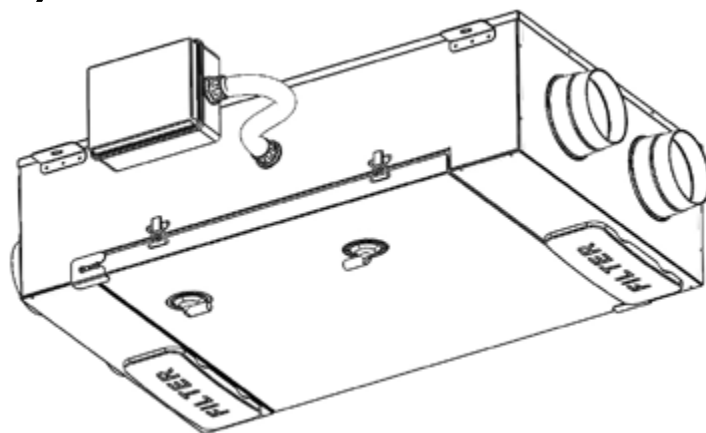


Installation Manual (installer & user)

VIG0200A

Heat Recovery Ventilation Unit



Read this manual carefully before using the product and keep it in a safe place for reference as necessary.

This product was constructed up to standard and in compliance with regulations relating to electrical equipment and must be installed by technically qualified personnel.

The manufacturer assumes no responsibility for damage to persons or property resulting from failure to observe the instructions contained in this manual.

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2 PRECAUTIONS

WARNING

Make sure that the mains supply to the unit is disconnected before performing any installation, service, maintenance or electrical work!

WARNING

The installation and service of the unit and complete ventilation system must be performed by an authorized installer and in accordance with local rules and regulations.

WARNING

If any abnormality in operation is detected, disconnect the device from the mains supply and contact a qualified technician immediately.

TRANSPORT AND STORAGE

- Do not leave the device exposed to atmospheric agents (rain, sun, snow, etc.).
- Duct connections/duct ends must be covered during storage and installation

INSTALLATION

- After removing the product from its packaging, verify its conditions. Do not leave packaging within the reach of children or people with disabilities.
- Beware of sharp edges. Use protective gloves.
- The device should not be used as an activator for water heaters, stoves, etc., nor should it discharge into hot air/fume vent ducts deriving from any type of combustion unit or tumble dryer. It must expel air outside via its own special duct.
- If the environment in which the product is installed also houses a fuel-operating device (water heater, methane stove etc., that is not a "sealed chamber" type), it is essential to ensure adequate air intake, to ensure good combustion and proper equipment operation.
- The electrical system to which the device is connected must comply with local regulations.
- Before connecting the product to the power supply or the power outlet, ensure that:
 - the data plate (voltage and frequency) correspond to those of the electrical mains
 - the electrical power supply/socket is adequate for maximum device power
- For installation an omnipolar switch should be incorporated in the fixed wiring, in accordance with the wiring rules, to provide a full disconnection under overvoltage category III conditions (contact opening distance equal to or greater than 3mm).

USE

- The device should not be used for applications other than those specified in this manual.
- The device is not intended for use by persons (including children) with reduced physical, sensory or mental capacities or those with a lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the device from a person responsible for their safety. Children should be supervised to ensure that they do not play with the device.
- Do not touch the appliance with wet or damp hands/feet.
- The device is designed to extract clean air only, i.e. without grease, soot, chemical or corrosive agents, or flammable or explosive mixtures.
- Do not use the product in the presence of inflammable vapours, such as alcohol, insecticides, gasoline, etc.
- The system should operate continuously, and only be stopped for maintenance/service.
- Do not obstruct ducts or grilles to ensure optimum air passage.
- Do not immerse the device or its parts in water or other liquids.
- Operating temperature: 0°C up to +40 °C.

SERVICE

- Although the mains supply to the unit has been disconnected there is still risk for injury due to rotating parts that have not come to a complete standstill.
- Beware of sharp edges. Use protective gloves.
- Use original spare parts only for repairs.

3 PRODUCT INFORMATION

3.1 General

This is the Installation Manual of VIGO200A heat recovery ventilation unit.

The unit must always be mounted horizontally.

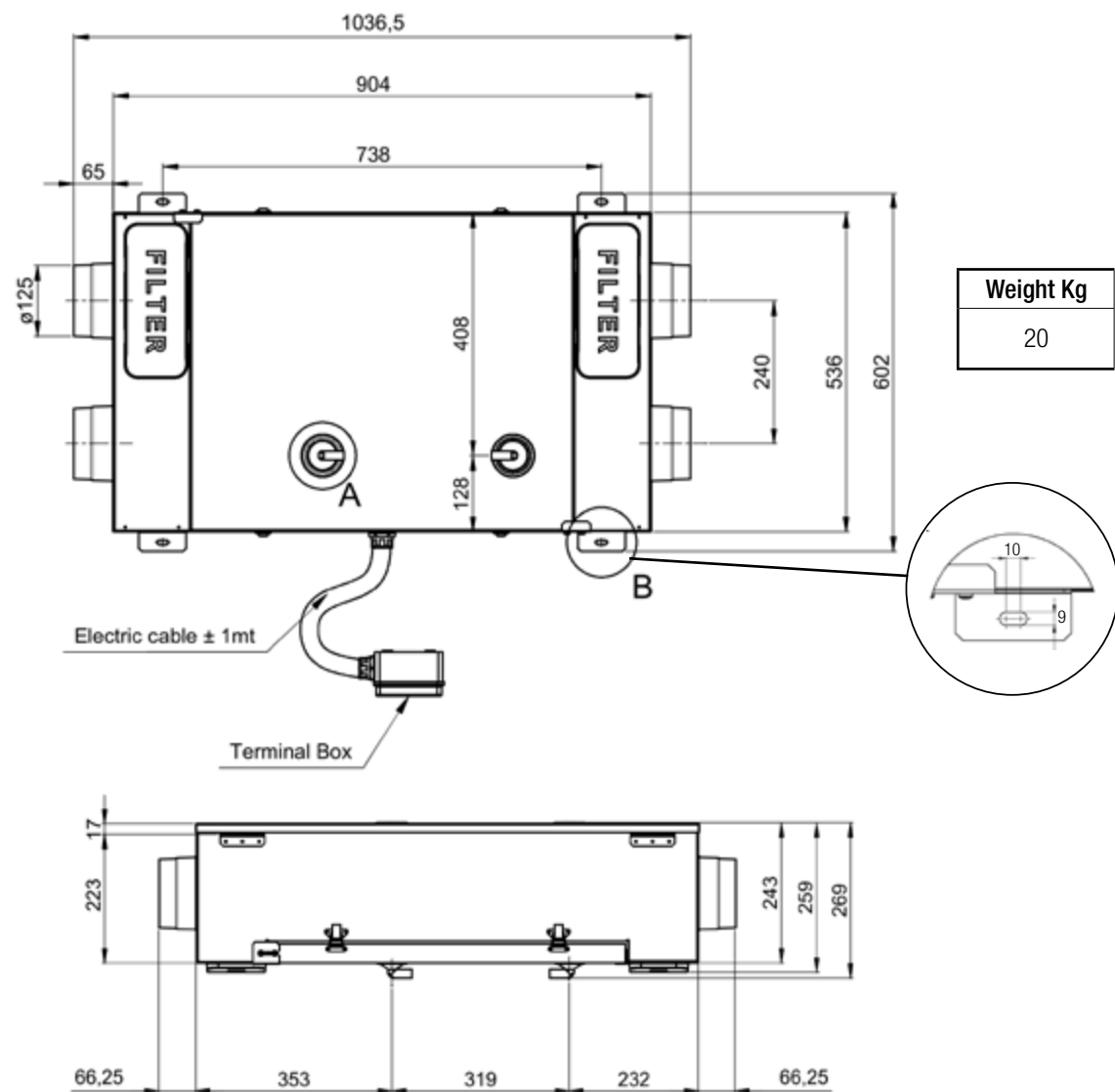
This manual consists of basic information and recommendations concerning installation, commissioning, use and service operations to ensure a proper fail-free operation of the unit.

The key to proper, safe and smooth operation of the unit is to read this manual thoroughly, use the unit according to given guidelines and follow all safety requirements.

The VIGO200A is supplied with its CTRL-DSP remote multifunction control panel as standard.

NOTE: The system should operate continuously and only stopped for maintenance/service.

3.2 Dimensions (mm) and Weight



3.3 Connections

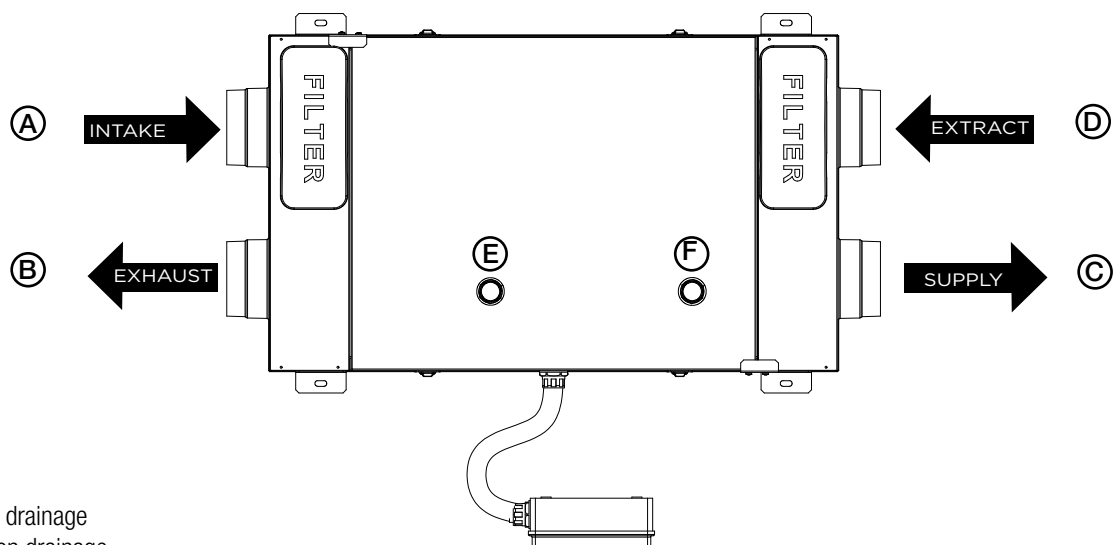


Fig. 3.a Connessioni
A Intake air
B Exhaust air
C Supply air
D Extract air
E Winter condensation drainage
F Summer condensation drainage

3.4 Space required

Make sure that enough space is left around the unit to allow easy maintenance (access to filters, terminal box and inspection panel removal).

3.5 Labels



Fig.3.b Rating label

4 TRANSPORT AND STORAGE

WARNING

Make sure that specific warnings and cautions in Chapter 2 “Precautions” are carefully read, understood and applied!

The appliance is delivered in one carton box.
The appliance should be stored and transported in such a way that it is protected against physical damage that can harm spigots, casing, display etc. It should be covered so that dust, rain and snow cannot enter and damage the unit and its components.

5 INSTALLATION

WARNING

Make sure that specific warnings and cautions in Chapter 2 “Precautions” are carefully read, understood and applied!

This section describes how to install the unit correctly.
The unit must be installed according to these instructions.

5.1 Unpacking

Verify that the unit (and eventual accessories) delivered is according to order before starting the installation. Any discrepancies from the ordered equipment must be reported to the supplier.

5.2 Where/how to install

- All VIGO units are meant for indoor installation in a heated space.
- Mount the unit on flat surface (ceiling or floor).
- It's important that the unit is completely leveled before it is put into operation.
- Place the unit preferably in a separate room (e.g. storage, laundry room or similar).
- When choosing the location it should be kept in mind that the unit requires maintenance regularly and that the inspection door should be easily accessible.
- Leave free space for opening the removable and for removable panel out the main components (see 3.4).
- The outdoor air intake of the building should if possible be put in the northern or eastern side of the building and away from other exhaust outlets like kitchen fan exhausts or laundry room outlets.

5.3 Ceiling installation

The unit must be installed in the following position.

It is important that the unit is completely flat in order for the condensation drainage to work properly.

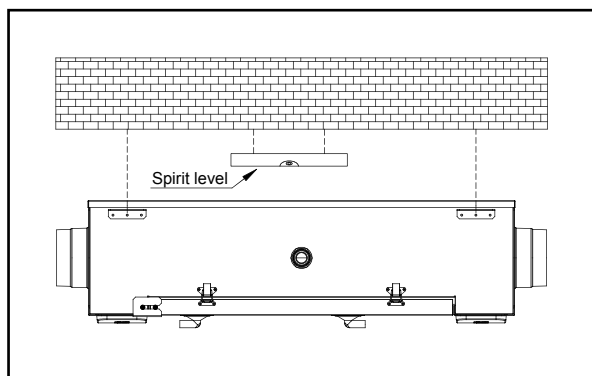


Fig 5.a

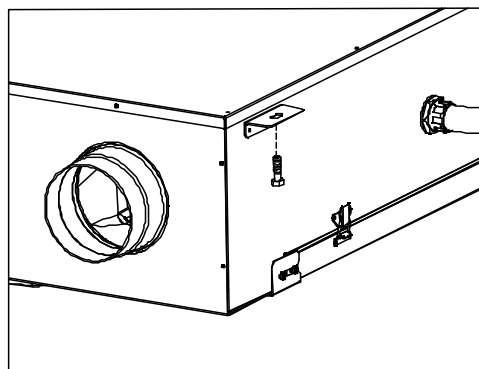


Fig. 5.b

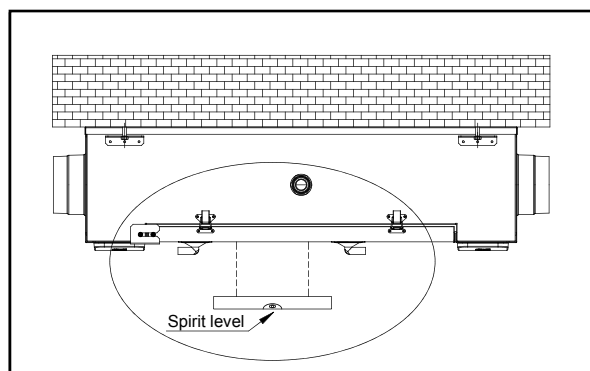


Fig. 5.c

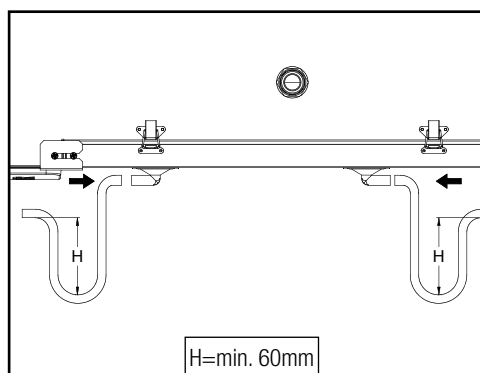


Fig. 5.d

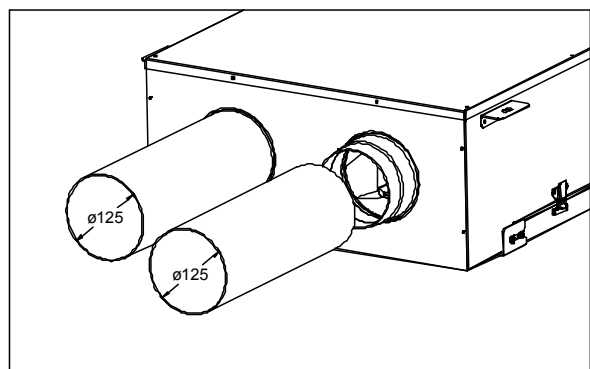


Fig. 5.e

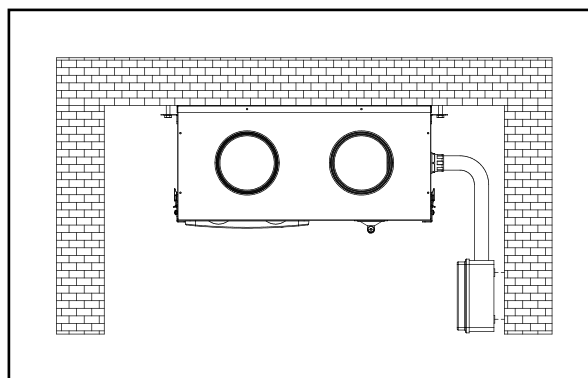


Fig. 5.f

- 5.a** Prepare the surface where the unit is to be mounted. Make sure that the surface is flat, leveled and that it supports the weight of the unit. Perform the installation in accordance with local rules and regulations.
- 5.b** Use appropriate plugs and rods or screws to fix the unit to the ceiling. It is recommended to fit the unit with anti-vibration mounts (not supplied).
- 5.c** Assure that the unit is completely flat once mounted to the ceiling, for the condensation drainage to function properly.
- 5.d** The unit is supplied with 2 condensation drains and 4 plugs. Connect the condensation drain to the drainage hole at the bottom of the unit (according to the season, either winter or summer or both) and close the open holes on both unit sides (upper and bottom) with the relevant plugs. Make sure of water tightness of all connections. It is recommended to use a U-bend in the condensation drainage pipe.
- 5.e** Connect the unit to the duct system. Make sure that all necessary accessories are used to create a functional ventilation solution.
- 5.f** Fix the connection box to the most comfortable place to carry out electrical connections. Connect the unit electrically according to point 5.5. Check that it starts up correctly.

5.4 Floor installation

The unit must be installed in the following position.

It is important that the unit is completely flat in order for the condensation drainage to work properly.

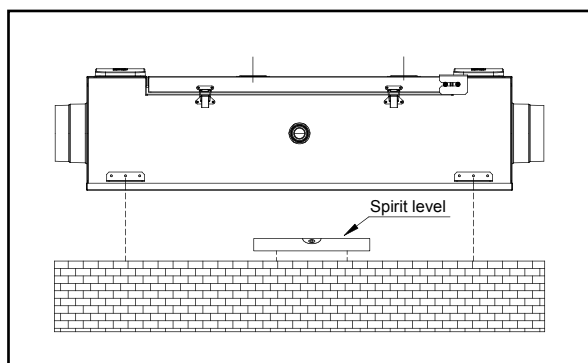


Fig 5.a

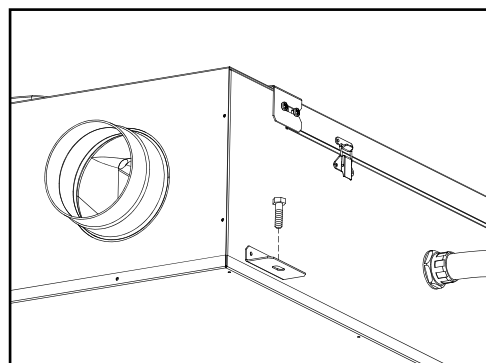


Fig. 5.b

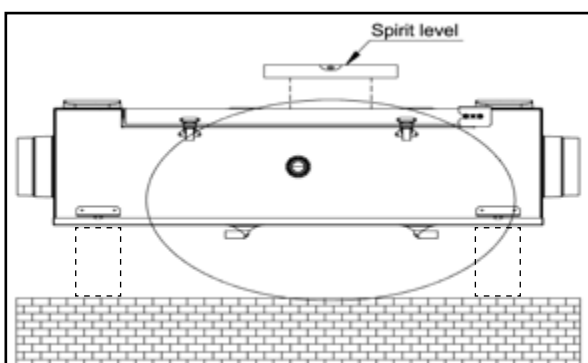


Fig. 5.c

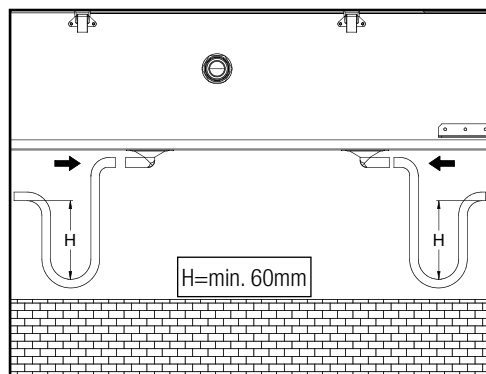


Fig. 5.d

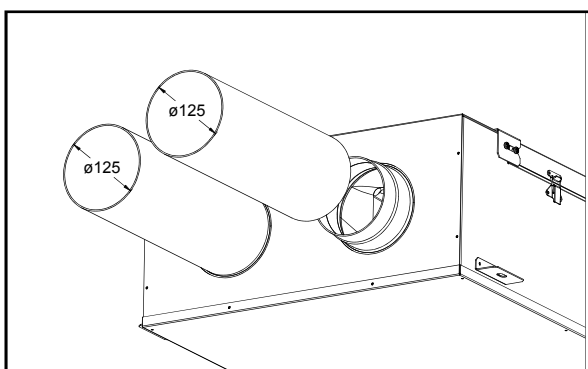


Fig. 5.e

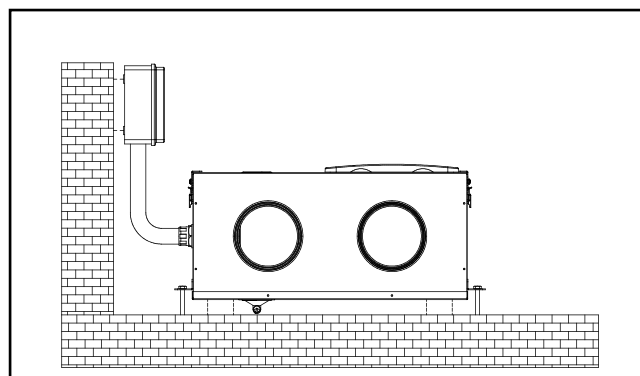


Fig. 5.f

5.a Prepare the surface where the unit is to be mounted. Make sure that the surface is flat, leveled and that it supports the weight of the unit. Perform the installation in accordance with local rules and regulations.

5.b Use appropriate supports (not supplied) to fix the unit on the floor. It is recommended to fit the unit with anti-vibration mounts (not supplied).

5.c Assure that the unit is completely flat once mounted on the floor, and leave enough space for the condensation drainage to function properly.

5.d The unit is supplied with 2 condensation drains and 4 plugs. Connect the condensation drain to the drainage hole at the bottom of the unit (according to the need, either winter or summer or both) and close the open holes on both sides (upper and bottom) with the relevant plugs. Make sure of water tightness of all connections. It is recommended to use a U-bend in the condensation drainage pipe.

5.e Connect the unit to the duct system. Make sure that all necessary accessories are used to create a functional ventilation solution.

5.f Fix the connection box to the most comfortable place to carry out electrical connections. Connect the unit electrically according to point 5.5. Check that it starts up correctly.

5.5 Electric Connections

WARNING

Make sure that the mains supply to the unit is disconnected before performing any installation, service, maintenance or electrical work!

WARNING

The installation and service of the unit and complete ventilation system must be performed by an authorized installer and in accordance with local rules and regulations.

The VIGO200A is wired internally from factory.

The electrical connection box is supplied connected to a corrugated pipe for ease of installation.

Figures below show the electrical connection box and wiring diagrams.

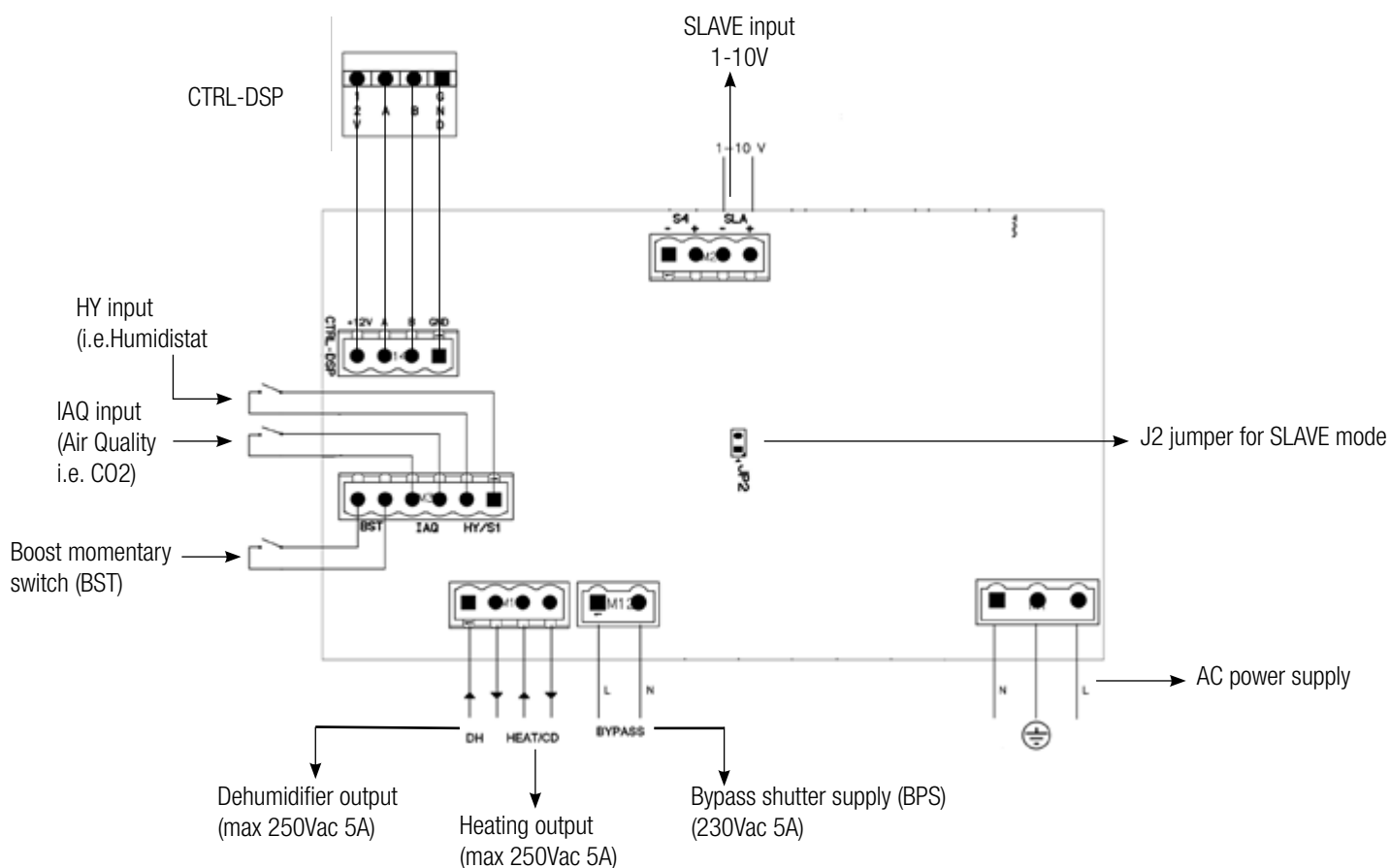


Fig. 5.g Electrical connections on the motherboard

Inputs/commands

N°1 AC supply connector

N°3 on/off inputs (volt-free contacts), two for ambient sensors (named HY, CO2) and one for boost momentary switch (named BST).

N°1 1-10V analog input (named SLAVE).

N°1 jumper for SLAVE MODE selection.

N°1 4-pole connector for CTRL-DSP (RS485 plus 12Vdc supply).

Outputs

N°1 on/off output for bypass shutter (commuted 230Vac supply).

N°1 on/off output for pre-heating/post-heating (relay contact – 250Vac 5A).

N°1 on/off output for dehumidification (relay contact – 250Vac 5A).

6.1 Setting Fan speed

The speed of the unit can be adjusted during installation according to required ventilation rate.

Figure 6.a below shows performance curves (for supply air and extract air) at different settings of the 0-10V signal to the motors. Airflow and consumption refer to one single motor.

Table 6.b indicates the efficiency of the heat exchanger and of the condensation produced in different climatic conditions, to help the installer or the designer of the ventilation system to decide if to connect one or both condensation drainages.

High production of condensation is the direct consequence of a high efficiency level as well as of the humidity rate.

Table 6.c indicates the sound level at the different speed.

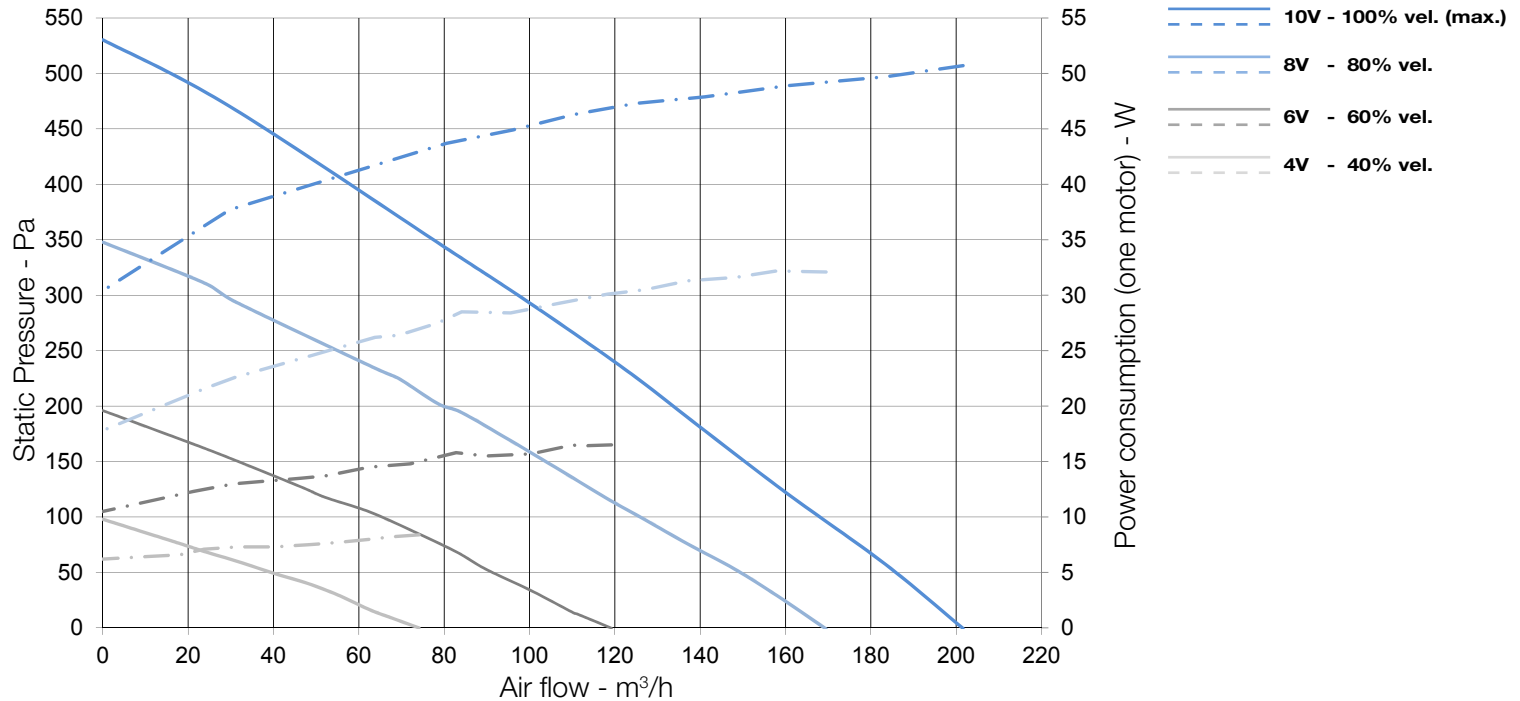


Fig. 6.a Performance curve

EXTERNAL		INTERNAL		50 m³/h		100 m³/h		150 m³/h		200 m³/h	
T	R. H.	T	R. H.	η	H ₂ O	η	H ₂ O	η	H ₂ O	η	H ₂ O
°C	%	°C	%	%	kg/h	%	kg/h	%	kg/h	%	kg/h
-18	60	20	30	95,8	0,16	92,2	0,29	89	0,41	86,1	0,52
-18	70	20	40	96,4	0,22	93,2	0,42	90,5	0,61	88	0,79
-18	80	20	50	96,8	0,28	94,1	0,55	91,7	0,8	89,7	1,04
-10	60	20	30	95,6	0,1	91,7	0,18	88,1	0,24	84,9	0,29
-10	70	20	40	96,2	0,16	92,9	0,3	89,9	0,42	87,2	0,53
-10	80	20	50	96,8	0,21	93,9	0,41	91,4	0,59	89,2	0,77
0	50	20	30	94,6	0,01	89,6	0	85,4	0	81,7	0
0	60	20	40	95,5	0,06	91,3	0,1	87,5	0,13	84	0,13
0	70	20	50	96,2	0,11	92,9	0,2	89,9	0,28	87,1	0,34
10	50	20	40	94,4	0	89,6	0	85,4	0	81,7	0
10	60	20	50	94,4	0	89,6	0	85,4	0	81,7	0
10	70	20	60	95,2	0,02	90,7	0,03	86,4	0,03	82,2	0,01
35	60	26	50	94,5	0	89,7	0	85,6	0	82	0
35	70	26	55	96,2	0,04	92,6	0,08	89,2	0,1	85,9	0,11
35	80	26	60	97,7	0,09	95,6	0,18	93,7	0,26	92	0,33
40	60	26	50	96,5	0,08	93,2	0,15	90,1	0,19	87,1	0,23
40	70	26	55	97,6	0,14	95,5	0,27	93,5	0,39	91,8	0,5
40	80	26	60	98,5	0,2	97,2	0,38	96	0,57	94,9	0,74

Fig. 6.b Thermal efficiency of the heat exchanger and average production of condensation water. Data supplied by the manufacturer of the heat exchanger. The heat exchanger is tested at the University of Luzern (Hochschule Lezern).

Table 6.c Sound level

Unit Breakout

SOUND POWER OCT									dB(A)	
Speed	63	125	250	500	1 K	2 K	4 K	8 K	Tot	@3m
4V	47	48	46	37	34	32	24	23	52	21
6V	51	54	55	45	44	37	29	25	59	29
8V	55	58	60	55	53	45	35	30	64	37
10V	56	61	64	59	58	50	40	32	68	41

Total noise measured in reverberation chamber at ELTA FANS laboratory (UK)

6.2 Before Starting the System

When the installation is finished , check that:

- Filters are mounted correctly
- The unit is installed in accordance with the instructions
- The unit is correctly wired
- Eventual outdoor and exhaust air dampers and silencers are installed and that the duct system is correctly connected to the unit
- All ducts are sufficiently insulated and installed according to local rules and regulations
- Outdoor air intake is positioned with sufficient distance to pollution sources (kitchen ventilator exhaust, central vacuum system exhaust or similar)
- The unit is correctly set and commissioned.

WARNING

Make sure that specific warnings and cautions in Chapter 2 "Precautions" are carefully read, understood and applied!

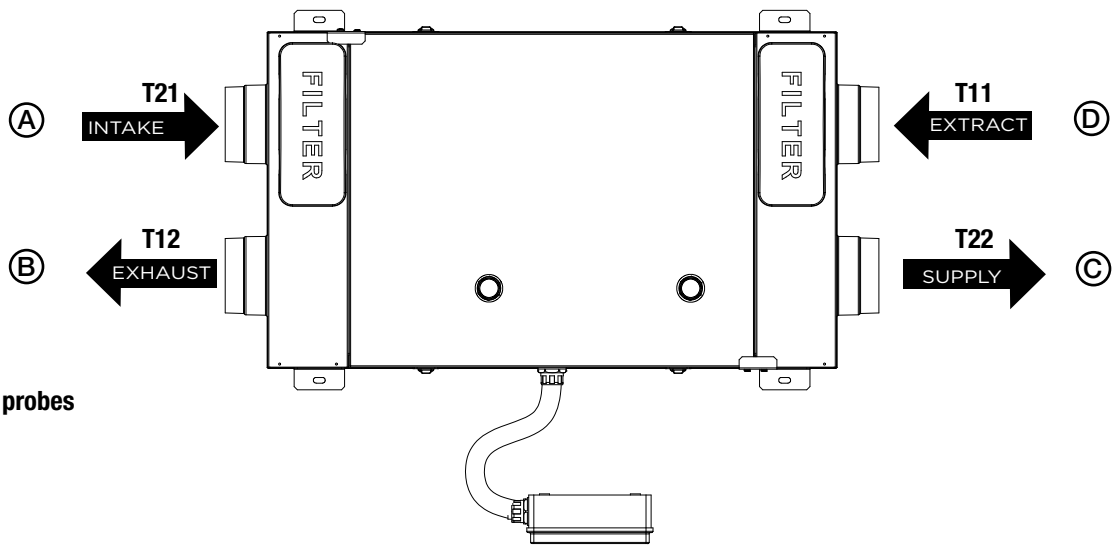


Fig. 7.a Temperature probes

- Ⓐ Intake air
- Ⓑ Exhaust air
- Ⓒ Supply air
- Ⓓ Extract air

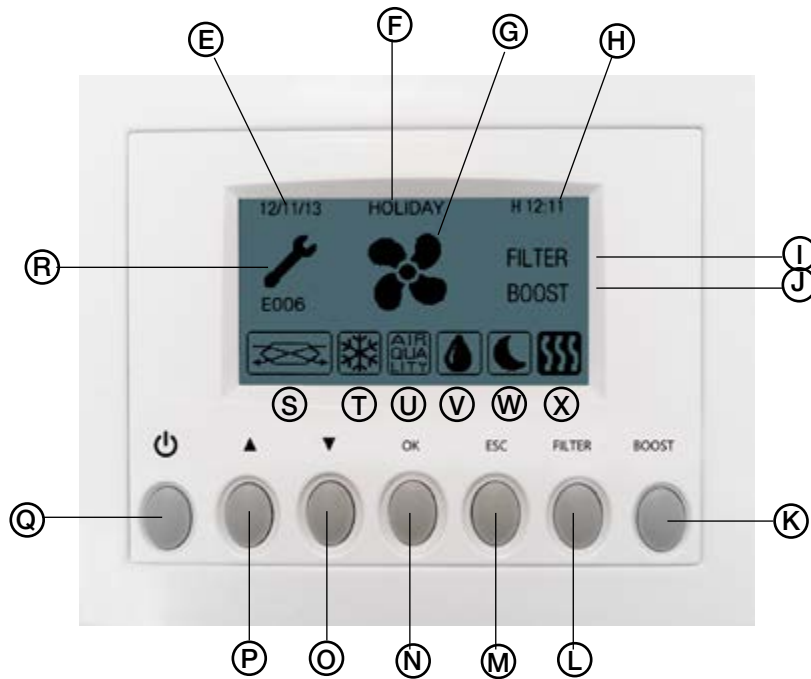


Fig. 7.b CTRL-DSP

- Ⓔ DATE: shows the current date
- Ⓕ MODE: shows the operation mode
- Ⓖ FAN UNIT ON: the fans are running
- Ⓗ TIME: shows the time
- Ⓘ FILTER ALARM: shows that filters need to be maintained/replaced
- Ⓙ BOOST: shows that BOOST speed is activated
- Ⓚ BOOST KEY: to manually activate the BOOST speed
- Ⓛ FILTER RESET KEY: to reset the Filter Alarm
- Ⓜ ESC key: to exit and go back to the previous menu
- Ⓝ OK key: to enter the selected menu
- Ⓞ to go DOWN with the menu selection
- Ⓟ to go UP with the menu selection
- Ⓠ to power off the ventilation unit
- Ⓡ shows ERROR ALARM - see point 7.3 to check the type of error
- Ⓢ this symbol shows if the bypass is active or not
- Ⓣ this symbol shows that ANTI-FROST is active
- Ⓤ this symbol shows that the IAQ input is activated, i.e.CO2
- Ⓥ this symbol shows that the HY input is activated.
- Ⓦ this symbol shows that NIGHT MODE is activated
- Ⓧ this symbol shows that Heating output is activated

Some operations can be selected either from the CTRL-DSP keys or from the menu

When powered on, the CTRL-DSP displays as follows:



Fig. 7.c CTRL-DSP operation screen

7.1 User Menu on CTRL-DSP

To enter the user menu press shortly OK or ESC.

To exit the user menu press ESC or wait for about 60 seconds.

User menu
1 Mode Selection
2 Boost
3 Boost Duration
4 Reset FILTER Alarm
5 Night Mode
6 Installer menu

Use ▲ or ▼ to select the menu.
Press OK to enter.

User menu
1 Mode Selection
2 Boost
3 Boost Duration
4 Reset FILTER Alarm
5 Night Mode
6 Installer menu

Mode selection allows the choice among AUTO, MANUAL, OFF and HOLIDAY mode.
Press OK to enter.
Use ▲ or ▼ to choose the mode.
Press OK to select.
Press ESC to go back to the previous menu.

Mode selection
Auto

AUTO mode (DEFAULT)
Auto is flashing: press OK to select.
Once powered on, the unit runs at TRICKLE speed.
Press ESC or wait for about 60 sec to go back to the operation screen (Fig. 7.c).
In case of activation of either HY or IAQ sensor inputs (OR logic), the unit speed switches to MEDIUM, and the sensor related icon or is displayed. Once all on/off sensors inputs are deactivated, the unit reverts back to TRICKLE speed.
In case the user has activated the NIGHT MODE , during nocturnal hours (from 8:00 p.m. to 8:00 a.m - fixed period of time) the sensor logic described above is ignored (the sensors have no effect and the unit runs at TRICKLE speed).

Mode selection
Manual

MANUAL mode
Manual is flashing: press OK to select.
A “volume bar” is displayed to show the increase/decrease of the speed. The operating speed is chosen by the user between 10% and 100% of the maximum speed (5% step) using ▲ or ▼.
Press ESC or wait for about 60 sec to go back to the operation screen (Fig. 7.c).

Mode selection
OFF

OFF mode
OFF is flashing: press OK to select.
The fans are switched off (the power supply to the motors is interrupted).
Press ESC or wait for about 60 sec to go back to the operation screen (Fig. 7.c).

Mode selection
Holiday

HOLIDAY mode
Holiday is flashing: press OK to select.
The unit works at HOLIDAY speed.
Press ESC or wait for about 60 sec to go back to the operation screen (Fig. 7.c).

User menu
1 Mode Selection
2 Boost
3 Boost Duration
4 Reset FILTER Alarm
5 Night Mode
6 Installer menu

It allows to select the Boost speed.

Press OK to select.

Choice NO or YES using ▲ or ▼.

Press OK to select.

Press ESC to go back to the previous menu.

Boost speed can be selected only if the Mode selection is AUTO, MANUAL or HOLIDAY.

Boost function can be activated in these ways:

- In the user menu, with the Boost function

- via the BOOST button on the CTRL-DSP (Fig.3.b - (K))

- Using a momentary switch connected to the BST ON/OFF (only if no dehumidifier is installed) - Fig.3.b.

When Boost is active, the unit runs at Boost speed for the duration set in the Boost duration menu;

afterwards the unit reverts to Trickle.

Boost can be stopped by holding BOOST button for 2 seconds.

User menu
1 Mode Selection
2 Boost
3 Boost Duration
4 Reset FILTER Alarm
5 Night Mode
6 Installer menu

It allows to set the duration of the boost speed.

Press OK to select.

Press ESC to go back to the previous menu.

The factory setting (DEFAULT) is 15'

Time options are 15' - 30' - 45' - 60'.

Time is flashing: use ▲ increase the time and ▼ to decrease.

Press OK to select.

User menu
1 Mode Selection
2 Boost
3 Boost Duration
4 Reset FILTER Alarm
5 Night Mode
6 Installer menu

It allows to reset the filter alarm after maintenance/replacement.

It can be selected only if the FILTER icon is ON (Fig.7.b - (I)).

Press OK to select.

User menu
1 Mode Selection
2 Boost
3 Boost Duration
4 Reset FILTER Alarm
5 Night Mode
6 Installer menu

It allows to deactivate the automatic operation of the Medium speed via sensors during nocturnal hours.

It operates from 8:00 p.m. to 8:00 a.m (fixed period of time). The sensors have no effect and the unit runs at TRICKLE speed.

OFF is flashing: use ▲ or ▼ to chance to YES.

Press OK to select.

The factory setting (DEFAULT) is OFF.

User menu
1 Mode Selection
2 Boost
3 Boost Duration
4 Reset FILTER Alarm
5 Night Mode
6 Installer menu

It allows to select the Installer menu.

**Enter
installer menu?**

Press OK to enter the Installer menu.

Press ESC to go back to the previous menu.

7.2 Installer Menu

The Installer menu can be selected either by selecting point 6) in the User menu or by holding OK+ESC for about 7 seconds.
To exit the installer menu press ESC or wait for about 60 seconds.

Installer menu
1 Language
2 Date/Time
3 Bypass
4 Free cooling
5 Heating
7 Dehumidification
8 Auto Speed Setting
9 F7 filter
10 Filter Alarm interval
11 Working Hours Counter
12 Save settings
13 Load settings
14 Restore Default Settings
15 Contrast
16 Debug page

Use ▲ or ▼ to select the menu.
NOTE: Menu 6 displays only if Menu 5 Heating is set on PRE or POST.

Installer menu
1 Language
2 Date/Time
3 Bypass
4 Free cooling
5 Heating

It allows to select the language among English, Italiano, Français, Deutsch, Espanol.
Press OK to enter.
Language is flashing: use ▲ or ▼ to choose.
Press OK to select.
The factory setting (DEFAULT) is Italian.

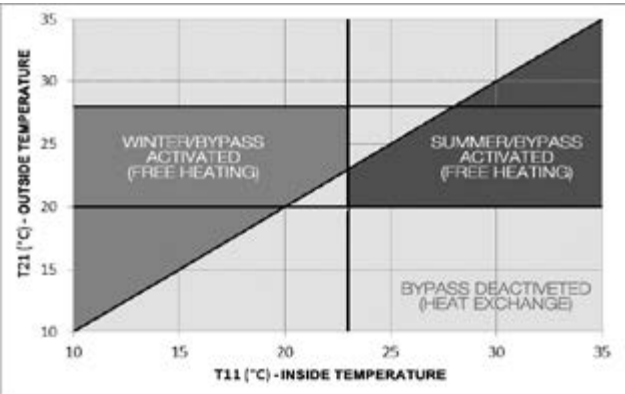
Installer menu
1 Language
2 Date/Time
3 Bypass
4 Free cooling
5 Heating

It allows to set the date and the time
Press OK to enter.
Use ▲ or ▼ to choose.
Press OK for setting.
Press ESC to go back to the previous menu.

Installer menu
1 Language
2 Date/Time
3 Bypass
4 Free cooling
5 Heating

To be selected only if the ventilation unit is equipped with a Bypass system.
Press OK to enter.
Use ▲ or ▼ to choose NO or YES.
Press OK to select.
Press ESC to go back to the previous menu.
The factory setting (DEFAULT) is NO.

The Bypass function is activated only if BYpass is set on YES.
The BPS 230V output (Fig.5.g) follows the subsequent logic:
A. BPS activated (SUMMER): ($T_{21}<T_{11}$) and ($T_{21}>20^{\circ}\text{C}$) and ($T_{11}>23^{\circ}\text{C}$) - Fig. 7.a.
B. BPS activated (WINTER): ($T_{21}>T_{11}$) and ($T_{21}<28^{\circ}\text{C}$) and ($T_{11}<23^{\circ}\text{C}$) - Fig. 7.a.
C. In all other conditions, the BPS output is deactivated
In cases A and B the Bypass icon is displayed on the LCD



Installer menu
1 Language
2 Date/Time
3 Bypass
4 Free cooling
5 Heating


To be selected only in case of NO Bypass.

Press OK to enter.

Use ▲ or ▼ to choose NO or YES.

Press OK to select.

The factory setting (DEFAULT) is NO.

This function is activated only if FREE COOLING is set on YES. When it is operating the icon  is displayed on LCD.

This function mitigates heat exchange when it's not desirable.

The intake fan speed varies according to (T11-T21 - Fig 7.a) as follows:

A. (T11-T21) < 0°C no changes in speed (normal operation)

B. (T11-T21) > 10°C Intake Fan speed=10% (absolute minimum)

C. 0°C < (T11-T21) < 10°C linear variation

To be selected only in case an external heating element (not supplied) is present.


Press OK to enter.


Use ▲ or ▼ to choose NO/PRE/POST

Press OK to select.

The factory setting (DEFAULT) is NO.

NO: HEAT output (Fig. 5.g) is never activated

PRE: HEAT output (Fig. 5.g) is activated and heating icon  displays on LCD when T21 < HEATING THRESHOLD (Fig.3.a)

POST: HEAT output (Fig. 5.g) is activated and heating icon  displays when T11 < HEATING THRESHOLD (Fig.3.a)

This option displays only if Heating is set on PRE or POST.

It allows to set the heating threshold in case of PRE or POST heating

Press OK to enter.

Use ▲ or ▼ to set the temperature.

Press OK to select.

Setting ranges:

PRE: -20°C ÷ 0°C

POST: +15°C ÷ +25°C

The factory settings are:

PRE: -10°C


POST: +20°C

To be selected only in case an external dehumidifier (not supplied) is present.

Press OK to enter.

Use ▲ or ▼ to choose NO or YES.

The factory setting is NO.

The DH relay output is activated when the HY input is activated (Fig.5.g) and the icon  is displayed.

Note: in case dehumidifier is installed, the BST input (Fig.5.g) is used as alarm output

Installer menu
1 Language
2 Date/Time
3 Bypass
4 Free cooling
5 Heating

Installer menu
6 Heating threshold
7 Dehumidification
8 Auto Speed Setting
9 F7 filter
10 Filter Alarm interval

Installer menu
6 Heating threshold
7 Dehumidification
8 Auto Speed Setting
9 F7 filter
10 Filter Alarm interval

Installer menu
6 Heating threshold
7 Dehumidification
8 Auto Speed Setting
9 F7 filter
10 Filter Alarm interval

It allows to adjust the various speeds.

Press OK to enter.

Use ▲ or ▼ to choose Trickle, Medium, Boost, Holiday.

Press OK to select.

The setting ranges are:

TRICKLE: 10% ÷ 80%

MEDIUM: 20% ÷ 90%

BOOST: 60% ÷ 100%

HOLIDAY: 10% ÷ 40%

Use ▲ or ▼ to increase or decrease the speed percentage.

Press OK to select.

Press ESC to go back to the previous menu.

The factory settings are:

TRICKLE: 40%

MEDIUM: 70%

BOOST: 100%

HOLIDAY: 20%

Press ESC to go back to the Installer menu.

Installer menu
6 Heating threshold
7 Dehumidification
8 Auto Speed Setting
9 F7 filter
10 Filter Alarm interval

To be selected only in case an F7 filter is installed at the supply air side (Fig.7.a)
Press OK to enter.
Use Use ▲ or ▼ to choose “Not installed” or “Installed”.
Press OK to select.
The factory setting is “Not installed”.

Installer menu
6 Heating threshold
7 Dehumidification
8 Auto Speed Setting
9 F7 filter
10 Filter Alarm interval

It allows to set the Filter Alarm period: the system has a timer which activates the Filter warning at regular intervals.
Press OK to enter.
Use Use ▲ or ▼ to choose among 2-3-6 months or OFF.
Press OK to select.
The factory setting (DEFAULT) is 3 months if F7 filter is “Installed” or 6 months if F7 filter is “Not installed”

Installer menu
11 Working Hours Counter
12 Save settings
13 Load settings
14 Restore Default Settings
15 Contrast
16 Debug page

The system keeps trace of the actual working hours of the unit. It cannot be changed. Data is saved both on the motherboard and on the control panel, to be safe in case of either fault.
Press OK to enter.
Press OK or ESC to go back to the Installer menu.

Installer menu
11 Working Hours Counter
12 Save settings
13 Load settings
14 Restore Default Settings
15 Contrast
16 Debug page

It allows to save the setting of the #1 (prototype) installation in the internal memory of the CTRL-DSP to be loaded afterwards in other units.
Press OK to enter.
Use Use ▲ or ▼ to choose the setting. Up to 8 different settings can be saved
Press OK to select.
Press OK to confirm.
Press ESC to go back to the previous menu.

Installer menu
11 Working Hours Counter
12 Save settings
13 Load settings
14 Restore Default Settings
15 Contrast
16 Debug page

It allows to load the saved setting (upto 8 settings) on the next unit.
Press OK to enter.
Use ▲ or ▼ to choose the desired saved settings.
Press OK to select.
Press OK to confirm.

Installer menu
11 Working Hours Counter
12 Save settings
13 Load settings
14 Restore Default Settings
15 Contrast
16 Debug page

It allows to restore all the factory settings.
Press OK to enter.
Press OK to confirm.

Installer menu
11 Working Hours Counter
12 Save settings
13 Load settings
14 Restore Default Settings
15 Contrast
16 Debug page

It allows to set the LCD contrast.
Press OK to enter.
Use ▲ or ▼ to increase or decrease the contrast.
Press OK to confirm.

Installer menu
11 Working Hours Counter
12 Save settings
13 Load settings
14 Restore Default Settings
15 Contrast
16 Debug page

It shows the internal parameters of the unit.
Press OK to enter.
Press ESC to go back to the previous menu.

7.3 Additional functionalities

SLAVE MODE

In case the SLAVE jumper (Fig.5.g - JP2) is short-circuited before powering the unit, the unit works in SLAVE MODE; the operating speed is determined by the 1-10V signal received at the SLAVE input. All the operating logics described in the Mode selection are ignored (point 7.1).

In this operating mode, the speed shown on the LCD controller is the nearer one to the actual speed (which can vary continuously between 10% and 100%).

FAULT HANDLING

Code error description (Fig.7.b - **(R)**)


E000 no RS485 connection
E001 no rotation of fan 1
E002 no rotation of fan 2
E003 thermistor T11 broken/disconnected
E004 thermistor T12 broken/disconnected
E005 thermistor T21 broken/disconnected
E006 thermistor T22 broken/disconnected
E007 dehumidifier alarm (BST INPUT)
E008 CTRL-DSP internal timing error

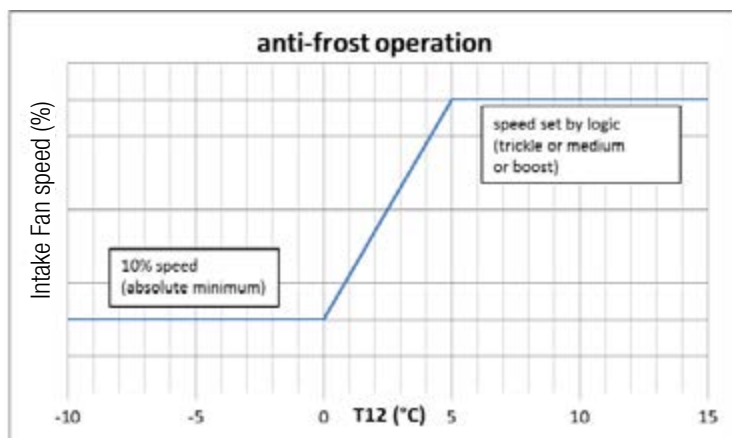
NOTE: the controller board verifies the presence of CTRL-DSP periodically; if CTRL-DSP is absent (or faulty), the unit works in AUTO mode at TRICKLE speed (default condition).

ANTI-FROST

Intake Fan speed is varied according to T12 (Fig. 7.a) as follows:

- A. $T12 > 5^{\circ}\text{C}$ no changes in speed (either trickle or media or boost)
- B. $T12 < 0^{\circ}\text{C}$ 10% (absolute minimum)
- C. $0^{\circ}\text{C} < T12 < 5^{\circ}\text{C}$ linear variation (see chart)

In cases B and C the ANTI-FROST icon  is activated on the LCD.



WARNING

Make sure that specific warnings and cautions in Chapter 2 "Precautions" are carefully read, understood and applied!

Maintenance can be carried out by the user.

Service must be performed only by an authorized installer and in accordance with local rules and regulations .

Questions regarding installation, use, maintenance and service of the unit should be answered by your installer or place of purchase!

8.1 Components list

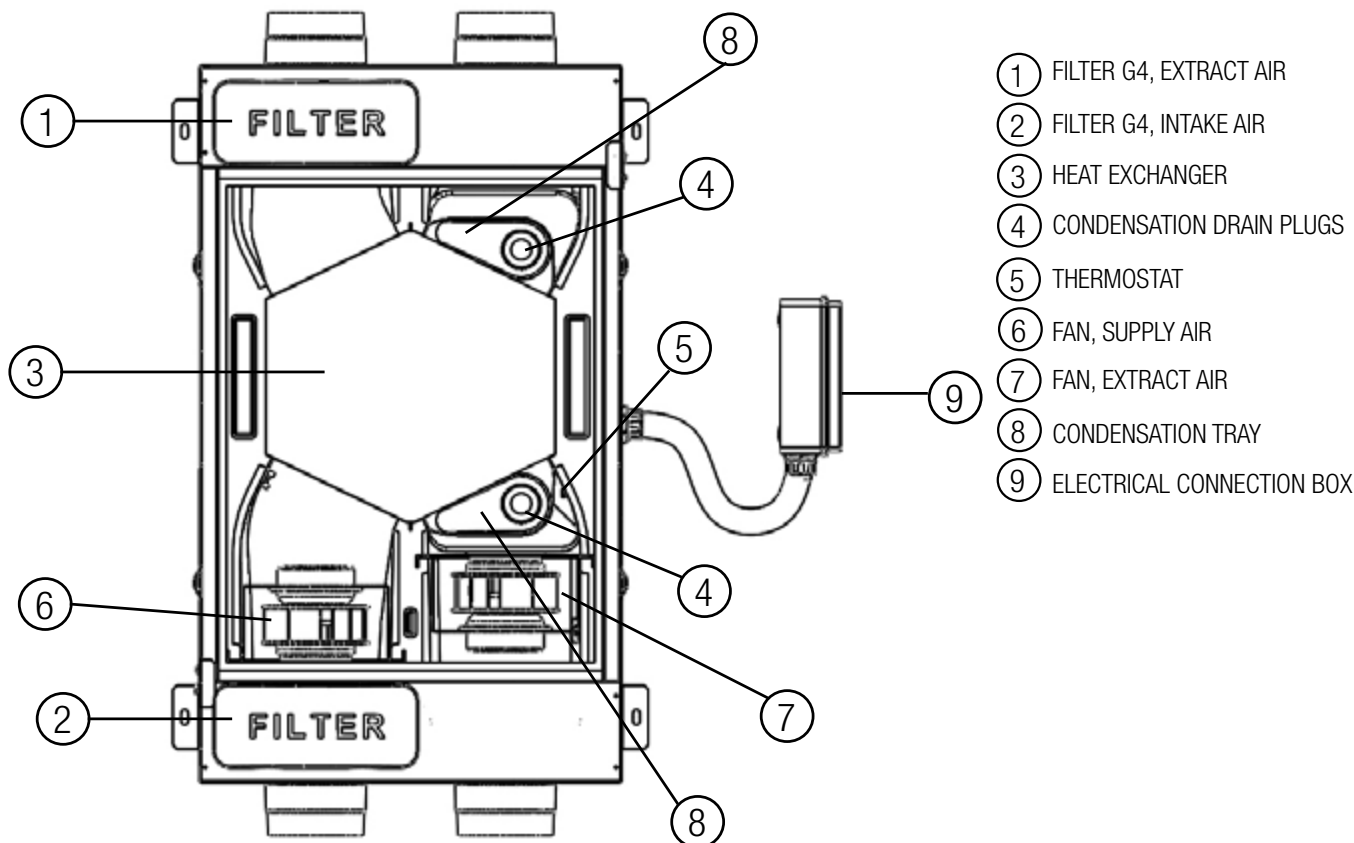


Fig. 8.a Internal components

8.2 Description of Components

Fans

The fans have external rotor motors of EC type which can be steplessly controlled individually between 20–100%. The motor bearings are life time lubricated and maintenance free. It is possible to easily disconnect and replace the fans if necessary.

Filters

The filters are of filter quality G4 for both the supply air and extract air filter. The filters need to be cleaned regularly (and replaced when polluted) during maintenance. New sets of filters can be acquired from your installer or wholesaler.

Heat exchanger

The unit is equipped with a highly efficient, counter-flow plate heat exchanger. Supply air temperature is therefore normally maintained without adding additional heat. The heat exchanger is removable for cleaning and maintenance during service.

Condensation drainage

Depending on the relative humidity in the extract air, condensation may occur on the cold surfaces of the heat exchanger, on one side in winter time, on the other side in summer time (fig.6.b).

The condensate water is led out through drainage pipe.

Thermistors

Temperature probes to implement temperature dependent functions.

8.3 Maintenance

WARNING

Make sure that the mains supply to the unit is disconnected before performing any installation, service, maintenance or electrical work!

- Keep the unit surface free from dust.
- Clean the filters with a vacuum cleaner following the below illustrations (fig.8 b-c-d-e) when the FILTER signal is displayed on LCD. It may differ per situation depending on the internal and external environmental conditions.
- Press FILTER button (Fig.7.b - (L)) to reset the Filter Alarm Interval.
- Filter must be replaced every year.

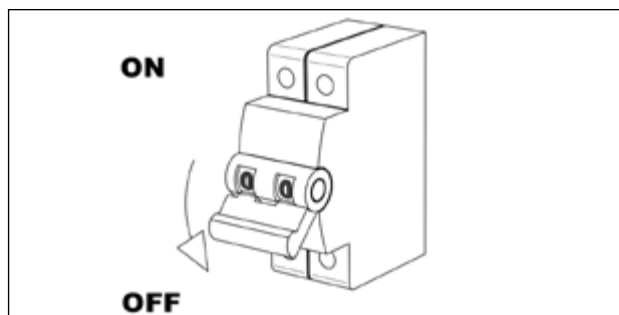


Fig. 8.b

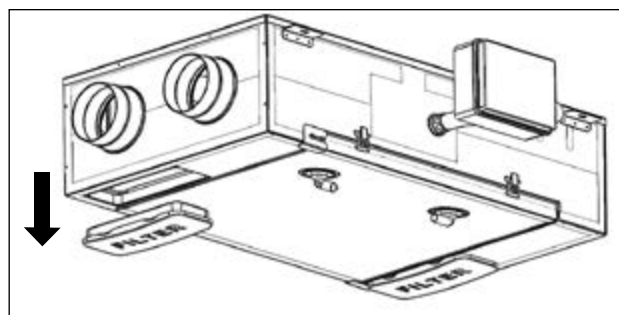
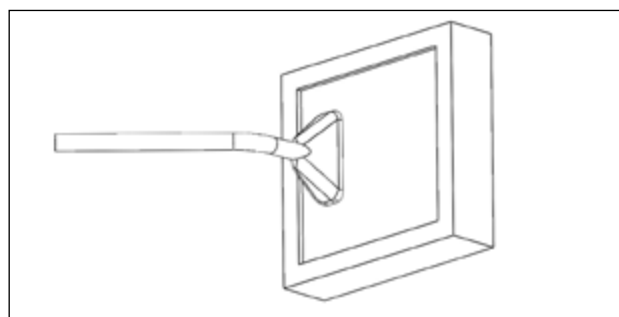
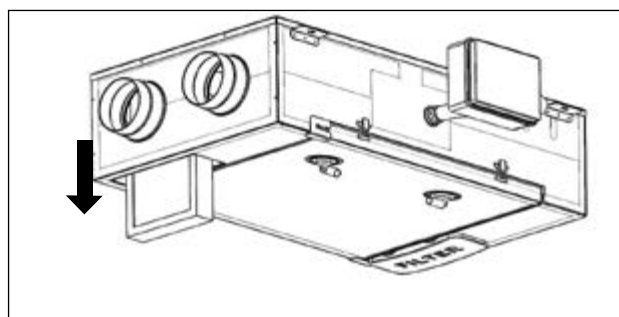


Fig. 8.c



8.4 Service

WARNING

Make sure that the mains supply to the unit is disconnected before performing any installation, service, maintenance or electrical work!

WARNING

The installation and service of the unit and complete ventilation system must be performed by an authorized installer and in accordance with local rules and regulations.

- Keep the unit surface free from dust.
- Clean the filters with a vacuum cleaner following the following illustrations (fig.8 f-g-h-i) when the FILTER signal is displayed on LCD. It may differ per situation depending on the internal and external environmental conditions.
- Clean the fans every year with a vacuum cleaner. This may differ per situation depending on internal and external environmental conditions and on frequency of filter cleaning. Do not move the balance clips of the fan (fig.8 f-j-k-l)
- Clean the heat exchanger every year with a vacuum cleaner. This may differ per situation depending on internal and external environmental conditions and on frequency of filter cleaning. To remove the heat exchanger unlock the specific bracket by turning the yellow screw (fig.8 f-j-k-m-n-o).

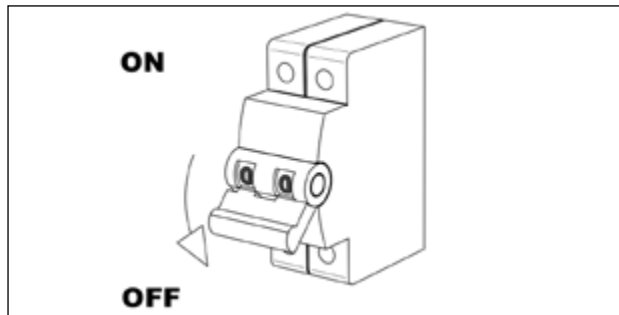


Fig. 8.f

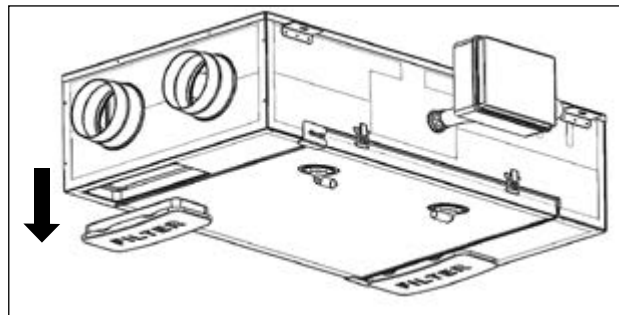


Fig. 8.g

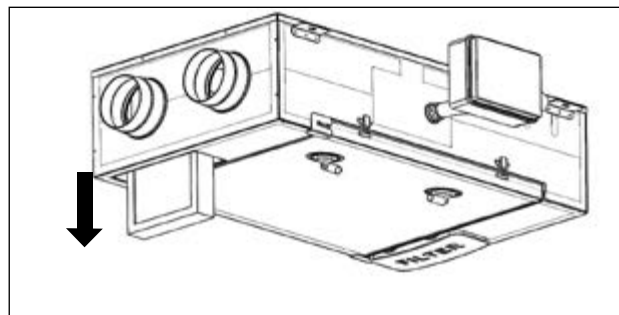


Fig. 8.h

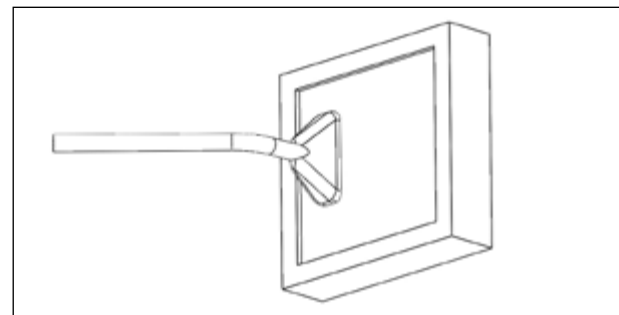


Fig. 8.i

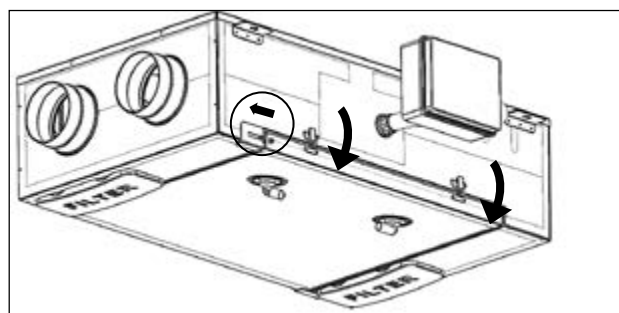


Fig. 8.j

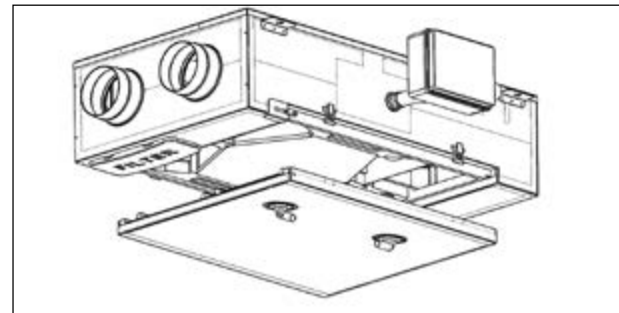


Fig. 8.k

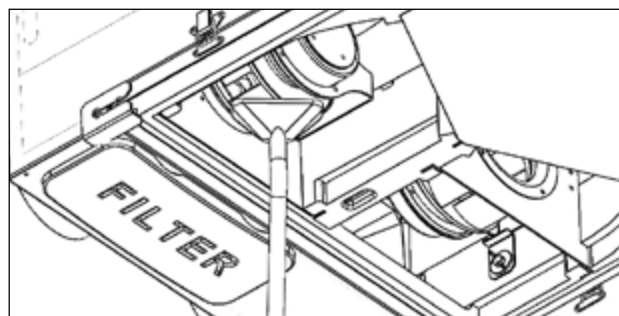


Fig. 8.l

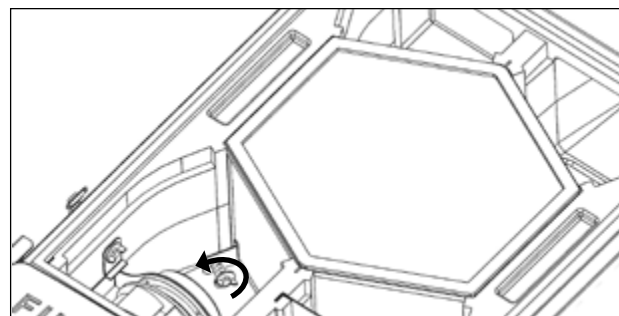


Fig. 8.m

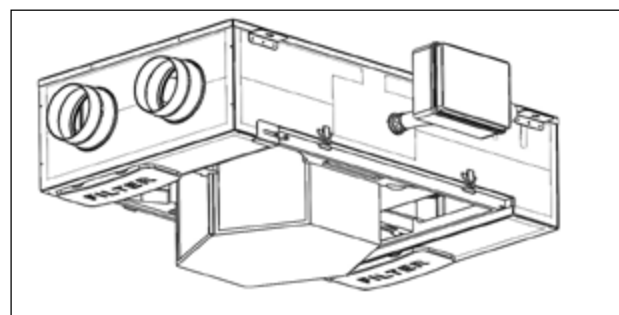


Fig. 8.n

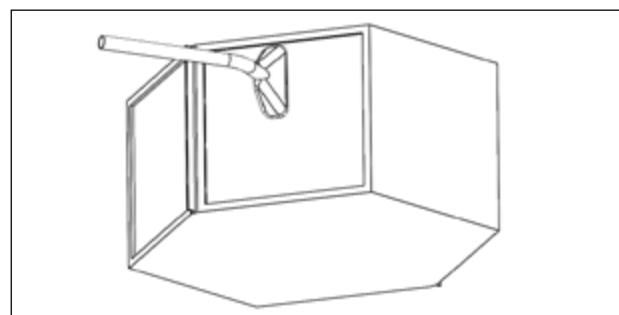



Fig. 8.o

8.5 Trouble shooting

Fans do not start

1. Check that main supply gets to the unit.
2. Check that all connections are working (all connections in terminal box and fast couplings of supply and extract air fans).
3. If only the supply fan is switched off and if the external temperature is below zero, maybe the no-frost thermostat is activated: wait until the thermostat is deactivated.

Reduced airflow

1. Check setting of fan speed on the CTRL-DSP (controller supplied)
2. Check filters. Change of filters required?
3. Check diffusers. Re-setting or cleaning of grilles and diffusers required?
4. Check fans and heat exchange block. Cleaning required?
5. Check if air intake and exhaust have been clogged.
6. Check ducting system for damage and/or dirt accumulation.
7. Check if the free cooling function is activated
8. Check if Anti-frost icon  is displayed on LCD.

Fan noise/vibrations

1. Clean fan impellers. Cleaning required?
2. Check that the fans are firmly in place within the unit
3. Check that the unit has been installed with anti-vibration mounts.

Excessive air noise

1. Check setting of fan speed on the CTRL-DSP (controller supplied)
2. Check grilles and diffusers. Re-setting or cleaning of grilles and diffusers required?

Gurgling noise

1. Drain traps have not been installed correctly.
2. Drain traps below the unit has a too low water level, fill it up with water.

Unpleasant smell

1. Drain traps/plugs have not been installed correctly.
2. Drain traps below the unit has a too low water level, fill it up with water.
3. Check filters . Change of filters required?
4. Check ducting system and grilles and diffusers. Cleaning required?

Water leakage near the unit

1. Drain connections and traps/plugs have not been installed correctly. Sealing necessary?
2. Drain connections and traps/plugs are dirty. Cleaning necessary?