurement test and commissioning details

3.1 Test Equipment

| Schedule of air flow measurement equipment used (model and serial) | Date of last UKAS calibration |
|--|-------------------------------|
| 1. | |
| 2. | |
| 3. | |

3.3 Air Flow Measurements (extract) - system 3 and 4 only

| Room reference (location of terminals) | Measured Air Flow High Rate (l/s) | Design Air Flow High Rate (l/s) Refer to Table 5.1b ADF | Measured Air Flow Low Rate (l/s) | Design Air Flow Low Rate (l/s) Refer to Table 5.1b in ADF |
|---|--------------------------------------|---|-------------------------------------|--|
| Kitchen | | | | |
| Bathroom | | | | |
| En Suite | | | | |
| Utility | | | | |
| Other... | | | | |
| Other... | | | | |
| Other... | | | | |

3.4 Air Flow Measurements (supply) - system 4 only

| Room reference (location of terminals) | Measured Air Flow High Rate (l/s) | Design Air Flow High Rate (l/s) Refer to Table 5.1b ADF | Measured Air Flow Low Rate (l/s) | Design Air Flow Low Rate (l/s) Refer to Table 5.1b in ADF |
|---|--------------------------------------|---|-------------------------------------|--|
| Living Room 1 | | | | |
| Living Room 2 | | | | |
| Dining Room | | | | |
| Bedroom 1 | | | | |
| Bedroom 2 | | | | |
| Bedroom 3 | | | | |
| Bedroom 4 | | | | |
| Bedroom 5 | | | | |
| Study | | | | |
| Other... | | | | |

3.5 Commissioning - systems 3 and 4 only

| | | |
|--|-----|----|
| Have controls been set-up in accordance with the manufacturer's recommendations? | Yes | No |
| Have all distribution grilles been locked to prevent un authorised adjustment? | Yes | No |

II Maintenance log

6 months after installation:

| Activity | Y1 | Y2 | Y3 | Y4 | Y5 | Y6 | Y7 |
|--|----|----|----|----|----|----|----|
| Replace the filters | | | | | | | |
| Clean the valves and grilles | | | | | | | |
| Clean the operating device | | | | | | | |
| Fill the condensation drain of the domestic waste-water system | | | | | | | |

12 months after installation:

| Activity | Y1 | Y2 | Y3 | Y4 | Y5 | Y6 | Y7 |
|--|----|----|----|----|----|----|----|
| Replace the filters | | | | | | | |
| Clean the valves and grilles | | | | | | | |
| Clean the operating device | | | | | | | |
| Fill the condensation drain of the domestic waste-water system | | | | | | | |
| Inspect and clean the casing of the unit | | | | | | | |
| Inspect and clean the heat exchanger | | | | | | | |
| Inspect and clean the fans | | | | | | | |
| Inspect and clean the modulating by-pass | | | | | | | |
| Inspect and clean the pre heater | | | | | | | |
| Inspect and clean the condensation drain of the unit | | | | | | | |
| Inspect and clean the air ducts | | | | | | | |

| Date | Activity | Initials |
|------|----------|----------|
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6 months after installation:

| Activity | Y8 | Y9 | Y10 | Y11 | Y12 | Y13 | Y14 |
|--|----|----|-----|-----|-----|-----|-----|
| Replace the filters | | | | | | | |
| Clean the valves and grilles | | | | | | | |
| Clean the operating device | | | | | | | |
| Fill the condensation drain of the domestic waste-water system | | | | | | | |

12 months after installation:

| Activity | Y8 | Y9 | Y10 | Y11 | Y12 | Y13 | Y14 |
|--|----|----|-----|-----|-----|-----|-----|
| Replace the filters | | | | | | | |
| Clean the valves and grilles | | | | | | | |
| Clean the operating device | | | | | | | |
| Fill the condensation drain of the domestic waste-water system | | | | | | | |
| Inspect and clean the casing of the unit | | | | | | | |
| Inspect and clean the heat exchanger | | | | | | | |
| Inspect and clean the fans | | | | | | | |
| Inspect and clean the modulating by-pass | | | | | | | |
| Inspect and clean the pre heater | | | | | | | |
| Inspect and clean the condensation drain of the unit | | | | | | | |
| Inspect and clean the air ducts | | | | | | | |

| Date | Activity | Initials |
|------|----------|----------|
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