Installation and directions for use

HERU S AC

UL VERSION. **Choose language and unit system in the Setting Menu on page 15.**

ÖSTBERG
HEALTHY INDOOR CLIMATE
WITH ENERGY EFFICIENT VENTILATION

WARRANTY

Warranty period valid according to purchase contract calculated from date of purchase.

SCOPE OF WARRANTY

This warranty covers faults occurring during the warranty period, which have been notified to the dealer or verified by Ostberg Americas Inc. (warrantor) or a representative of the warrantor, and which concern design, manufacturing or material defects and consequential damages occurring on the product itself. The above mentioned faults will be rectified so that the product is made operational.

GENERAL WARRANTY LIMITATIONS

The warrantor's responsibility is limited in accordance with these warranty terms and the warranty does not cover property damage or personal injury. Verbal promises made in addition to this warranty agreement are not binding for the warrantor.

WARRANTY LIMITATIONS

This warranty applies on condition that the product is used in a normal fashion or under comparable circumstances for its intended purpose and that the instructions for use are followed.

This warranty does not cover faults caused by:

- Transport of the product.
- Careless use or overstraining of the product.
- Failure on the part of the user to follow instructions concerning installation, use, maintenance, care and handling.
- Incorrect installation or incorrect positioning of the product.
- Conditions that are not due to the warrantor, e.g. excessive voltage variations, lightning, fire and other accidents.
- Repair, maintenance or design changes made by an unauthorized party.
- Faults that do not impact operation, e.g. surface scratches.
- Parts that through handling or normal wear are exposed to greater than average hazard, e.g. lamps, glass, ceramic, paper and plastic parts, and filters and fuses are not covered by the warranty.
- Settings; information on use, care, handling, service or cleaning that are customarily described in the instructions for use; or works caused by the user neglecting to observe warning or installation instructions; or investigation of such are not covered by the warranty.
- The warrantor is responsible only for the operation if approved accessories are used.
- The warranty does not cover product failures caused by accessories/equipment from other manufacturers.

The unit's current settings must be noted in the installation/mounting instructions at installation to avoid costs in the event of fault. The warrantor is not liable for costs such as adjustment costs related to the replacement of fans and control boards in the unit.

SERVICE TERMS DURING THE WARRANTY PERIOD

According to your agreement with your local distributor.

RECTIFICATION MEASURES WHEN A FAULT IS DETECTED

When a fault is detected, the customer must notify this to the dealer. Specify what product this applies to (part number and manufacture date – year and week – are listed on the product label), and describe the fault and how it occurred as accurately as possible. For a warranty repair to be performed, the customer must prove that the warranty is valid by presenting the receipt of purchase. After the warranty period has expired, warranty claims that have not been made in writing before the expiration of the warranty period will not be valid.

In all other respects according to our conditions of sale.

NOTE!

Ostberg Americas Inc. reserve the right to make changes without further notice.

CONTENTS

TECHNICAL INFORMATION

This "Installation and directions for use" contains following products:
HERU 14 S AC, HERU 19 S AC, HERU 35 S AC and HERU 52 S AC.

IMPORTANT! Please read this manual before installing the unit.

UNIT DESCRIPTION

- HERU S is approved according to the standard UL 1812 "Ducted Heat Recovery Ventilators" and CSA-C22.2 No. 113 "Fans and Ventilators".

- HERU S is a heat recovery unit (HRV) or an energy recovery unit (ERV). It is designed for supply and exhaust air ventilation combined with heat and cool recovery.

- HERU S can be used in both residential and commercial applications such as homes, apartments, offices and schools etc. where there is a need for:
  -clean. filtered and fresh air
  -high temperature efficiency
  -energy saving
  -safe and quiet operation

- HERU S;
  - has a rotating heat exchanger, of hygroscopic or non-hygroscopic type and is manufactured of aluminium, placed centrally in the unit. The ERV exchanger has a humidity efficiency of up to 85%. The HRV exchanger has a temperature efficiency of up to 85%.
  - has backward curved centrifugal fans with maintenance free external rotor motors, which are connected with quick contacts, and are easy to remove for cleaning.
  - has built-in control for heating/cooling.
  - can be fitted with a built-in electric heater.
  - has as standard, disposable bag filters, class MERV 13.
  - has a wireless remote controller for the operation and monitoring of the unit.
  - has as standard, Modbus communication via RS485.
  - has a double skinned galvanised sheet steel casing with intermediate insulation.

- The HERU S can be mounted in either warm or cold space.

- The HERU S is delivered galvanized.

- All HERU S are operated via a wireless remote controller which can operate and to preset the required parameters as well as monitor the unit's status. The operating range is approximately 50 meters/164 feet.
  The antenna which is placed next to the unit can have the range reduced if there are heavy reinforcing bars in the concrete structure and it should then be moved either to a position where the signal is not shielded or nearer to the controller.

INSTALLATION AND SECURITY

USE

- To achieve as comfortable indoor climate as possible and to avoid moisture damage to the property, the house needs a continuous and adequate ventilation. The unit **must** run continuously and only be stopped for maintenance.
  The air flow is controlled by settings in the wireless control unit:
  Away – Reduced airflow, can be used when no one is at home.
  Normal – This is adjusted by the installer and should not be changed by the user.
  Boost – A higher air flow than normal, selectable medium/max. Should be used when there is a need for a higher air flow than the default mode is adjusted for, such when cooking, drying laundry, shower and sauna.
  Recommendations for drying laundry: Because of the high moisture content, an exhaust air tumbler or a drying cabinet should not be connected to the system. We recommend a condensing tumbler without duct connection.
- When installing HERU consideration must be given to any approval authority requirements and recommendations concerning siting, accessibility, electrical connections, etc.
- The HERU unit is accessible for the user, according to IEC 60335-2-40, to by themselves do the service and maintenance, according to this Directions for use. But before this work the unit must be currentless.
  With reservation according to IEC 60335-2-7.12 "This appliance is not intended for use by persons (including children) with reduced physical, sensory or metal capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety."
  "Children should be supervised to ensure that they do not play with the appliance."
- The HERU unit should be storage in a sheltered and dry place before installation.
- Dimensioned air flow should not exceed 60% of the unit's maximum capacity.
- Check at regular intervals that supply air and exhaust air works.
- **To avoid condensation in the unit during the cold season, the unit should not be turned off for a longer period.** When installed in warm moisturre environment as e.g. bathroom and utilityroom condense may appear on the outside of the unit at low outside temperatures.

SECURITY

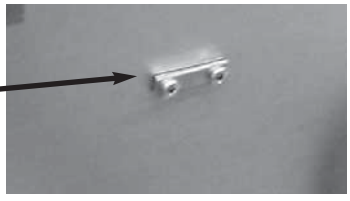
Caution! Do not apply electric power until after completion of the installation. Ensure the installation and wiring is in accordance with CEC, NEC and local electrical codes..

- Attention, look out for sharp edges and corners on the HERU unit and fans.
- Consider the weight of the unit. See page 35.
- Before maintenance work the HERU unit must be currentless. If there is a need of changing or complement any electrical components, it should be done by a qualified person.
- The HERU unit includes rotating parts that could cause serious danger on the occasion of contact. This is why the unit must be duct connected and the lid closed with the screws tightened, before starting up the unit.
- After the current is cut for service and maintenance the electric heater may still be warm.
- Make sure that the access cable is not damage when mounting and installation.
- HERU must be equipped with residual-current device (RCD).
- The HERU S needs a permanent electrical supply.
- The unit must be connected via a safety switch. Any electrical connections must be made by a qualified electrician.
- Keep in mind that rotating, warm and electrical components can cause serious damage.

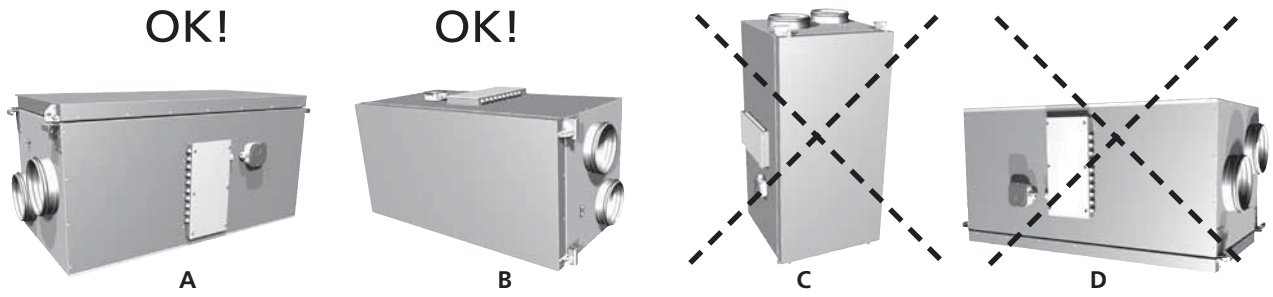
MOUNTING THE HERU S

- HERU S should be installed according to the assembly instructions. See picture on next page.
- Place the unit on a insulation board, min. 2 inch.
- Supply and exhaust air must be duct connected on the same side of the unit.
- Acoustic silencer should be planned with the help of sound data and required sound levels.
- Use duct clamp or flange with encompassing insulation when connecting to duct.
- If the supply and the exhaust air ducts are installed in a cold space they should be insulated. To prevent condensation the supply air duct should also be insulated if installed in warm space at low supply air temperatures.
- The fresh air and extract air duct should always be condense insulated.
- The ducts should be insulated all the way towards the unit.
- The duct sensor GT7 should be mounted in the supply air duct, and the antenna on a suitably position beside the unit (not against metal).
- If a heating coil is connected a cut off damper must be mounted in the fresh air duct.
- Cooker hoods must not be connected to the HERU S because of the increased cleaning demand.
- Ducting must be conntected to external ground on the unit, see picture.

External ground.

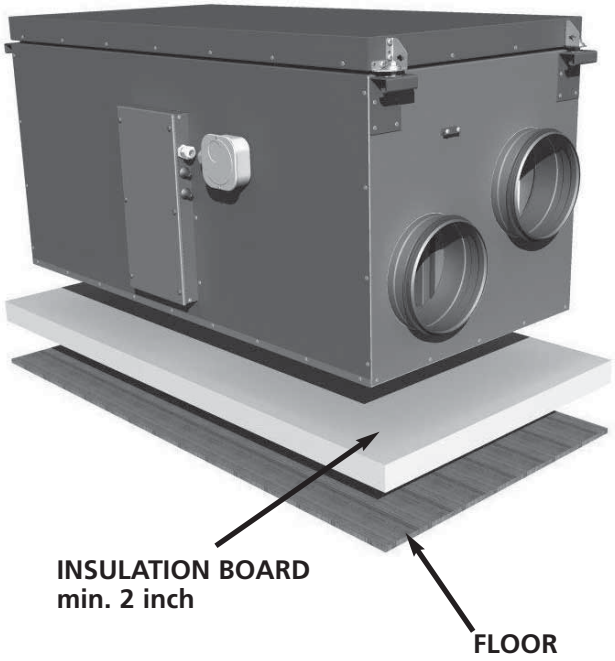


PLACING THE HERU S UNIT

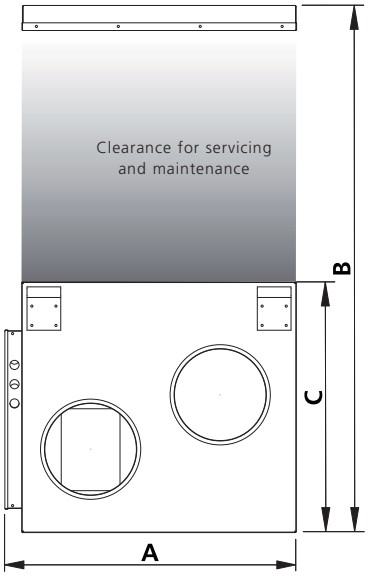


The HERU S should be installed with the lid upwards (**A**) or on the side (**B**). Because of the risk of injury **we do not recommend** installing the unit vertically (**C**) or with the lid downwards (**D**). Allowances must be made to access the unit for servicing or maintenance.

ASSEMBLY INSTRUCTION

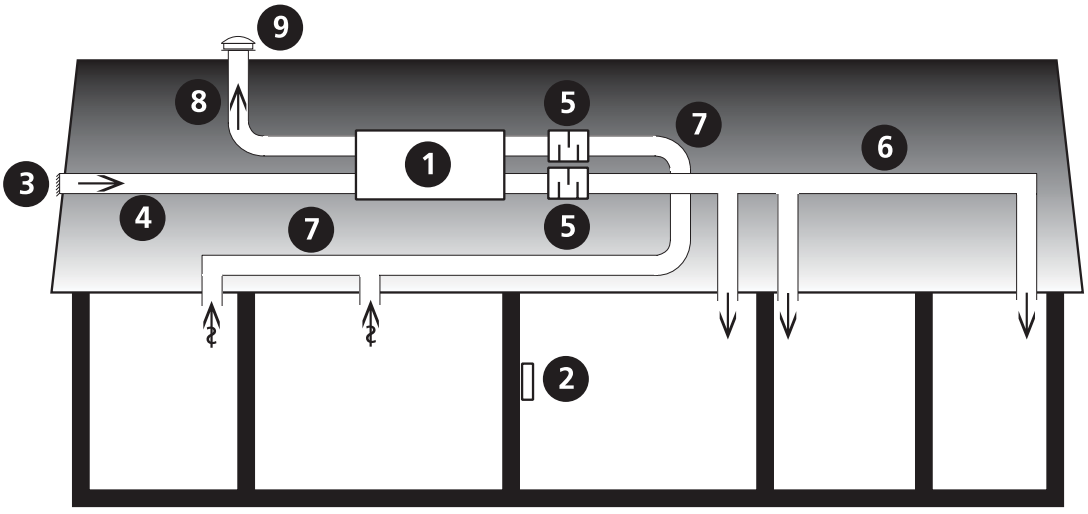


CLEARANCEE FOR SERVICING AND MAINTENANCE



Inch	A+D	B	C
H E R U 14 S/19 S	21 7/8	31 1/2	16
H E R U 35 S	24	39 3/8	20 1/2
H E R U 52 S	28	48	24 7/8

SCHEMATIC DIAGRAM FOR HERU S PLACED IN AN ATTIC



1 Heat recovery unit HERU
2 Control unit
3 Intake grille
4 Fresh air duct
5 Silencer
6 Supply air duct
7 Extract air duct
8 Exhaust air duct
9 Roof terminal

STARTING UP THE UNIT NB! Important information before starting!

WARNING!
Improper installation, adjustment, alternation, service or maintenance can cause property damage, personel injury or loss of life.

Installation and service must be performed by a qualified installer or service agency.

Carefully read through the manual before starting up the unit.

- **NB! Always mount the temperature sensor GT7 in the supply air duct.** *See page 8.* **GT7 is connected at the relay card.**

- The antenna should be mounted outside the unit. The antenna for HERU S is connected ans is located in the connection box when delivered.
  NB! The antenna should not be mounted against any metal area or metal items as this will shield the signal.
  The antenna should be mounted as central as possible. This to achieve the best signal all over the house. If needed an extension cord is available as an accessorie.

- Install the 3 AA batteries in the wireless control unit that are placed inside the HERU® when delivered.

- HERU starts automatically (with a few minutes delay) when the power is switched on, or alternative with the wireless control unit. At power outage, always check so the unit is starting up again.

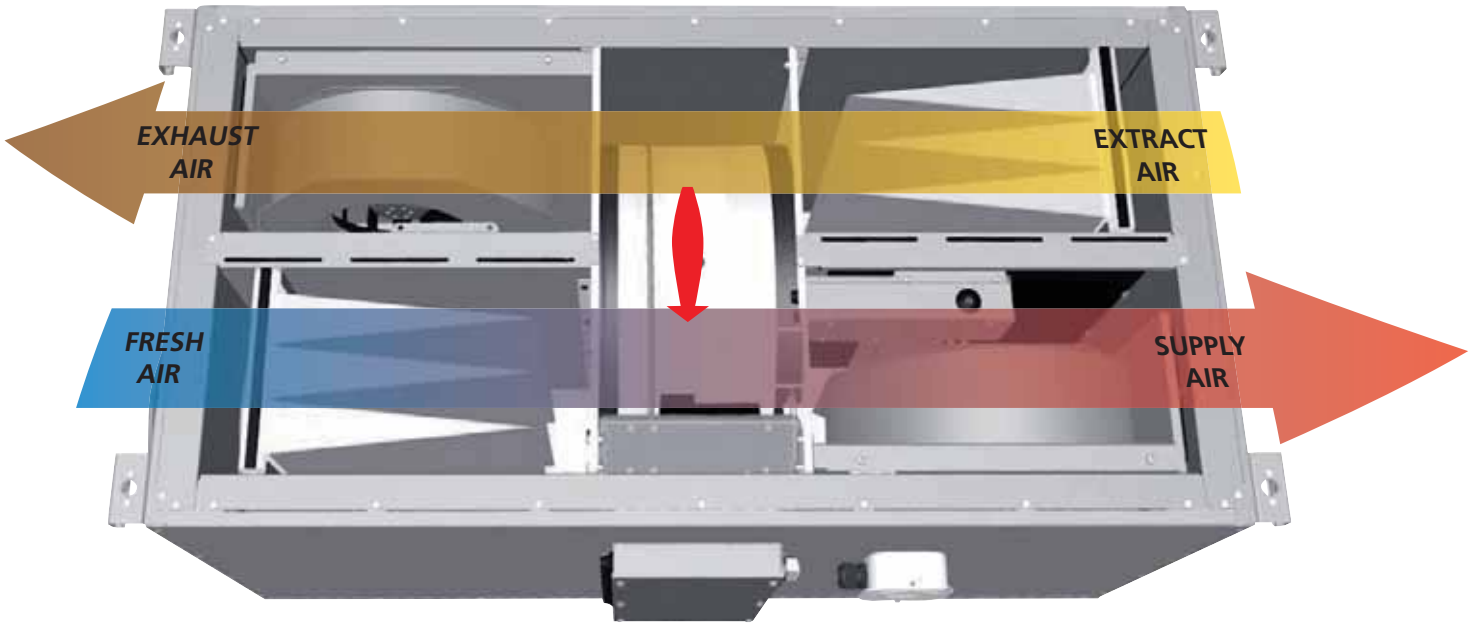
- **HERU S is supplied for right handed application, *see picture below*. If the unit is installed left handed, and no electrical heater is fitted, changes can be made in the "Service Menu" and in the submenu "Flow Direction".** *See page 20.*
- **Important when adjusting the flow:** Go to Service Menu (password 1199), choose "AC -motor setup". This disable functions such as Summer cooling or Boost during flow adjustment. The fan speed is standard. *See page 21.*
  When adjusting the airflow of AC-fans there is a possibility to change the voltage for the different fan speeds via the separate transformers for supply resp. exhaust fan. Normal operation should be done in standard mode. *Wiring diagrams with transformer steps see pages 40-41.*
  All HERU S has 7-step transformers. *See wiring diagrams on pages 40-41.*
  Note! When ajusting fan speed manully, make sure that the speed keeps the sequences.

- All HERU can be fitted with a built-in electric heater. Choose heater "On/Off" according to the instruction on page 19. For a heating coil see instruction on page 19.

- Set the temperature according to the instruction on page 12.

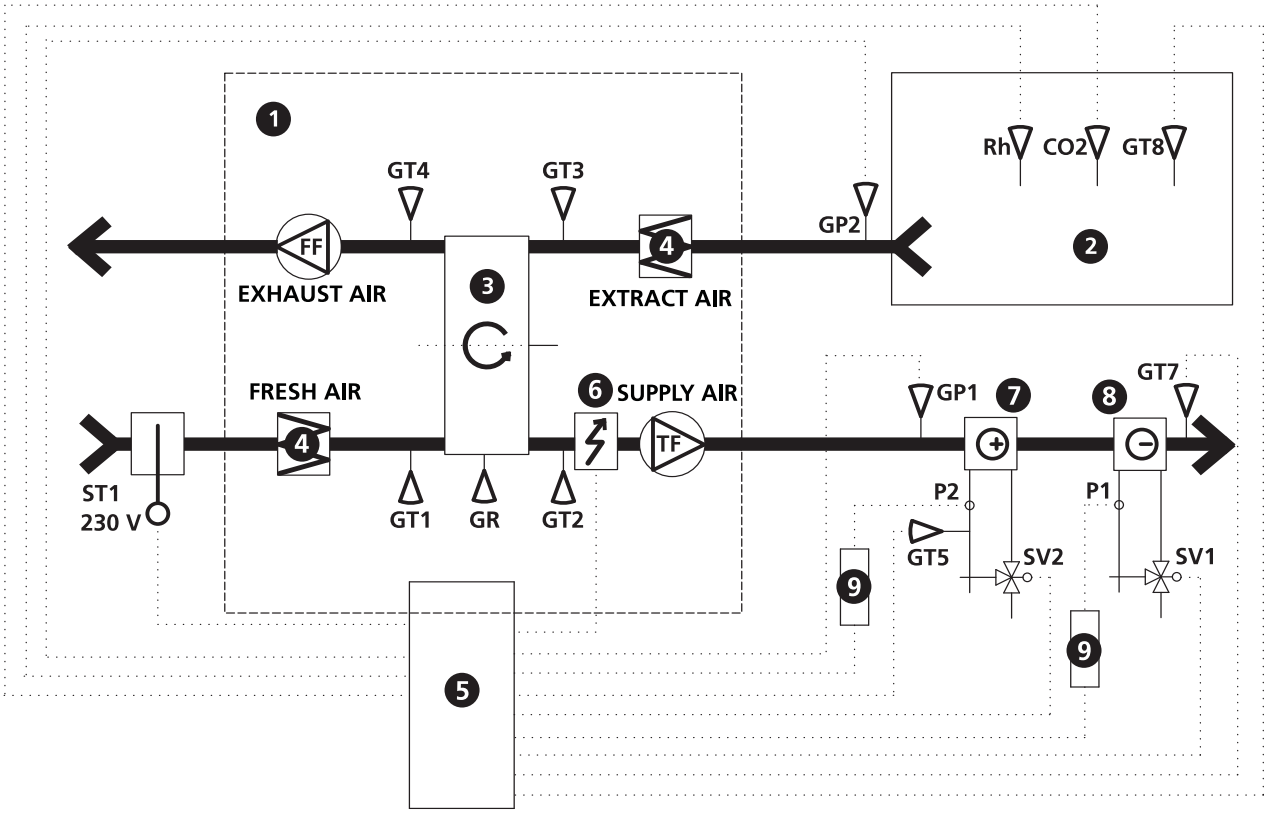
- Save settings according to the instruction on page 22.

- **Note! The unit must not be operating without filter.**



CONTROL CABINET

CONTROL DIAGRAM HERU S shows all sensors, flow direction right



1 Heat recovery unit HERU
2 Room
3 Rotary heat exchanger
4 Filter
5 Electric control board
6 Electrical heater
7 Heating coil*
8 Cooling coil*
9 Relay *

ST1 Damper motor with pull back spring*
GP1 Pressure sensor supply air*
GP2 Pressure sensor extract air*
GR Rotor sensor
GT1 Internal temp. sensor fresh air
GT2 Internal temp. sensor supply air
GT3 Internal temp. sensor extract air
GT4 Internal temp. sensor exhaust air
GT5 Freeze protection sensor
GT7 Temperature duct sensor supply air (min/max)

GT8 Temperature duct sensor*
Rh Room sensor, humidity*
CO2 Room sensor, carbon dioxide*
SV1 Valve, cooling*
SV2 Valve, heating*
TF Supply air fan
FF Exhaust air fan
P1 Circulation pump, hot water*
P2 Circulation pump, cold water*

*Accessories

REGULATION FUNCTIONS

REGULATE THE TEMPERATURE

The air temperature can be regulated either for constant supply air temperature, constant room temperature or constant exhtract air temperature.

For constant room temperature a sensor should be placed in the room for room regulation (this is also suitable when a cooling coil is incorporated in the system).

Extract air regulation functions in a similar way but with the difference being that the sensor is placed at the extract air of the unit.

The temperature can be regulated in 5 sequences:

1. **Cooling recovery + After cooling:** The regulation unit can regulate a cooling coil (e.g. cooling water from bedrock), when the cooling recovery from the rotor is not enough.
2. **Cooling recovery or regulated after cooling:** The rotary heat exchanger starts if the extract air temperature is lower than outside temperatur.
   Regulated after cooling: The aftercooling starts when the outside temperature is lower than desired room temperature and is not enough to lower the room temperature.
3. **Outside temperature = desired temperature:** When the outside temperature is the same as desired supply air temperature the rotor stops.
4. **Heat recovery:** The rotary heat exchanger starts to recover the warmer room temperature.
5. **Heat recovery + heat:** In climate conditions where the rotary heat exchanger, in spite of its high efficiency, is not sufficient to reach the desired supply air temperature, the controller can regulate either the built-in electric duct heater or a heating coil.

FAN CAPACITY

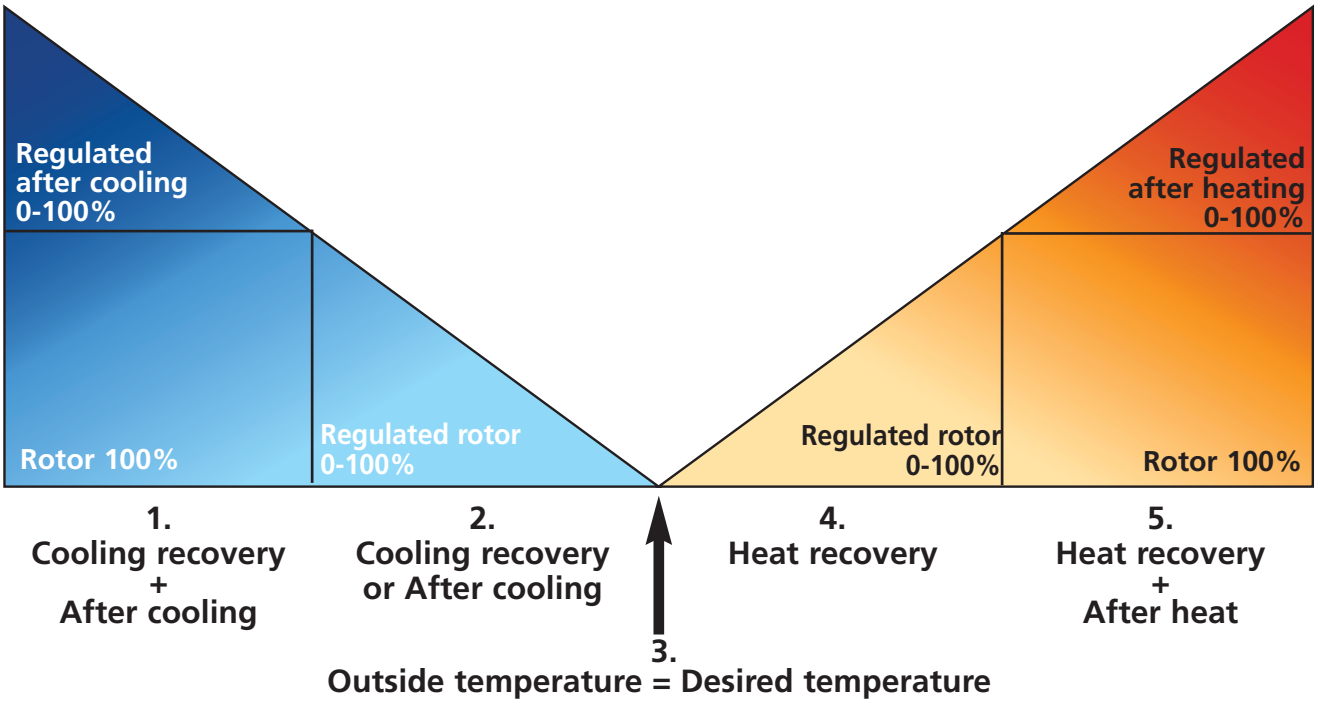
Airflow (fan speed) is regulated via the week timer that can be programmed for specific time points when the fan speed should change from one speed to antoher (e.g. home or away setting). A special feature is that you can pressure compensate when supplementary heating, using an open fire or stove (the extract air fan then drops to a lower speed).

With the weektimer function it is possible to schedule different fan speeds e.g away/boost or standby. The fan speed can also be controlled by a carbon dioxide (CO_2) and humidity (RH) sensor so that the unit gives a higher airflow (boost) when the maximum limit value has been exceeded.

"Summer Cooling" is a function where you can use the cool outside temperature to cool down the inside air. The fan speed is boosted when the ratio between the outside temperature and the extract air temperature is within the programmed criteria.

Via the wireless control unit the HERU can be put in an "Off mode", which means that the motors for fans and rotor are "Off" but the unit is "Stand by". If there is a requirement of totally cut off power, a disconnect switch must be mounted on the main electrical feed.

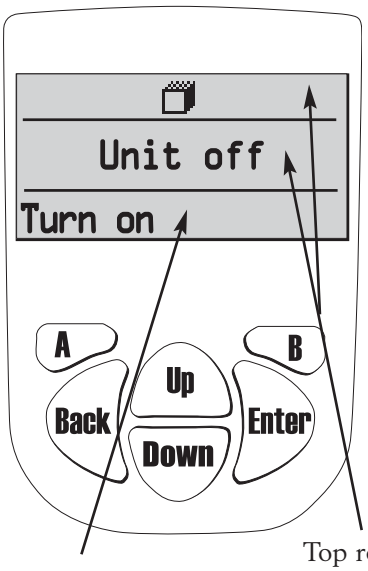
Boosting the airflow for a specified time can be done via the wireless control, there is also a opportunity to do that via a timer connected to the "0" and "Boost" connection on the PCB. With the connectors closed the boost function will be "On".



OPERATING THE CONTROL UNIT

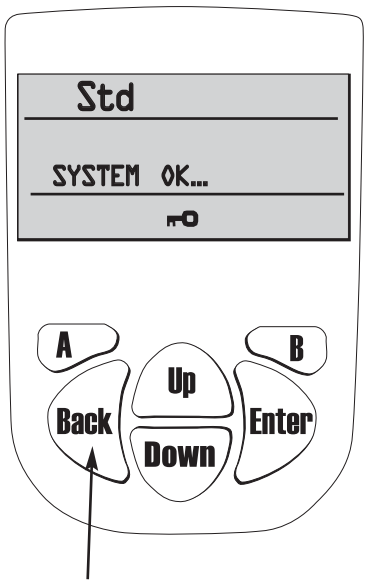
Information of the units current status such as temperature, fan speed, the rotor temperature efficiency when operating, heat respectively cooling needs is shown in the **VIEW MODE 1, 2, 3** and **4**. These menus is normally not lit up for battery-saving purposes but is lit up after the first press of the button and is switched off after about 2 minutes of not being in use.
The control unit automatically returns to **VIEW MODE 1** after one minute when one has viewed other submenus.

NB! At new setting a delay of 15 seconds should be taken into consideration.



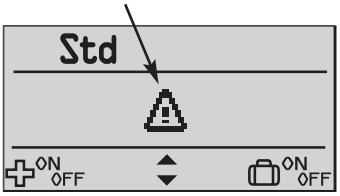
Bottom row shows the possible choices with key (A) or (B).
E.g turn on/off the unit with the (A) key.

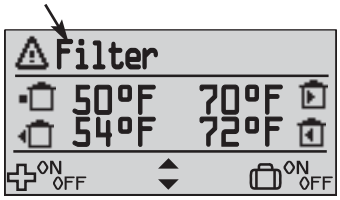
Top row and middle field displays current values and activities.



To activate or disable the keylock;
press down the (Back) key for 3 seconds.

VIEW MODE 1 shows alarm and **VIEW MODE 2** shows what kind of alarm.





USER INFORMATION FOR RF DEVICE:

FCC ID: A8W-4020528
This device complies with part 15 of the FCC Rules and RSS-210 of IC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

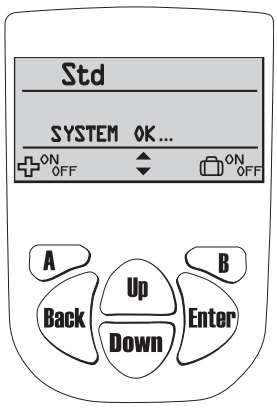
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This exuipment has been tested and found to comply with the limits for Class B digital device, pursuant to part 15 of the FCC Rules. These limits are digned to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction, may cause harmful interference to radio communications. However, there

FCC ID: ASW-4020527
This device complies with part 15 of the FCC Rules and RSS-210 of IC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: -Reorient or relocate the receiving antenna. -Increase the separation between the equipment and receiver. -Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. Consult the dealer or an experienced radio/tv technician for help.

VIEW MODE 1

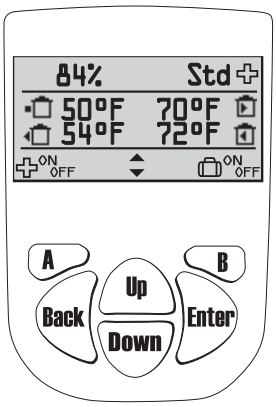


In order to go view mode 2, 3 or 4 press Up or Down.
In order to return to view mode 1, press Back.

SYMBOLS THAT CAN BE DISPLAYED IN VIEW MODE 1:

- = Indicates that the rotor is operating. + = heat recovery - = cooling recovery
- Std = Fan speed. Choose from min, standard, medium, max.
- = Symbol indicates that the heating coil is on.
- = Summer cooling is active.
- = Week timer is active.
- ON OFF = Function of A-key. Press A-key to regulate "boost" of supply & exhaust air flow.
- OFF = Function of B-key. Press B-key to turn off pressure compensation.
- ON OFF = Function of B-key. Press B-key to choose "Away" on or off.
- = Symbol indicates that the cooling coil is on.
- = Function of keys up and down for view mode 2, 3 and 4.
- = Alarm
- = Indicates Boost is active.
- = Indicates Away is active.
- = Pressure compensation is active.

VIEW MODE 2

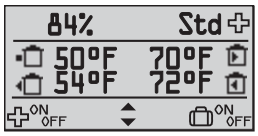


In order to go view mode 3 or 4 press Up or Down.
In order to return to view mode 1, press Back.

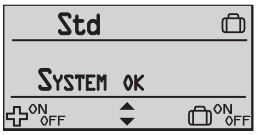
SYMBOLS THAT CAN BE DISPLAYED IN VIEW MODE 2:

- = Indicates that the rotor is operating. + = heat recovery - = cooling recovery
- 84% = Temperature efficiency.
- = Symbol indicates that the heating coil is on.
- = Symbol indicates that the cooling coil is on.
- = Week timer is active.
- = Summer cooling is active.
- = Outside temperature.
- = Exhaust air temperature.
- = Supply air temperature.
- = Extract air temperature.
- CO2 = CO_2 compensation is active.
- ON OFF = Function of A-key. Press A-key to regulate "boost" of supply & exhaust air flow
- OFF = Function of B-key. Press B-key to turn off pressure compensation.
- ON OFF = Function of B-key. Press B-key to choose "Away" on or off.
- = Function of keys up and down for view mode 1, 3 and 4.
- = Alarm
- = Indicates Boost is active.
- = Indicates Away is active.
- = Pressure compensation is active.
- RH = RH compensation is active.

IN VIEW MODE 1 AND 2 BOOST OFF/ON AND AWAY OFF/ON CAN BE CHOOSEN.

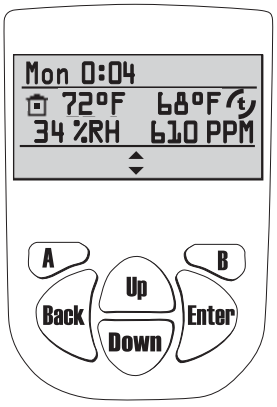


Press A key to choose **Boost off/on** of the supply & exhaust air flow for a specific time (time and fan speed settings during the boost is made in the Service menu "Boost" page 69). When the "plus" symbol is displayed in the right corner, the boost is activated.



Press B key to choose **Away off/on**. When the symbol "suitcase" is displayed in the right corner, the away mode is activated, i.e. the fan speed is minimum.

VIEW MODE 3



In order to go view mode 2 or 4 press Up or Down.
In order to return to view mode 1, press Back.

SYMBOLS THAT CAN BE DISPLAYED IN VIEW MODE 3:

- Mon 0:04 = Display weekday and time.
- = Indicates that Summer cooling is active.
- = Indicates that week timer is active.
- = Room temperature. Sensor placed in room.
- 34 %RH = Relative air humidity in per cent.
- 610 PPM = Carbon dioxide level in PPM (part per million).
- 68°F = Supply air temperature after the rotor.
- = Function of keys up and down for view mode 1, 2 and 4.
- = Indicates Boost is active.
- = Pressure compensation is active.
- CO2 = CO_2 compensation is active.
- RH = RH compensation is active..

"MAIN MENU"

In order to go forward in the menu from the View mode to the **Main Menu** press Enter.

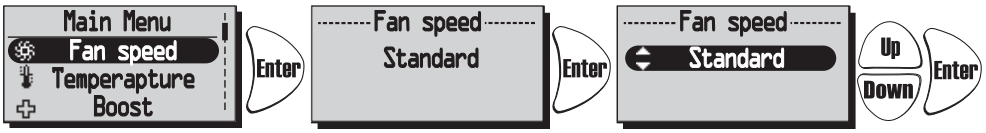
In the **Main Menu** Up / Down is used to select the desired menu, after the choice is made with Enter.

The procedure is the same in the submenu. In order to return to the previous page press Back.

"FAN SPEED" MENU (Only for HERU®AC)

In this menu desired fan speed is chosen. You can choose from 4 speeds: **Min**, **Standard**, **Medium and Max**. Normal operation should be done in standard mode

Press Enter in order to go forward from the Main Menu. Press Enter again and then Up / Down in order to choose the desired **fan speed**. Confirm with Enter.

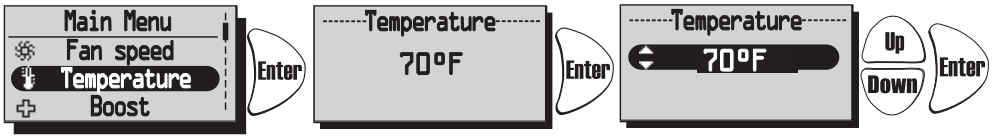


*Made settings is overridden if **Week Timer** is activated.*

"TEMPERATURE" MENU

In this menu desired temperature is chosen (**supply air, extract air** or **room temperature**) depending on what kind of regulation that is choosed, see page 20.

Press Enter in order to go forward from the Main Menu. Press Enter again and then Up / Down in order to choose the desired **temperature** (15-30°C/59-86°F). Confirm with Enter.

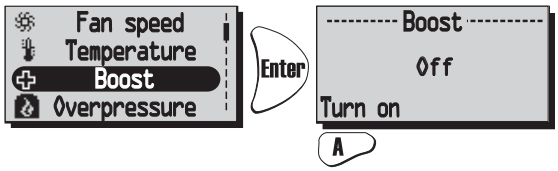


*Made settings is overridden if **Week Timer** is activated.*

"BOOST" MENU

In this menu **Boost On/Off** is chosen. The time has the factory setting of 30 min. and fan speed Medium. To adjust the fan speed and time, see page 17.

Boost is activated/disable (On/Off) with the A key.



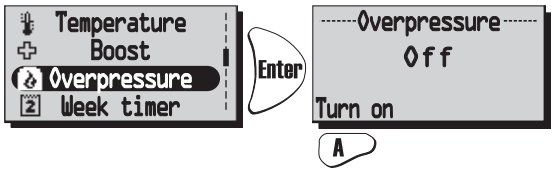
The Boost function can also be activated with an external switch with double pressure or timer. See wiring diagram page 40-41. The Boost is On as long as the breaker is closed.

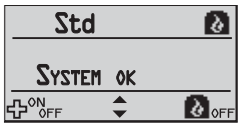
"OVERPRESSURE" MENU

Overpressure is a special feature were you can pressure compensate when supplementary heating using an open fire or stove. The exhaust air fan then drops to a lower speed during set time.

In this menu **Overpressure On/Off** is chosen. The time has the factory setting of 15 min. To adjust the time, see page 17.

Overpressure is activated/disable (On/Off) with the (A) key.





When pressure compensate is activated the symbol "Away" will be change to the symbol "Overpressure" in View mode 1 and 2.
Than press (B) directly in the View mode to turn off Overpressure.

"WEEK TIMER" MENU

When in normal operation the unit runs with the fan speed that was choosen in the **"Fan Speed" menu** and the temperature that was choosen in the **"Temperature" menu**. A departure from these programmed values that you periodically want to recall is done in this menu. For example if you want to have a lower flow/temperature during the daytime when nobody is at home then there is the possibility to adjust this here.
Week timer. If end time is the same or less than start time the program will end the following day.

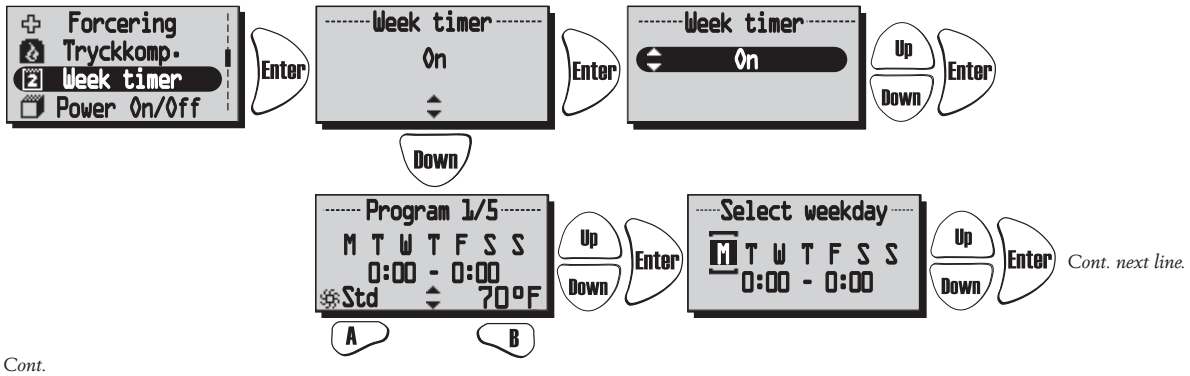
Press Enter in order to go forward from the Main Menu.

Press Enter again and then Up/Down in order to choose **off/on** of the week timer. Confirm with Enter.

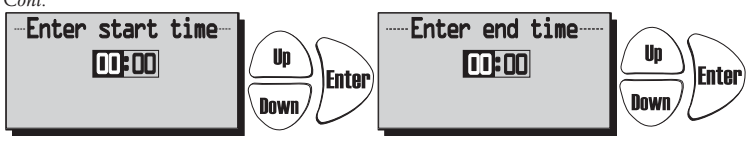
Press Down to choose/adjust the desired **program**. There are 5 programs for the adjustment of the fan speed and temperature available. Press Up/Down to choose a **program**.

Press Enter in order to go forward to choose a **weekday, start time, end time, fan speed** and **temperature**.

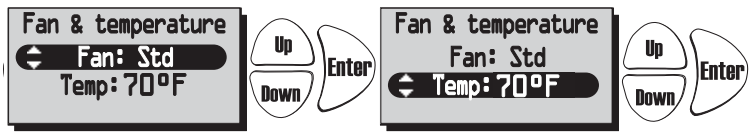
Use the keys Up/Down to choose the settings of weekday, start time, and end time, fan speed (**Min**, **Standard**, **Medium**, **Max, Standby***) and **temperature** (15-30°C/59-86°F).



Cont.



Cont



*N.B! The activated **Week Timer** overrides the manuel settings of fan speed and temperature.*
Program with the lowest index has priority when two programs overlap each other. E.g. Program 1 has priority over program 2 when overlapped.

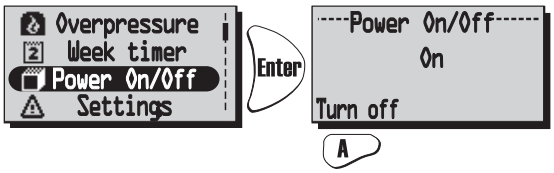
**** Standby mode must only be used if a motorized damper is mounted on the exhaust and fresh air duct, in order to protect from condensation inside the unit. The dampers should be connected to the control board "Duct valve".***

"POWER ON/OFF" MENU

In the **"Power On/Off"** Menu you have the possibility of turning off the unit via the wireless control unit.
NB! The unit must be currentless during service and maintenance.

Press Enter in order to go forward from the Main Menu. Press A in order to choose **on/off** of the unit.

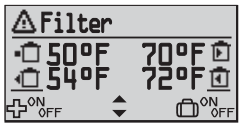
When "On" is displayed in the center of the display, the unit is on. When "Off" is displayed the unit is off.



*To avoid condensation in the unit during the cold season the unit should **not** be turned off for a longer period.*

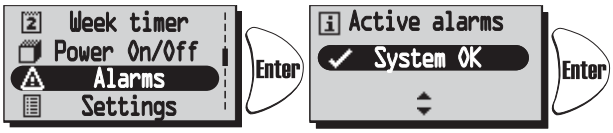
"ALARMS" MENU (Displayed only if an alarm is triggered)

This meny displayes triggered alarms.
View mode 1 shows alarm and
View mode 2 shows what kind of alarm.



Alarms is shown for:
• "Fire alarm" • "Sensor open" • "Sensor shorted" • "Overheating"• "Freeze alarm" • "Supply temp. low"
• "Rotor temp. low" • "Rotor failure" • "Filter" • "Filter timer" • "Supply fan alarm" • "Exhaust fan alarm"

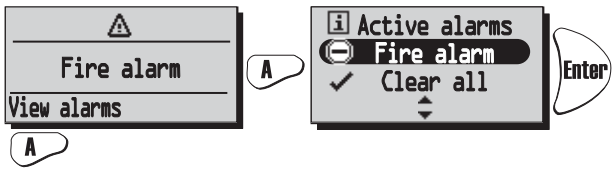
Press Enter in order to go forward from the Main Menu and to view status.

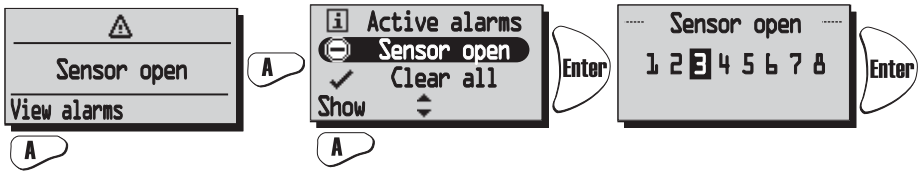


When alerting a dialogue box for the alarm is shown in the Main Menu and the display will flash.
"**View alarms**" is shown and the possibility for equalization is given.

Press A to see the cause of alarm in Submenu. Control the cause and remedy the alarm.

Press Down to "**Clear all**" and than Enter .





Current alarm is viewed. When "Sensor open" and "Sensor shorted" press A "**Show**"
to view which sensor GT 1-8 is alerting.
See Control diagram on page 8.

In order to return to the previous pages press Back.

When alarm for Filter timer is triggered it can be equalized with Reset.
A reminder to change filter comes in a seven-day interval.
To restart the timer see "Service Menu Alarm" page 18.

"SETTINGS" MENU

In this menu settings are made for **weekday**, **time** what **language** and **unit system**.

Press Enter in order to go forward from the Main Menu. Press Enter again and then Up/Down in order to choose **weekday**.

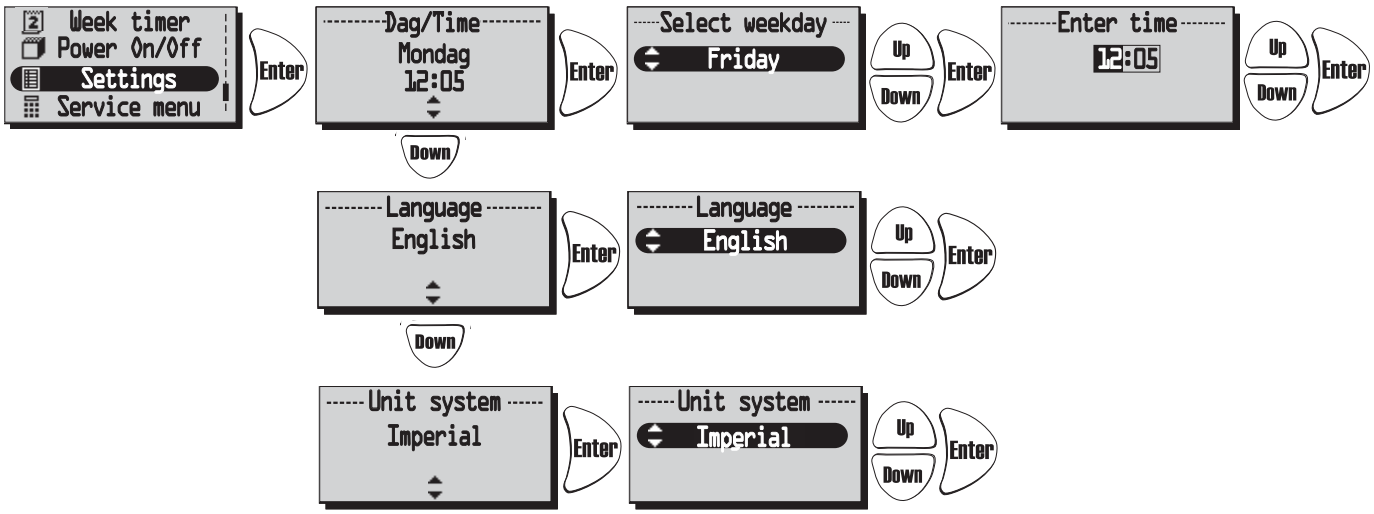
Press Enter again and then Up/Down in order to enter the **time**.

Press Down in order to enter a language. Press Enter and then Up/Down in order to choose a **language**. Confirm with Enter .

5 languages are available: **Swedish, Finnish, French, English** and **Spanish**.

Press Down in order to enter a **unit system**. Press Enter and then Up/Down in order to choose. Confirm with Enter .

Choose from: **Metric** and **Imperial**.



THE "SERVICE MENU"

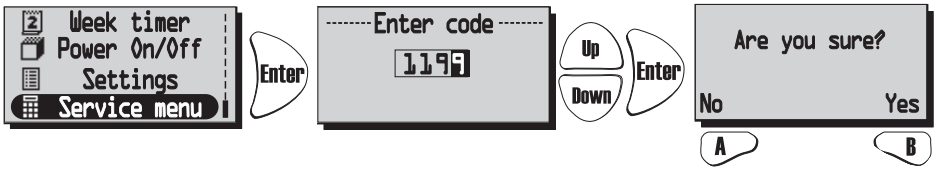
In this menu a password is required in order to make adjustments. **The password is 1199** and it can not be changed.

Press Enter in order to go forward from the Main Menu.

The password is entered with the Up/Down keys and every number is confirmed with Enter.

After the password 1199 to the Service Menu the question "Are you sure?" will be displayed.

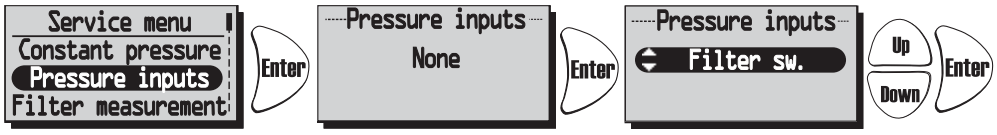
Press A for "No" or B for "Yes".



To go further to the different functions in the "Service menu" press Up or Down.

SERVICE MENU: "PRESSURE INPUTS"

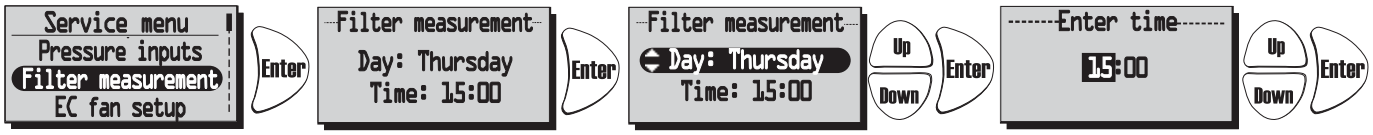
If filter switches are installed these can be activated in this meu.
If "None" is set, the filter measurement is automatically deactivated.



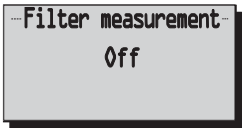
Pressure sensors can not be used for HERU®AC.

SERVICE MENU: "FILTER MEASUREMENT"

If filter switches are installed and activated, weekday and time is set when the unit should boost to measure the pressure drop in supply air filter **GP1** and exhaust air filter **GP2**.

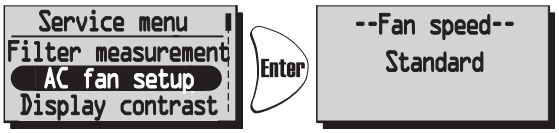


If **no** filter switches or pressure sensor are selected this is displayed:



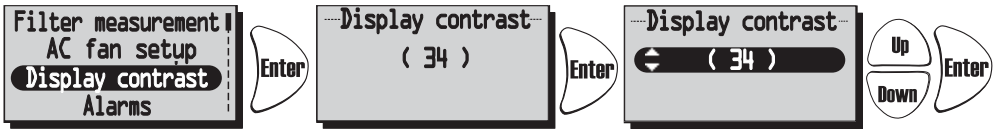
SERVICE MENU: "AC FAN SETUP":

When adjusting the unit, the speed is set to standard and functions that may affect the fan speed, such as "Away" and "Boost", is inactivated.



SERVICE MENU: "DISPLAY CONTRAST"

Display contrast setting. The contrast can be set between 0-63.



SERVICE MENU: "BOOST":

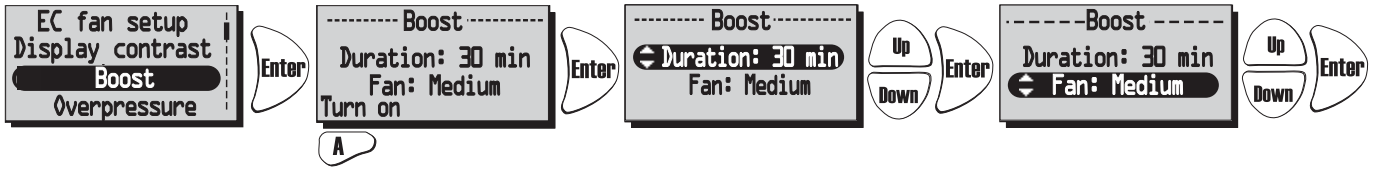
Time settings for **Boost** and **Fan speed**. Boost means that during a limited time the air flow increases, which can be good for example at larger gatherings.
This boost can then be activated at the View mode 1 and 2, and in the Main Menu "Boost".

Press Enter in order to go forward from the Main Menu. Press Enter again and then Up/Down in order to choose the desired **duration**. (**10-240 min.** with the interval of 10 min.)

Press Enter in order to confirm and go forward to fan speed.

Choose the desired **fan speed** with Up/Down (**medium** or **max**) and confirm with Enter .

Boost is activated/disable (on/off) with the A key.



SERVICE MENU: "OVERPRESSURE"

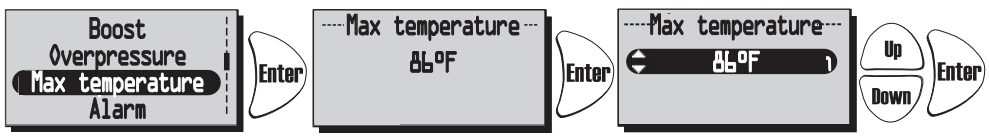
Time settings for **Overpressure**. Overpressure compensate is a special feature when supplementary heating using an open fire or stove (the exhaust air fan drops to a lower speed during a specific time).

Press Enter in order to go forward from the Service Menu. Press Enter again and then Up/Down in order to choose the desired **duration** (5-60 min.).

SERVICE MENU: "MAX TEMPERATURE":

Setting the **Max temperature**. This gives a max´ temperature of electrical heater, supply air limit and temperature in the week timer. The factory setting is 30°C/86°F. Possible to change the max temperature to 40°C/104°F.

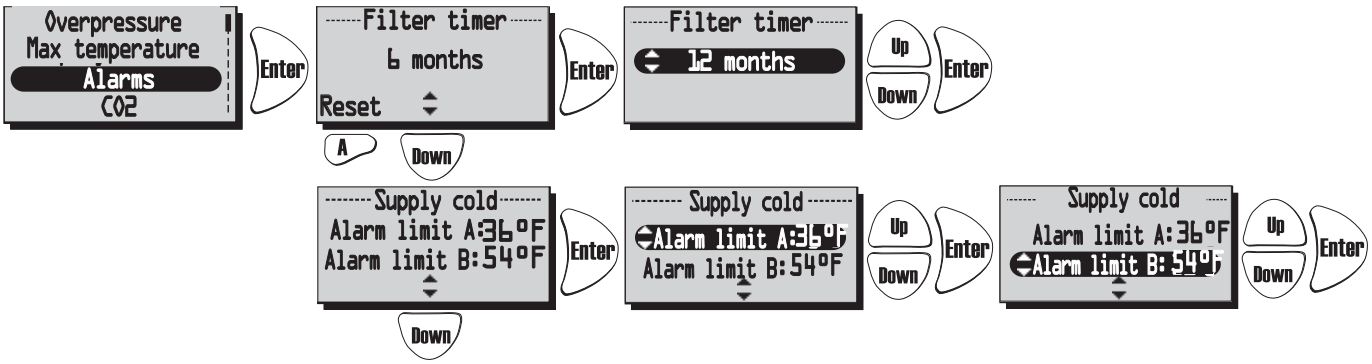
Press Enter in order to go forward from the Service Menu. Press Enter again and then Up/Down in order to choose the desired **Max temperatur** (15-40°C/59-104°F).



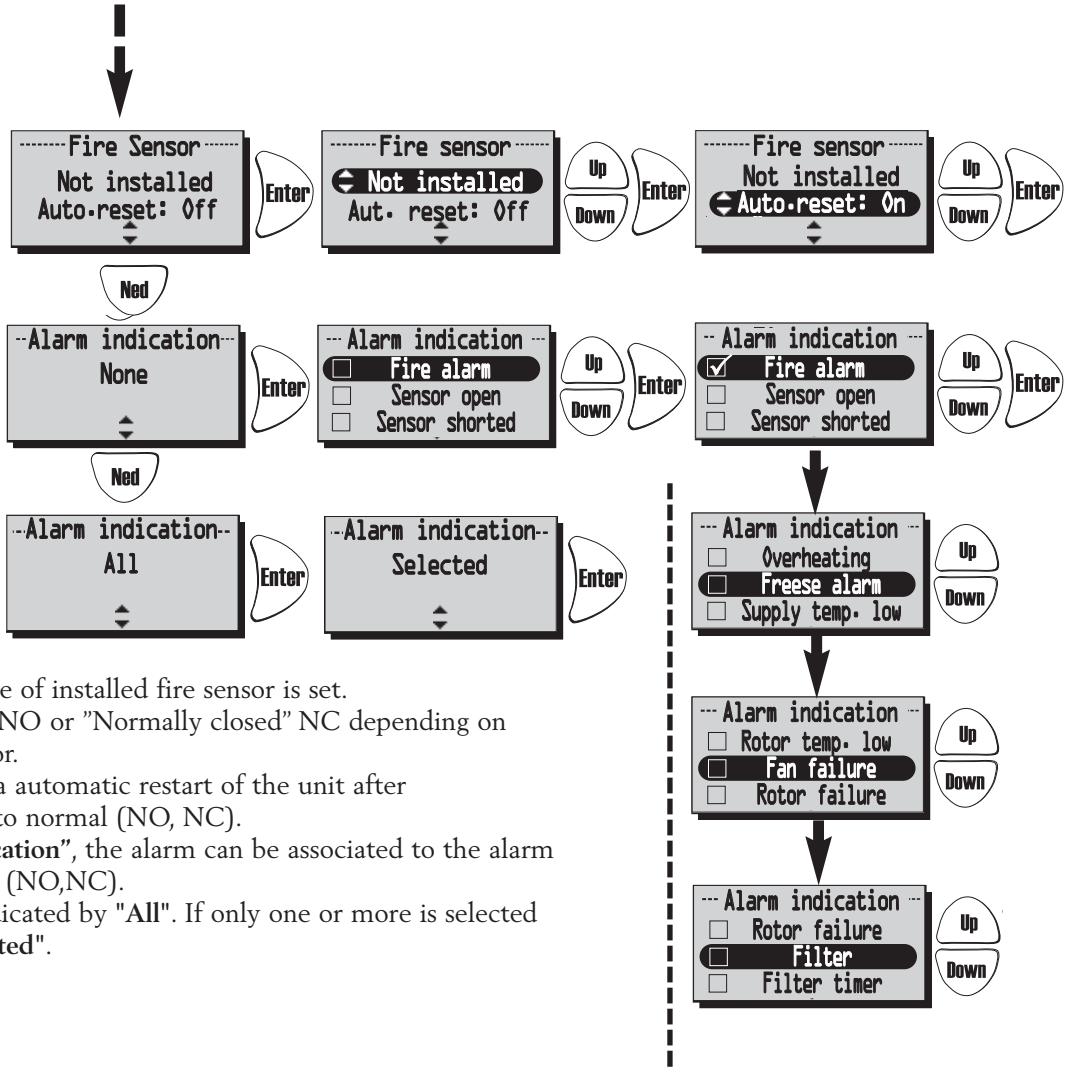
SERVICE MENU: "ALARM"

In this menu alarm limits is set for **Filter timer, Low temperature** and setting for **Fire sensor, Automatic reset** and **Alarm indication** to the alarm port.

"**Filter timer**" can be set from **"Off"** to **"6-12 months"** and generates alarm for filter change.
Filter timer can not be used in combination with another filter measurement, see page 16.
We recommend filter change at least once a year.
To restart the filter timer press "**Reset**" with the (A)-key.



Alarm limits for "**Low temperature**".
Alarm limit A: (+2 to +10°C/+36° to +50°F) but must be lower than "Alarm limit B").
Alarm for low rotor temperature is displayed when the temperature is lower than set value. Normally nothing needs to be done. If "Rotor Alarm" appear at the same time as "Rotor temp. Low" the unit is stopped.
Alarm limit B: Supply air flow is reduced with one step when the temperature in supply air duct (GT7) is lower than set value, the temperature efficiency will increase (the temperature can be change from +5 to +12°C/+41° to +54°F but have to be higher than "Alarm limit A").
If the unit operating at Min. speed the extract air increases one step.



In menu "**Fire sensor**" type of installed fire sensor is set.
Choose "Normally open" NO or "Normally closed" NC depending on the type of smoke detector.
"**Automatic reset**" allows a automatic restart of the unit after the fire alarm is restored to normal (NO, NC).
In the menu **"Alarm indication"**, the alarm can be associated to the alarm port on the control board (NO,NC).
If all is choosed this is indicated by "**All**". If only one or more is selected this is indicated by "**Selected**".

SERVICE MENU: "CO2" Carbon dioxide level in PPM (part per million).

In this menu settings are made for regulation with installed CO2 sensor.

Press Enter again and then Up/Down in order to choose the **Limit value** (500-1400 PPM).

Press Enter again and then Up/Down in order to choose **Interval** (1-10 min.).

At levels above the limit value the fan speed will increase one step according to the set Interval value.

Current CO2 value is displayed in **View mode 3**, see page 11.

SERVICE MENU: "RH" Relative air humidity in percent

In this menu settings are made for regulation with installed RH sensor.

Press Enter again and then Up/Down in order to choose the "**Limit value**" of boost (50%-100%).

Press Enter again and then Up/Down in order to choose **Interval** (1-10 min.).

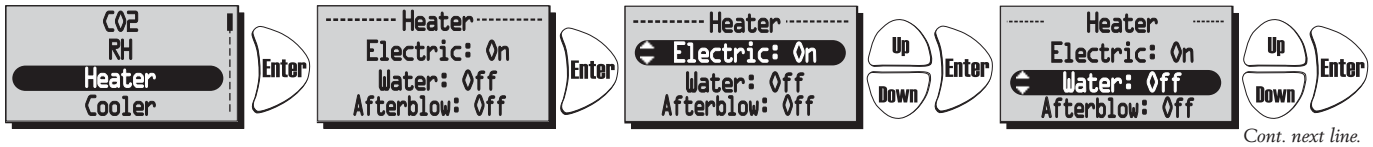
At levels above the limit value the fan speed will increase one step according to the set Interval value.

Current RH value is displayed in **View mode 3**, see page 11.

SERVICE MENU: "HEATER"

In this menu type of Heater is chosen to be activated.
If "**Afterblow**" is activated and the heater has operated, the supply air fan continues to run for at least two minutes after the heater is turned off.
If a heating coil is used a freeze protection sensor (GT5) must be installed, and a damper ST1 must be mounted in the fresh air duct. The GT7 must be mounted after the Heater.

Press Enter again and then Up/Down in order to choose **On** or **Off**.



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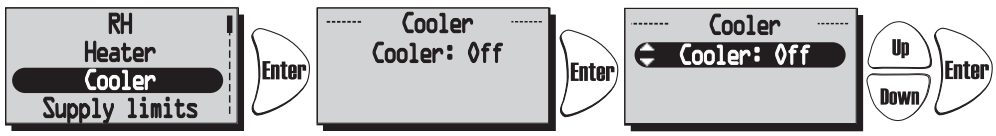
SERVICE MENU: "COOLER"

In this menu a cooling coil can be activated if installed.

Press Enter again and then Upp/Ned in order to choose **On** or **Off**.



SERVICE MENU: "SUPPLY LIMITS"

In this menu the upper and lower limit value for the supply air temperature at room or extract air regulation is set.

Press Enter again and then Up/Down in order to choose a **minimum limit value** (15-19°C/59-66°F).

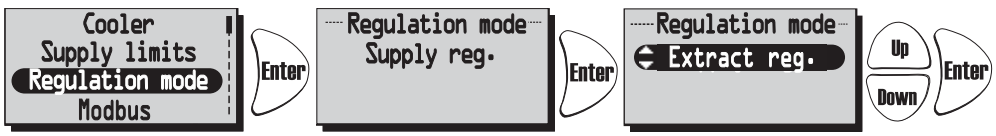
Press Enter again and then Up/Down in order to choose a **maximum limit value** (20-30°C/68-86°F).

SERVICE MENU: "REGULATION MODE"

3 different types of regulation modes can be used.

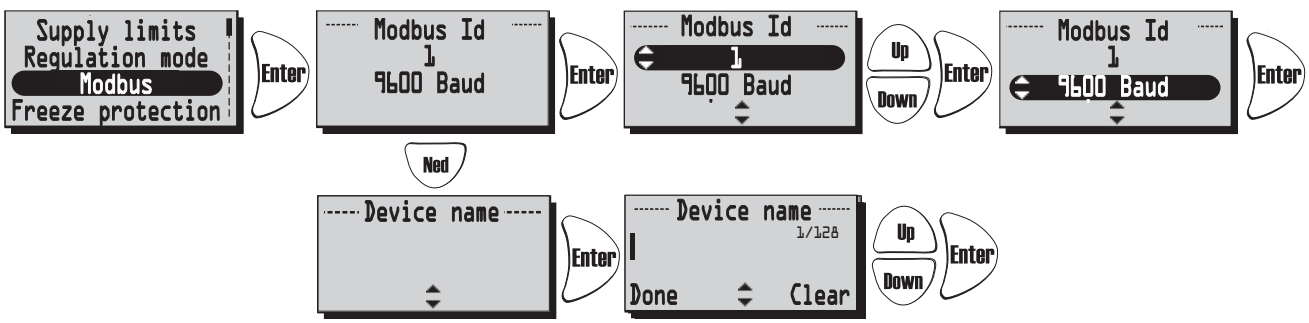
- At a **constant supply air regulation** the temperature sensor (GT7) is placed in the supply air duct and a constant incoming air temperature is obtained.
- At **room regulation** a sensor (GT8) is placed in the room and a sensor (GT7) in the supply air duct (minimum/maximum limitation) and a constant room temperature is obtained (suitable when a cooling coil is installed).
- The **extract air regulation** works in a similar way as the room regulation with the difference being that the temperature is measured in the extract air duct.

Press Enter again and then Up/Down in order to choose **Supply reg., Extract reg.** or **Room reg.**



SERVICE MENU: "MODBUS"

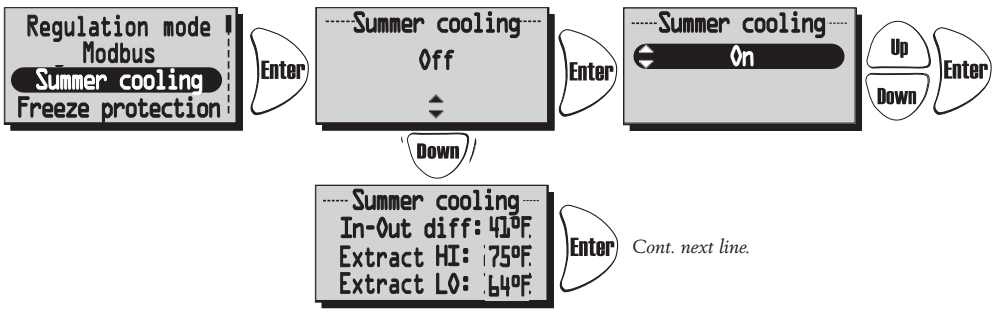
Menu "**Modbus**" appears only in version + wireless control unit.
Version + wireless control unit activates the Modbus port on the control board and the ability to communicate via RS485. For this you need complete Modbus index that you can download from www.ostberg.com.
ID and baud rate must match the client settings.



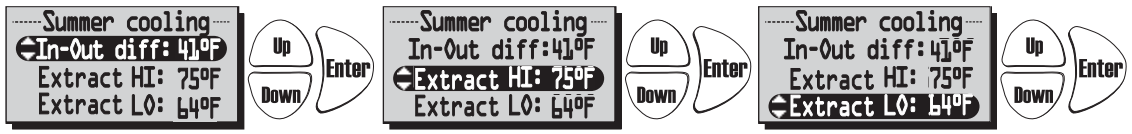
SERVICE MENU: "SUMMER COOLING"

If **"Summer Cooling" "On"** is chosen, the Summer cooling is activated when the extract air temperature is higher than "Extract HI" (19-26°C/66-79°F) and outside air is colder than "Extract - 'In OutDiff' (1-10°C/34-50°F difference between the temperature outside and extract air)".
Summer cooling is deactivated when exhaust air temperature is lower than "Extract LO" (18-24°C/64-75°F) or when the outside temperature is warmer than "Extract air - 'InOutDiff + 1°C/34°F' ".
If Summer Cooling is activated, water cooling is disabled.

Press Enter again and then Up/Down in order to choose **On** or **Off**. In order to go forward in "Summer Cooling" press Down.



Cont.



Press Enter again and then Up/Down in order to choose 'InOutDiff': (1-10°C/34-50°F), **Extract HI:** (19-26°C/66-79°F) and **Extract LO:** (18-24°C/64-75°F).

SERVICE MENU: "FREEZE PROTECTION"

Setting of limit value when freeze protection sensor is installed. The sensor (GT5) is installed at the return pipe on the heating coil. When 3°C/37°F higher than set point the valve opens completely. If the temperature continues to fall to set point the unit will stop, but the valve remains open and the pump output remains active.

Press Enter again and then Up/Down in order to choose **Limit**: (5°C-10°C/41-50°F).

SERVICE MENU: "FLOW DIRECTION"

Make settings if the supply air and extract air are connected on the right or left hand.
Supply air and extract air have to be connected on the same side of the unit.

Note: If HERU is fitted with built-in electrical heater, this can not be done.

Press Enter again and then Up/Down in order to choose **Left** or **Right**.

SERVICE MENU: "SENSOR CALIBRATION":

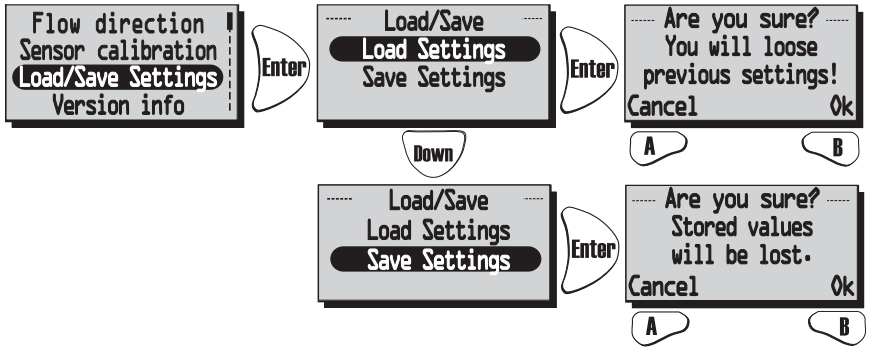
Setting for calibration of temperature sensors using an offset value of +-10°C/+-50°F.
All temperature sensors will be adjusted to this value. It's not possible to calibrate individual donor.

Press Enter again and then Upp/Ned in order to choose **Limit:** (+-10°C/+-50°F).

SERVICE MENU: "LOAD/SAVE SETTINGS"

"Load/Save" gives the installer the opportunity to save the set values in service menu after the installation, alt. load previously saved values.

Press Enter again and then Upp/Ned in order to choose **Load Settings** or **Save settings**.

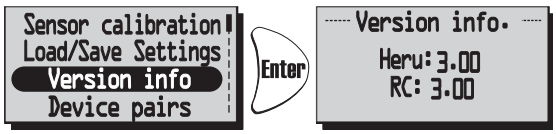


After you have "**load**" or "**Saved**" it may take a minute before the unit re-created connection to the wireless control unit and the right data is displayed.

SERVICEMENY: "VERSION INFO"

Displays the software version of the unit (Heru) and the wireless control (RC).

Press Enter again to see the version.

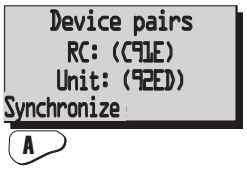


SERVICE MENU: "DEVICE PAIRS":
In this menu, the wireless control unit seeking the frequency that the control unit is using.
This procedure has to be used e.g. when a new wireless control unit has obtained.

Connecting a new wireless control unit:
Press **"Start"** with the (A) key in the "Device pairs" menu and use a paper clip or similar tool to access the reset button on the back of the antenna.

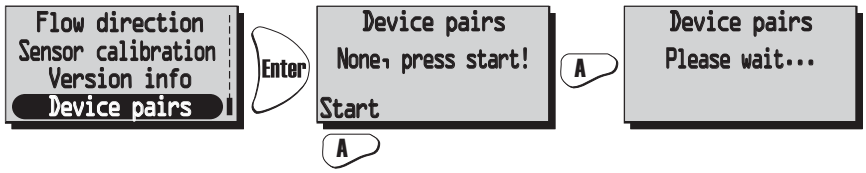
Within seconds you will return to "Service menu" and the wireless control unit is connected.

Press (Back) to return to View Mode.



If you end up in "Device pairs" instead of "Service menu" the connection has failured. Try one more time.
(If the wireless control unit has been used in an earlier assembly, it will say **"Synchronize"** instead of **"Start"**).

Synchronization option:
Disconnect the power to the unit. Press the reset button on the control board (small square button) about 1sec.
Use the wireless control unit and go into the "Service menu" (code 1199) and then go to the "Device pairs" menu.
Press "**Synchronize**". When the wireless control unit shows the text **"please vait..."** turn on the unit's power.
Within seconds you will return to "Service menu" and the wireless control unit is connected (see above).
If you end up in "Device pairs" instead of "Service menu" the connection has failured (see above). Try one more time.



CHANGING FROM EC TO AC MODE

All new HERU control board kit is supplied for EC fans as standard. Your HERU unit is equipped with AC fans, so you must change the default settings before the unit will operate properly.
Remember to note the rates under Service Menu 1199, EC motor setup, Standard, min, medium, max, before changing the control board.

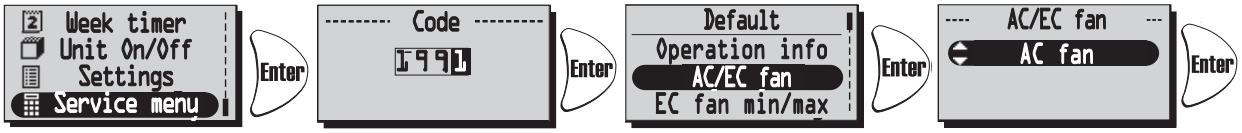
The following instructions require that the wireless control unit is synchronized with the new control board (see above).

From **View mode 1**, press (Enter) in order to come forward to Main menu.

Press (Down) and choose "Service menu". Enter **code 1991** and confirm with (Enter) .

Choose menu **"AC/EC fan"** and confirm with (Enter) . Choose mode **"AC fan"** and confirm with (Enter) .

The unit will now shut down and await the users startup.
After the startup sequence the unit will turn into normal operation.

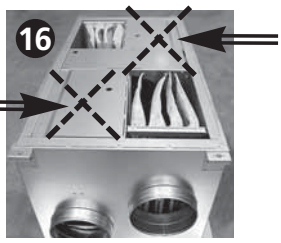


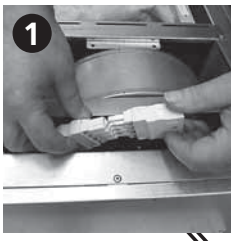
OTHER FUNCTIONS

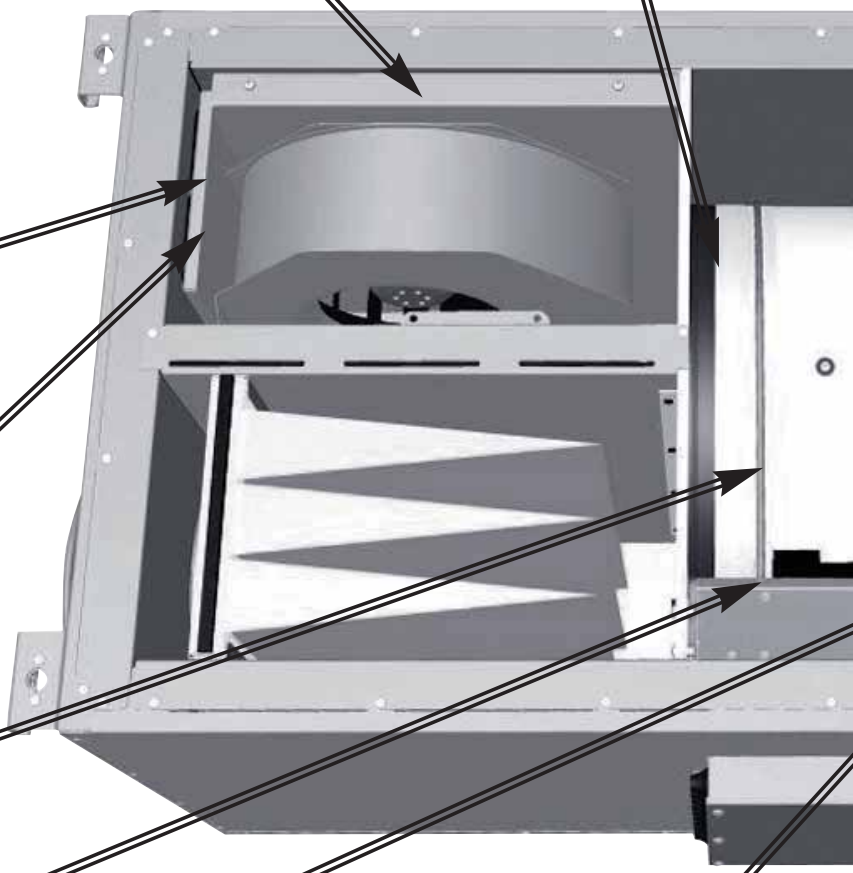
- Function test of rotor motor.
  The rotor runs for three minutes every day at 12.03, if the rotor has not been operate for 24 hours.
- Function test of radiator valves and cirkulation pump.
  Once a week (Mondays at 12.09) there is a maintenance program running in order to secure functions of valves and pumps.

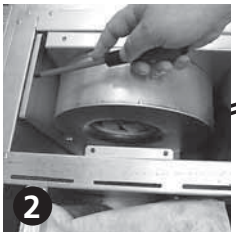
CLEANING/FILTER CHANGE

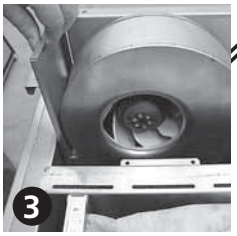
- The filters should be changed once a year or at alarm for filter change. After alarm for Filter Change, this should be done as soon as possible; as there can be a risk that the adjusted flow is not obtained.
- Always turn off the electrical supply and ensure that it cannot be turned on.
- Open the lid by removing the four screws 15 in every corner. Do not remove the protective plates that covers the fans and rotor. 16
- The filters are taken out by pulling them straight out from their fastening strips 4 .
  When changing filters once a year, it is also appropriate to check if the fans are dirty.
- Remove the the fans and rotor's protective plates when the fans have stopped and the heater has cooled. 16
- The fans are taken out by removing the screw 2 and pulling it straight out from the unit 3 , after the quick connectors have been disconnected 1 . Dismount the motor plate from the fan housing (the outer screws) and lift out the motor with the fan wheel. If necessary the fan wheel and fan housing are wiped clean with a damp cloth. The interior of the unit housing can be wiped when necessary.
- If necessary the rotor 6 can also be dismounted (see Dismounting).

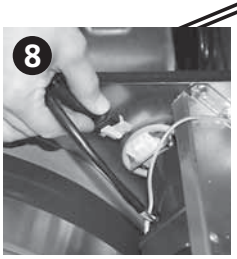


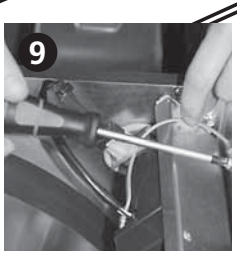


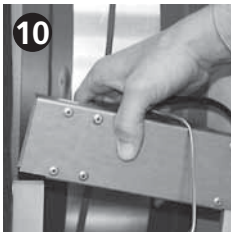












BELT/TIGHTENING MATERIAL CHANGE

EQUIPMENT

- Screwdriver TX20 or screwdriver 1x5 (0,8x4)
- Screwdriver PH 1
- 2 Allen keys 6 mm (preferably with round head)
- Service kit 6000171 for HERU 14 S/19 S.
- Service kit 6000169 for HERU 35 S.
- Service kit 6000170 for HERU 52 S.

DISMOUNTING

1. Loosen electrical socket 1 and screw 2 and carefully pull out fans 3.
2. Pull out the filters 4.
3. Dismount sealing joints 5 both sides of the rotor 5, 2 long and 2 short pieces with a PH1 screwdriver.
4. Remove the tape that keeps the rotor tightening material 6 in place, 2 pieces, and move them in towards the center of the rotor 14.
5. Lift off belt from the rotor motor 7, disconnect the electrical socket 8 and loosen the ground cable 9.
6. Pull out the rotor motor from the grippers 10 and then dismount them 11.
7. For HERU 35/52 S loosen electrical socket with bracket 12 with screwdriver TX20 and hang it over the egde towards the fan.
8. Dismount the Allen screws 13, 2 pieces that hold the rotor. Lift out the rotor 14.

Change the rotor tightenings and the rotor belt.

MOUNTING

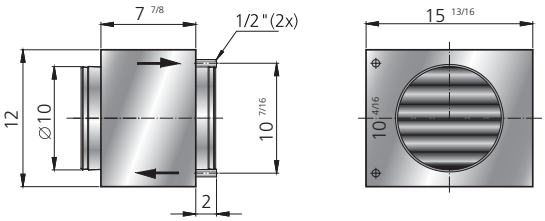
1. Lift the rotor into the box using the new belt.
2. Mount with Allen screws, distancers and tightenings.
3. Push out the rotor tightening material over the edge onto the middle wall. Mount a new tape.
4. Push in the rotor motor in the grippers and lift the rotor belt onto the belt pulley.
5. Mount electrical socket with bracket.
6. Mount the brush seals.
7. Mount filters and fans (carefully so there's no damage to the seal trim).
8. Mount the electrical sockets. Check the function of the fans and rotor before closing the lid.

ACCESSORIES (Function is only garantied with accessories from AB C.A. Östberg)

Wireless control unit+ Modbus	4020555
Control board	4020526
Room sensor (GT8)	4020310
CO2 Room sensor	4020302
RH Room sensor	4020301
Freeze protection sensor (GT5)	4020309
Extension cord for antenna	6010011
Heating coil, 5 kW	9510101
Cooling coil, 2.5 kW	9510134
Outside wall hood Ø 160 mm, black	8200101
Outside wall hood Ø 160 mm, white	8200102
Outside wall hood Ø 200 mm, black	8200103
Outside wall hood Ø 200 mm, white	8200104

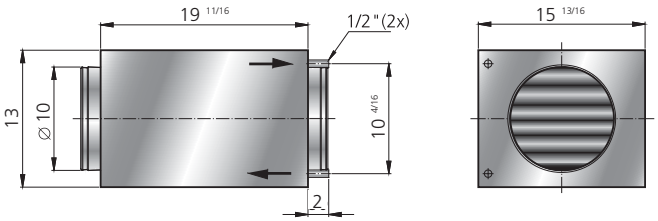
HEATING COIL (5,0 kW)

Air		Hot water	
Flow:	423 CFM	**Flow:**	0.10 l/s
Speed:	2.2 m/s	**Speed:**	0.86 m/s
Temp. in:	50°F	**Temp. supply pipe:**	140°F
Temp. out:	87°F	**Temp. return pipe:**	104°F
Capacity:	5.0 kW	**Pressure drop:**	15.0 kPa

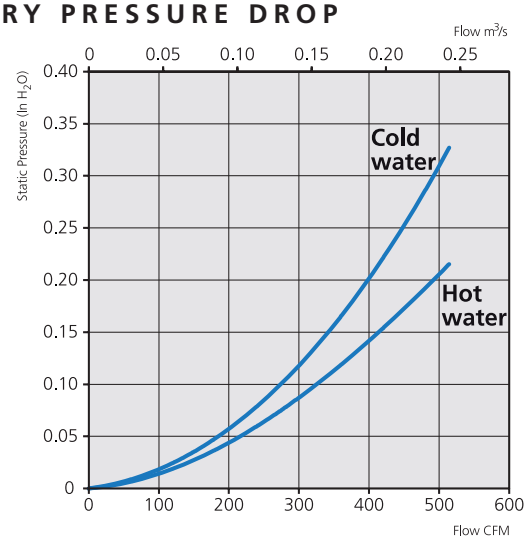


COOLING COIL (2,5 kW)

Air			Cold water		
Flow:	424 CFM	318 CFM	**Flow:**	0.16 l/s	0.13 l/s
Speed:	2.2 m/s	1,7 m/s	**Speed:**	0.8 m/s	0.6 m/s
Temp. in:	77°F, 50% Rh	77°F, 50% Rh	**Temp. supply pipe:**	45°F	45°F
Temp. out:	58°F	56°F	**Temp. return pipe:**	54°F	54°F
Capacity:	2.5 kW	2.0 kW	**Pressure drop:**	12.4 kPa	8.8 kPa



BATTERY PRESSURE DROP

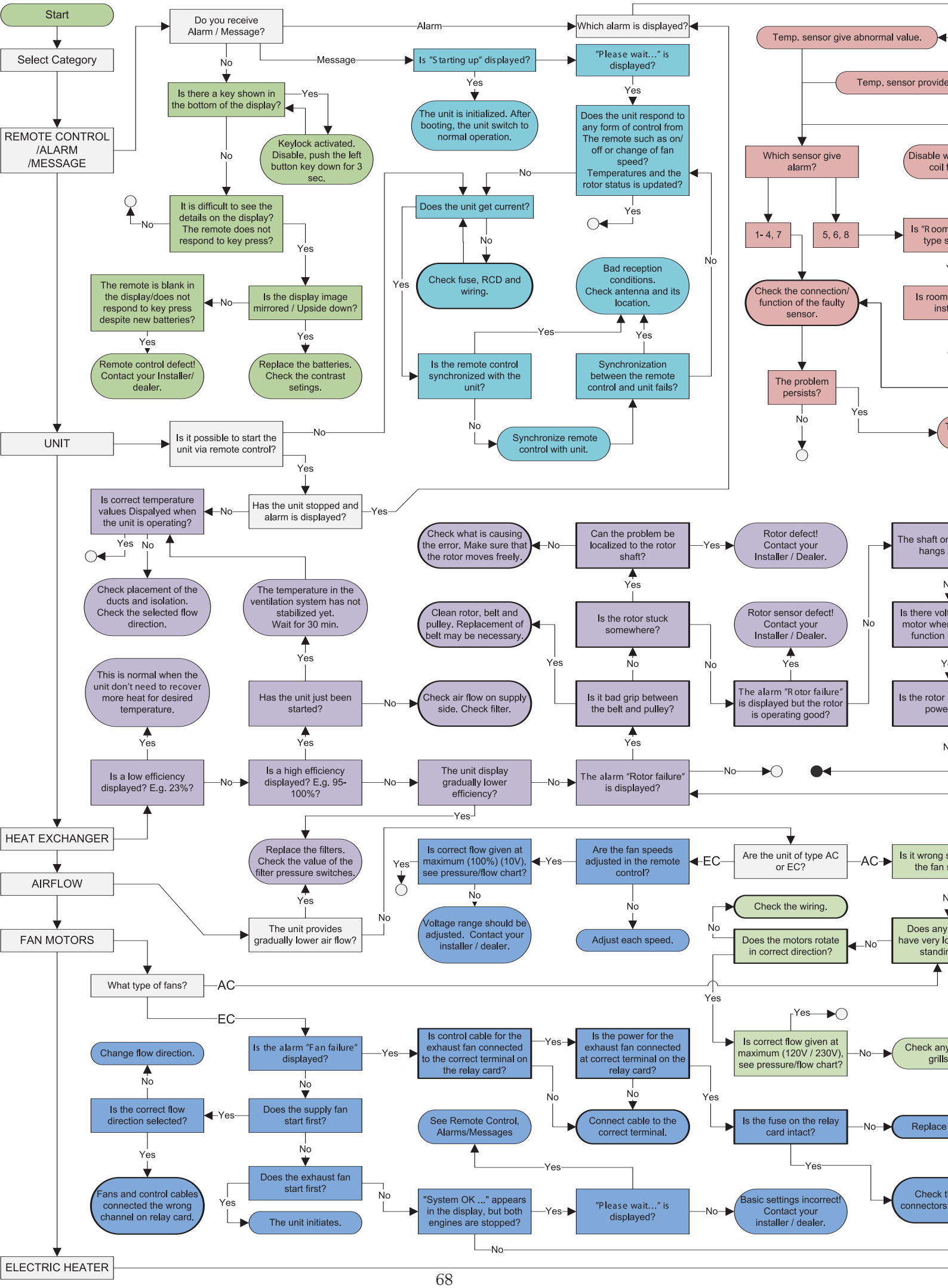


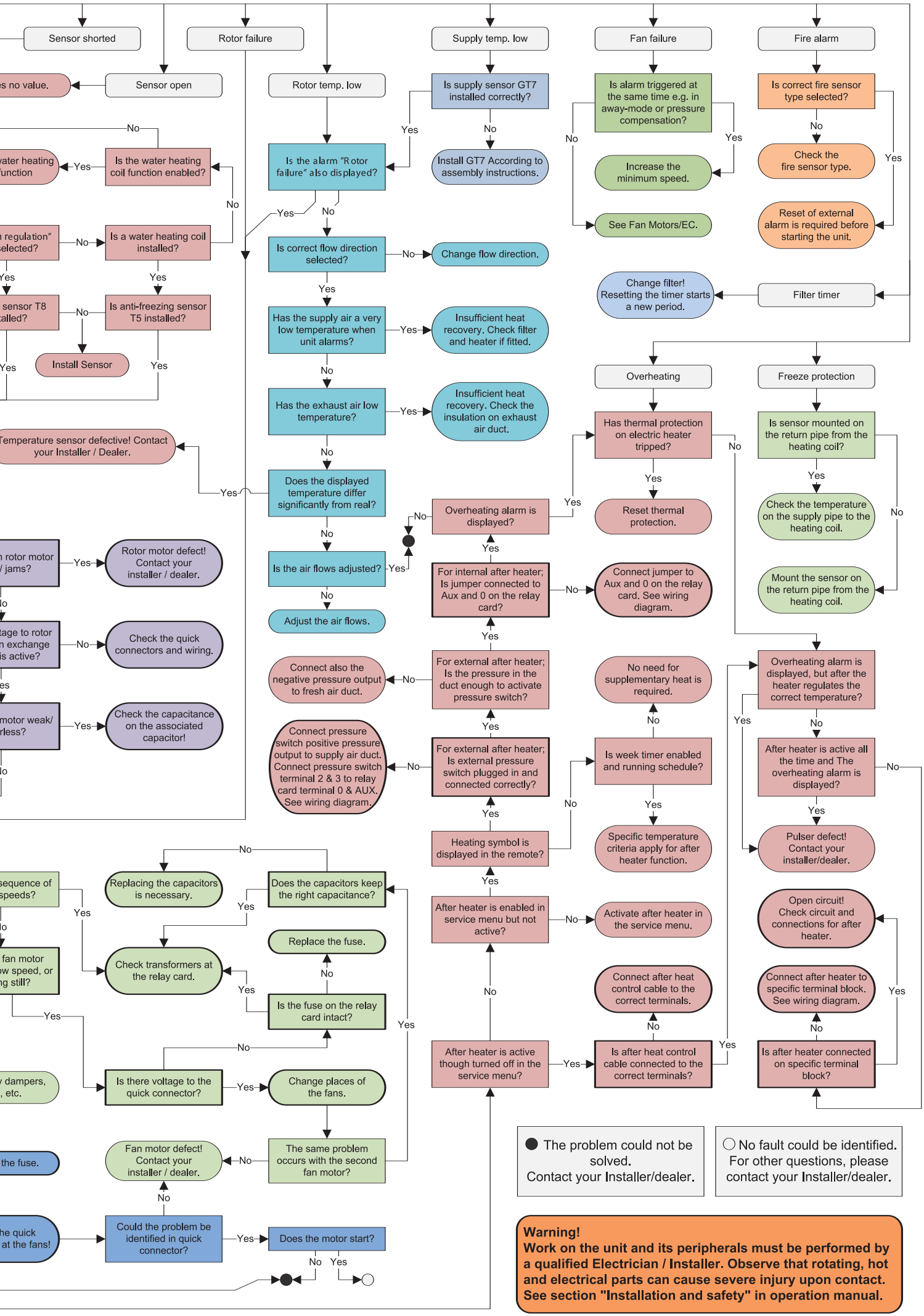
Dimensioning of Cooling/Heating coil should be performed by a qualified person.

SPARE PARTS

Rotor motor, complete, HERU 14 S/19 S	6000066
Rotor motor, complete, HERU 35 S/52 S	6000062
Service kit (belt+tightening), HERU 14 S/19 S	6010171
Service kit (belt+tightening), HERU 35 S	6010169
Service kit (belt+tightening), HERU 52 S	6010170
Bagfilter F7 the same for supply and exhaust air, HERU 14 S/19 S	1250152
Bagfilter F7 the same for supply and exhaust air, HERU 35 S	1250151
Bagfilter F7 the same for supply and exhaust air, HERU 52 S	1250153
Fan, HERU 14 S AC	7710256
Fan, HERU 19 S AC	7710255
Fan, HERU 35 S AC	7710258
Fan, HERU 52 S AC	7710253
Fan, HERU S	7710249
Fan, HERU S	7710250
Fan, HERU S	7710251
Electrical heater, built-in, with triac switch, 1200 W, HERU 14 S/19 S	6010063
Electrical heater, built-in, with triac switch, 1700 W, HERU 35 S	6010061
Electrical heater, built-in, with triac switch, 1700 W, HERU 52 S	6010068
Capacitor HERU 14 S	4030087
Capacitor HERU 19 S	4030086
Capacitor HERU 35 S/52 S	4030088
Duct sensor (GT7)	4020497

Contact your installer/dealer for order.


Start
Select Category
REMOTE CONTROL /ALARM /MESSAGE
UNIT
HEAT EXCHANGER
AIRFLOW
FAN MOTORS
ELECTRIC HEATER
Do you receive Alarm / Message?
Alarm
Message
No
Is there a key shown in the bottom of the display?
Yes
Keylock activated. Disable, push the left button key down for 3 sec.
No
It is difficult to see the details on the display? The remote does not respond to key press?
No
Yes
Is the display image mirrored / Upside down?
No
The remote is blank in the display/does not respond to key press despite new batteries?
No
Yes
Remote control defect! Contact your Installer/ dealer.
Yes
Replace the batteries. Check the contrast setings.
Is it possible to start the unit via remote control?
No
Yes
Has the unit stopped and alarm is displayed?
No
Yes
Is correct temperature values Dispalyed when the unit is operating?
Yes
No
Check placement of the ducts and isolation. Check the selected flow direction.
The temperature in the ventilation system has not stabilized yet. Wait for 30 min.
Yes
Has the unit just been started?
No
Check air flow on supply side. Check filter.
Yes
This is normal when the unit don't need to recover more heat for desired temperature.
Yes
Is a low efficiency displayed? E.g. 23%?
No
Is a high efficiency displayed? E.g. 95-100%?
No
The unit display gradually lower efficiency?
No
Yes
Replace the filters. Check the value of the filter pressure switches.
Yes
The unit provides gradually lower air flow?
No
Which alarm is displayed?
Is "Starting up" displayed?
Message
Yes
The unit is initialized. After booting, the unit switch to normal operation.
"Please wait..." is displayed?
Yes
Does the unit respond to any form of control from The remote such as on/ off or change of fan speed? Temperatures and the rotor status is updated?
No
Yes
Does the unit get current?
No
Yes
Check fuse, RCD and wiring.
Bad reception conditions. Check antenna and its location.
Yes
Is the remote control synchronized with the unit?
No
Synchronize remote control with unit.
Synchronization between the remote control and unit fails?
Yes
No
Temp. sensor give abnormal value.
Temp. sensor provide
Which sensor give alarm?
1- 4, 7
5, 6, 8
Check the connection/ function of the faulty sensor.
The problem persists?
No
Yes
Check what is causing the error. Make sure that the rotor moves freely.
No
Can the problem be localized to the rotor shaft?
Yes
Rotor defect! Contact your Installer / Dealer.
Yes
Clean rotor, belt and pulley. Replacement of belt may be necessary.
Yes
Is the rotor stuck somewhere?
No
Rotor sensor defect! Contact your Installer / Dealer.
Yes
No
Is it bad grip between the belt and pulley?
No
The alarm "Rotor failure" is displayed but the rotor is operating good?
Yes
No
Yes
Yes
The alarm "Rotor failure" is displayed?
No
Yes
Are the fan speeds adjusted in the remote control?
No
Adjust each speed.
Is correct flow given at maximum (100%) (10V), see pressure/flow chart?
Yes
No
Voltage range should be adjusted. Contact your installer / dealer.
Yes
No
Are the unit of type AC or EC?
EC
AC
Check the wiring.
Does the motors rotate in correct direction?
No
No
What type of fans?
AC
EC
Yes
Is the alarm "Fan failure" displayed?
Yes
No
Is control cable for the exhaust fan connected to the correct terminal on the relay card?
Yes
No
Is the power for the exhaust fan connected at correct terminal on the relay card?
Yes
No
Connect cable to the correct terminal.
See Remote Control, Alarms/Messages
Is correct flow given at maximum (120V / 230V), see pressure/flow chart?
Yes
No
Is the fuse on the relay card intact?
Yes
No
Change flow direction.
No
Is the correct flow direction selected?
Yes
No
Yes
Does the supply fan start first?
No
Does the exhaust fan start first?
Yes
No
The unit initiates.
Fans and control cables connected the wrong channel on relay card.
"System OK ..." appears in the display, but both engines are stopped?
Yes
No
"Please wait..." is displayed?
Yes
No
Basic settings incorrect! Contact your installer / dealer.

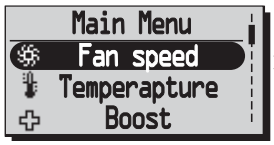

Sensor shorted
Rotor failure
Supply temp. low
Fan failure
Fire alarm
s no value.
Sensor open
Rotor temp. low
Is supply sensor GT7 installed correctly?
Is alarm triggered at the same time e.g. in away-mode or pressure compensation?
Is correct fire sensor type selected?
ater heating function
Is the water heating coil function enabled?
Is the alarm "Rotor failure" also displayed?
Install GT7 According to assembly instructions.
Increase the minimum speed.
See Fan Motors/EC.
Check the fire sensor type.
Reset of external alarm is required before starting the unit.
n regulation" elected?
Is a water heating coil installed?
Is correct flow direction selected?
Change flow direction.
sensor T8 talled?
Is anti-freezing sensor T5 installed?
Has the supply air a very low temperature when unit alarms?
Insufficient heat recovery. Check filter and heater if fitted.
Change filter! Resetting the timer starts a new period.
Filter timer
Install Sensor
Has the exhaust air low temperature?
Insufficient heat recovery. Check the insulation on exhaust air duct.
Overheating
Freeze protection
Temperature sensor defective! Contact your Installer / Dealer.
Does the displayed temperature differ significantly from real?
Has thermal protection on electric heater tripped?
Is sensor mounted on the return pipe from the heating coil?
Overheating alarm is displayed?
Reset thermal protection.
Check the temperature on the supply pipe to the heating coil.
n rotor motor / jams?
Rotor motor defect! Contact your installer / dealer.
Is the air flows adjusted?
For internal after heater; Is jumper connected to Aux and 0 on the relay card?
Connect jumper to Aux and 0 on the relay card. See wiring diagram.
Mount the sensor on the return pipe from the heating coil.
Adjust the air flows.
tage to rotor n exchange is active?
Check the quick connectors and wiring.
Connect also the negative pressure output to fresh air duct.
For external after heater; Is the pressure in the duct enough to activate pressure switch?
No need for supplementary heat is required.
Overheating alarm is displayed, but after the heater regulates the correct temperature?
motor weak/ rless?
Check the capacitance on the associated capacitor!
Connect pressure switch positive pressure output to supply air duct. Connect pressure switch terminal 2 & 3 to relay card terminal 0 & AUX. See wiring diagram.
For external after heater; Is external pressure switch plugged in and connected correctly?
Is week timer enabled and running schedule?
After heater is active all the time and The overheating alarm is displayed?
Heating symbol is displayed in the remote?
Specific temperature criteria apply for after heater function.
Pulser defect! Contact your installer/dealer.
sequence of speeds?
Replacing the capacitors is necessary.
Does the capacitors keep the right capacitance?
After heater is enabled in service menu but not active?
Activate after heater in the service menu.
Open circuit! Check circuit and connections for after heater.
fan motor ow speed, or g still?
Check transformers at the relay card.
Replace the fuse.
Connect after heat control cable to the correct terminals.
Connect after heater to specific terminal block. See wiring diagram.
Is the fuse on the relay card intact?
After heater is active though turned off in the service menu?
Is after heat control cable connected to the correct terminals?
Is after heater connected on specific terminal block?
dampers, , etc.
Is there voltage to the quick connector?
Change places of the fans.
the fuse.
Fan motor defect! Contact your installer / dealer.
The same problem occurs with the second fan motor?
he quick at the fans!
Could the problem be identified in quick connector?
Does the motor start?
● The problem could not be solved. Contact your Installer/dealer.
○ No fault could be identified. For other questions, please contact your Installer/dealer.
Warning!
Work on the unit and its peripherals must be performed by a qualified Electrician / Installer. Observe that rotating, hot and electrical parts can cause severe injury upon contact. See section "Installation and safety" in operation manual.

ERROR DETECTION

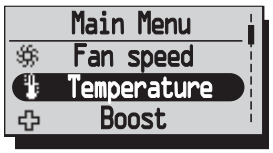
Type of fault	Check...	Remedy
Nothing shows on the display.	...The batteries.	Change the 3 AA batteries.
Can't enter the menus, the keys are locked	...If keylock is activated.	Disable, push the left buttom down Back for 3 seconds.
"Please wait" is displayed.	...That the unit has power. ...The antenna, it should not be mounted against any metal ductwork as this can shield the signal. ...That the wireless control unit is synchronized with the unit.	Wait for 15 minutes. If the message still twinkles, go to next step. Check the fuse, residual current device and connection. Move the antenna. See page 22.
The unit does not start.	...That the unit has power. ...That the set point is "On". ...That the unit is connected correctly. When the electrical supply is turned on the unit starts automatically with a few minutes delay. ...Other alarms.	Check the fuse, residual current device and connecting. See page 14. See page 40-41. See page 7. See below.
The unit has stopped.	...That the unit has power. ...If alarm is triggered. ...That the right flow direction is choosed.	Check the fuse and safety switch. Check why the alarm is on. When caused error is resolved, restore alarm. After alarm reset, check so the rotor motor is rotating and the fans spinning. See page 21.
When starting the unit the wireless control unit displays wrong temperature alt. alarm of to low temperature.	...If the unit is installed left or right handed.	Set the flow direction. See page 21.
Can't activate the filter measurement.	...That pressure sensor is installed.	Activate sensor. See page 16.
<u>Other alarms:</u> Filter. Sensor open. Sensor shorted. Rotor stop. Overheating. Low supply air temperature. Low rotor temperature. Fire alarm. Freeze protection. Motor failure.	 ...If filters are dirty. ...If the set time for filter measurement is reached ...Which sensor is triggered, see page 14. ...The menus for heater and regulation mode. ...Which sensor is triggered, see page 14. ...The Function of rotor, rotor motor, roror sensor and that the rotor belt is intact? ...If the heat protection of the duct heater is triggered. *NB! The unit must be currentless.* ...If filters are dirty. ...If the rotor belt slips. ...If the duct heater works. ...That the right flow direction is choosed. ...If filters are dirty. ...If the rotor belt slips. ...Why the fire alarm is triggered. ...There's enough heat to the heating coil. ...The valve actuator opens as it should. ...Power to the fans and quick connectors. ...That the impeller is not blocked	 Change filter. Change filter. Connection to relay card. If error remains, change broken sensor. Make the right setting for heater and regulation mode. See pages 19-20. Connection to relay card. If error remains, change broken sensor. Replace the faulty part. Restore the manual overheating protection and reset the alarm. Change filter. Change rotor belt. Ensure function before startup. See page 21. Change filter. Change rotor belt. Ensure function before startup. Ensure function of the heating coil before startup. Ensure function of the valve actuator before startup. Ensure function and change broken fan before startup. Ensure function before startup.
Supply or exhaust air is missing. or effeciency too high.	...The air intake. ...Supply and exhaust air filters.	Clean intake grille if dirty. Change filter
Effeciency too low.	...If filters are dirty.. ...If extract air temperature is low.	Change filter. Check the installation.
Problem when adjusting the air flow.	...That the function for summer cooling is "Off".	See page 21.

If none of the adjoining information helps to start/clear up the error then contact your electrician/retailer.

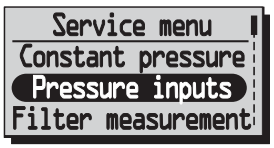
INTERNAL SETTINGS AC



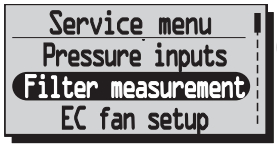
Fan speed: .....
(min, standard, medium or max.)
Default: Std.



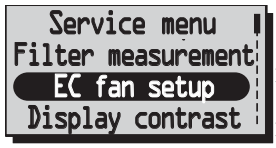
Temperature: .....
(15°C-40°C/59-104°F)
Default : 20°C/68°F



Sensor: .....
(None, SW, -50/+50, 0/100 Pa)
Default: None.

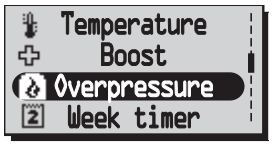


Filter measurement: .....
(Off/On) Default: Off.

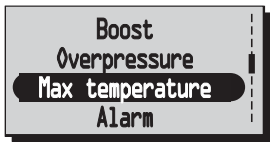


Fan speed: .....
Min: .....
Default: 130V
Standard: .....
Default: 170V
Medium: .....
Default: 210V
Max: .....
Default: 230V.

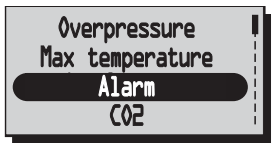
Time: .....
(10-240 min.) Default: 30 min.
Fan: .....
(medium or max) Default: Med.



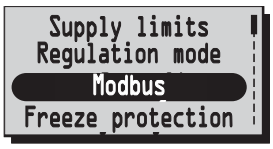
Time: .....
(5-60 min.)
Default : 15 min.



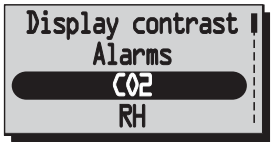
Max temperature: .....
Default: 30°C/86°F.



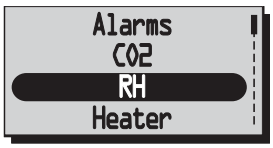
Filter timer: .....
Default: 6 months
Low temp Limit A: .....
Default: 2°C/36°F
Low temp Limit B: .....
Default: 9°C/48°F
Fire alarm: .....
Default: Not installed
Aut.reset: .....
Default: Off
Alarm indication: .....
Default: None



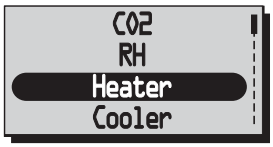
Modbus Id: .....
Default: 1
Baud: .....
Default: 9600
Device name: .....



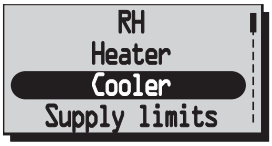
Limit: .....
(500-1400 PPM) Default: 900 PPM
Ramp: .....
(2-200%/h) Default: 50%/h.



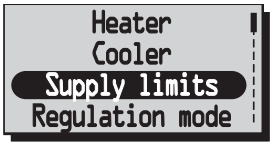
Limit: .....
(50%-100%) Default: 70%.
Ramp: .....
(2-200%/h) Default: 5 min.



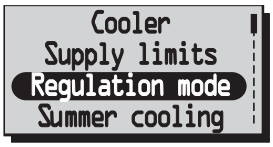
Electric: .....
(On/Off) Default: Off.
Water: .....
(On/Off) Default: Off.
Afterblow: .....
(On/Off) Default: Av.



Cooler: .....
(On/Off) Default: Off.



Min: .....
(15-19°C/59-66°F) Default: 15°C/59°F.
Max: .....
(20-40°C/68-104°F) Default: 25°C/77°F.

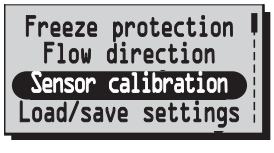


Regulation mode: .....
(Constant Supply reg./Extract reg./Room reg.)
Default : Const. supply reg.

InOutDiff: .....
(1-10°C/34-50°F) Default: 5°C/41°F.
Extract HI: .....
(19-26°C/66-79°F) Default: 24°C/75°F.
Extract LO: .....
(18-24°C/64-75°F) Default: 18°C/64°F.

Limit: .....
(5°C-10°C/41-50°F)
Default : 10°C/50°F.

Flow direction: .....
(Right/Left)
Default : Right.



Offset: .....
Default: 0°C/32°F

FILTER CHANGE: .....

.....

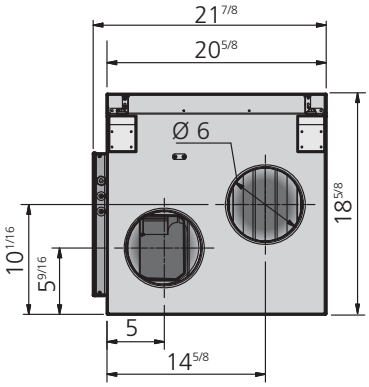
SERVICE: .....

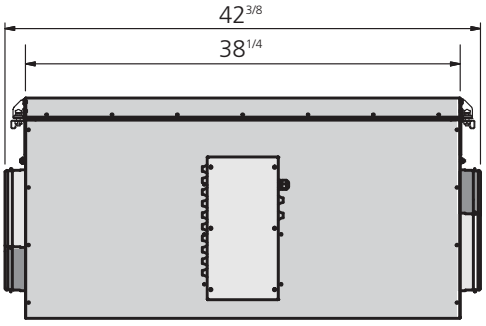
.....

TECHNICAL INFORMATION 34-41

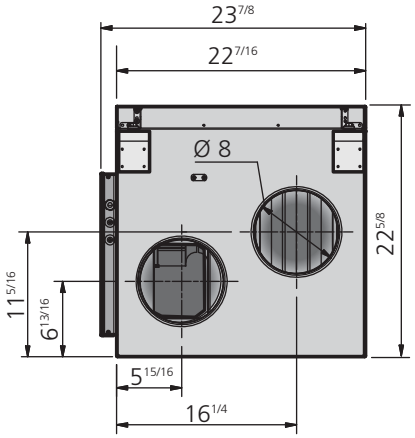
DIMENSIONS (inch)

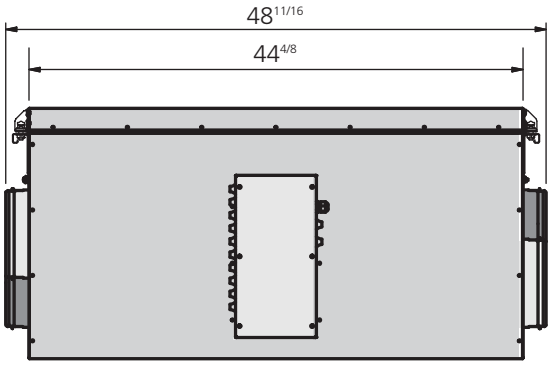
HERU 14 S/ 19 S AC



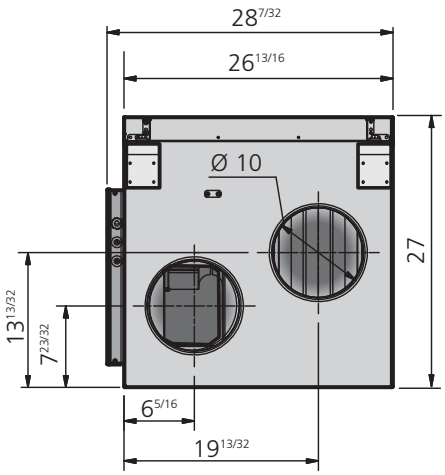


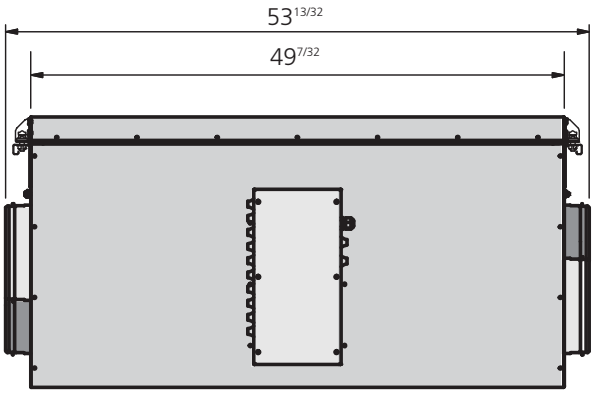
HERU 35 S AC





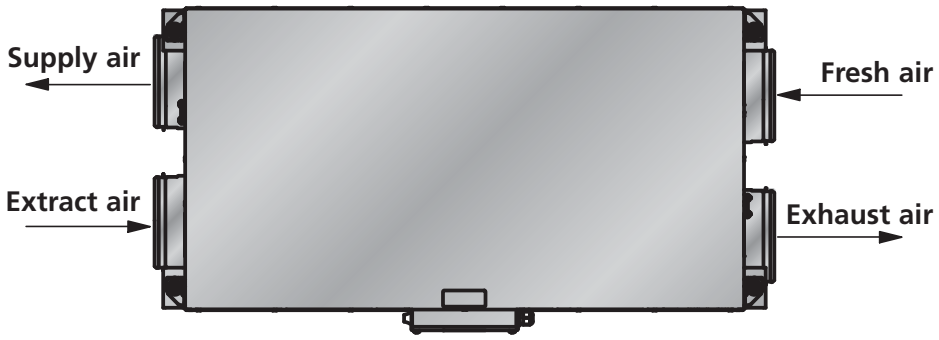
HERU 52 S AC





FLOW DIRECTION

LEFT



RIGHT

TECHNICAL DATA

Data stated at 100 Pa external pressure drop. See below for explanation of Sound pressure level.

	HERU 14 S	HERU 19 S	HERU 35 S	HERU 52 S
Voltageg, V/Hz	120/60	120/60	120/60	120/60
Current fans, A (2 fans)	1,39	2,34	3,67	4,14
Current total , A	11,5	12,4	17,9	18,4
Power fans, W (2 fans)	162	277	436	494
Power total, W	1389	1504	2163	2221
Current electric heater, A	10,0	10,0	14,2	14,2
Power electric heater, W	1200	1200	1700	1700
Speed, rpm	2610	2680	2830	2470
Weight, lbs	146	146	190	258
Duct connection, inch	Ø 6	Ø 6	Ø 8	Ø 10

SOUND DATA

The sound data have been compiled by means of sound measurement methods as follows: Pressure and flow: SS-ISO 5801.Determination of acoustic sound power level in duct: SS-ISO 5136.Determination of acoustic sound power level in reverberation room: SS-EN ISO 3741.

DESIGNATIONS

The table above present the total A-weighted sound power level, L_{wA}, as well as in octave bands in dB(A) (ref 10^{-12}W).
In the "Technical Data", the total sound pressure, L_{pA}, calculated from the total surrounding sound power level, L_{wA}, at 230 V is presented in dB(A) (ref 20 x 10^{-6}Pa).
The relationen between sound pressure and sound power is

$$L_{pA} = L_{wA} + 10 \times \log \left(\frac{Q}{4\pi r^2} + \frac{4}{A_{Ekv}} \right)$$

where Q is the propagation factor, r is the distance from the unit and A_{Ekv} is the equivalent absorbtion area.
When calculationg the L_{pA} it has been assumed that Q=2, r=3 m and A_{Ekv}=20 m^2, which gives $L_{pA} \approx L_{wA} - 7$.

Ljuddata har framtagits med följande standarder för ljudmätning:
Tryck och flöde: SS-ISO 5801. Bestämning av ljudeffektnivå i kanal: SS-ISO 5136.
Bestämning av ljudeffektnivå i efterklangsrum: SS-EN ISO 3741.

FÖRKLARINGAR

Tabellen ovan visar total A-vägd ljudeffektnivå, L_{wA}, samt denna uppdelad i oktavband i dB(A) (ref 10^{-12}W). I "Tekniska Data", återfinns total ljudtrycksnivå, L_{pA}, i dB(A) (ref 20 x 10^{-6}Pa) beräknat på den totala ljudeffektnivån för aggregatljud vid 230 V.
Relationen mellan ljudtryck och ljudeffekt är

$$L_{pA} = L_{wA} + 10 \times \log \left(\frac{Q}{4\pi r^2} + \frac{4}{A_{Ekv}} \right)$$

där Q är riktningsfaktor, r är avstånd från aggregatet och A_{Ekv} är ekvivalent absorbtionsarea. Vid beräkning av L_{pA} har det antagits att Q=2, r=3 m och A_{Ekv}=20 m^2, vilket ger att $L_{pA} \approx L_{wA} - 7$.

HERU 14 S AC

120 V / 108 CFM 0,96 H_2O	L_{pA}	L_{wA}Total dB	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	41	48	33	44	44	38	34	35	28	27
Supply		71	61	61	66	65	62	58	57	48
Extract		60	42	50	57	55	39	35	27	16

100 V / 102 CFM 0,50 H_2O	L_{pA}	L_{wA}Total dB	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	38	45	32	41	42	34	32	32	26	27
Supply		67	53	57	63	61	57	53	52	41
Extract		57	35	48	55	50	35	30	22	10

80 V / 76 CFM 0,26 H_2O	L_{pA}	L_{wA}Total dB	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	35	42	30	39	36	30	27	29	26	27
Supply		61	49	51	57	54	50	48	45	29
Extract		50	30	43	48	44	30	26	15	6

65 V / 55 CFM 0,12 H_2O	L_{pA}	L_{wA}Total dB	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	32	39	24	36	32	27	23	26	25	27
Supply		54	45	47	48	47	43	40	40	16
Extract		43	27	39	39	36	24	20	11	5

50 V / 38 CFM 0,04 H_2O	L_{pA}	L_{wA}Total dB	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	29	36	24	32	26	24	22	24	25	27
Supply		47	41	41	41	39	36	33	34	10
Extract		37	23	34	32	29	18	17	8	6

HERU 19 S AC

120 V / 153 CFM 1,12 H_2O	L_{pA}	L_{wA}Total dB	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	44	51	38	44	46	46	43	40	36	33
Supply		79	68	68	71	75	71	68	64	54
Extract		64	53	54	57	62	53	42	32	18

100 V / 133 CFM 0,72 H_2O	L_{pA}	L_{wA}Total dB	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	43	50	32	47	43	43	39	36	32	30
Supply		73	58	62	67	68	66	63	59	48
Extract		60	41	52	55	56	49	39	27	15

80 V / 97 CFM 0,43 H_2O	L_{pA}	L_{wA}Total dB	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	39	46	31	44	40	37	34	31	28	28
Supply		67	54	59	61	61	59	55	50	37
Extract		54	35	49	49	50	42	32	20	9

65 V / 70 CFM 0,20 H_2O	L_{pA}	L_{wA}Total dB	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	39	46	26	43	40	33	29	28	27	28
Supply		62	54	56	56	54	52	47	41	28
Extract		50	35	45	45	44	35	25	15	8

50 V / 51 CFM 0,08 H_2O	L_{pA}	L_{wA}Total dB	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	44	51	25	51	34	30	23	23	25	28
Supply		55	45	51	50	47	44	36	33	22
Extract		43	26	40	36	37	27	16	13	11

SOUND DATA

HERU 35 S AC

120 V / 210 CFM 1,45 H_2O	L_{pA}	L_{wA}Total dB	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	53	60	44	53	55	56	46	41	36	32
Supply		85	61	68	77	83	75	72	69	62
Extract		71	49	60	68	66	53	44	34	22

105 V / 212 CFM 0,78 H_2O	L_{pA}	L_{wA}Total dB	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	49	56	39	53	49	50	43	37	32	30
Supply		78	56	65	70	75	70	67	64	57
Extract		66	49	57	62	62	49	39	30	19

95 V / 186 CFM 0,56 H_2O	L_{pA}	L_{wA}Total dB	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	46	53	42	50	46	48	40	34	30	28
Supply		75	55	64	67	72	67	64	61	53
Extract		63	47	55	58	60	46	37	28	18

85 V / 153 CFM 0,38 H_2O	L_{pA}	L_{wA}Total dB	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	43	50	32	47	43	43	37	30	27	26
Supply		71	53	63	64	67	62	60	57	47
Extract		61	46	57	55	55	44	34	27	18

75 V / 136 CFM 0,24 H_2O	L_{pA}	L_{wA}Total dB	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	42	49	32	48	40	38	35	28	27	26
Supply		62	52	54	56	57	52	50	47	34
Extract		56	48	52	49	47	41	31	26	18

65 V / 110 CFM 0,14 H_2O	L_{pA}	L_{wA}Total dB	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	35	42	30	39	35	34	34	26	26	26
Supply		62	52	54	56	57	52	50	47	34
Extract		50	41	44	45	42	41	30	26	18

50 V / 72 CFM 0,06 H_2O	L_{pA}	L_{wA}Total dB	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	32	39	27	34	30	29	33	25	27	26
Supply		56	49	46	50	50	46	43	40	30
Extract		50	41	44	45	42	41	30	26	18

HERU 52 S AC

120 V / 328 CFM 1,20 H_2O	L_{pA}	L_{wA}Total dB	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	44	51	41	48	45	44	38	39	33	29
Supply		77	58	64	67	75	67	67	63	57
Extract		61	47	55	58	54	46	38	28	14

105 V / 328 CFM 0,56 H_2O	L_{pA}	L_{wA}Total dB	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	40	47	39	42	40	41	35	32	29	27
Supply		74	54	60	62	72	65	62	59	51
Extract		59	45	52	54	55	43	34	24	11

95 V / 299 CFM 0,42 H_2O	L_{pA}	L_{wA}Total dB	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	37	44	34	38	40	37	32	30	28	27
Supply		69	53	59	62	65	60	59	56	47
Extract		57	43	50	53	52	40	31	21	13

85 V / 246 CFM 0,30 H_2O	L_{pA}	L_{wA}Total dB	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	36	43	32	38	38	34	32	28	27	27
Supply		65	52	54	59	60	56	56	52	43
Extract		54	43	48	51	44	38	28	18	9

75 V / 203 CFM 0,20 H_2O	L_{pA}	L_{wA}Total dB	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	33	40	31	36	34	32	31	27	27	27
Supply		63	49	51	58	57	53	52	48	37
Extract		52	38	43	51	41	36	25	14	8

65 V / 163 CFM 0,12 H_2O	L_{pA}	L_{wA}Total dB	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	32	39	29	36	31	31	31	26	27	27
Supply		58	47	47	54	53	48	47	42	31
Extract		48	35	40	45	37	35	21	12	8

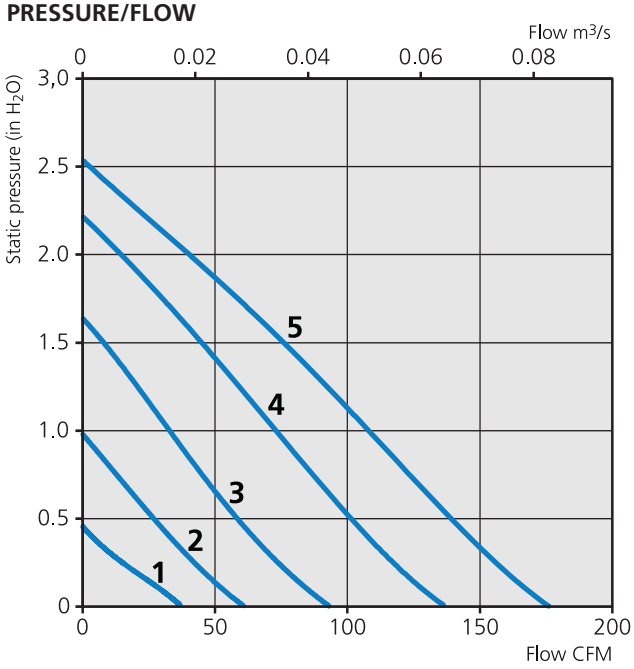
50 V / 121 CFM 0,04 H_2O	L_{pA}	L_{wA}Total dB	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	30	37	28	32	26	29	30	25	27	27
Supply		52	44	45	45	46	41	39	36	23
Extract		42	32	37	36	33	34	17	11	8

PRESSURE/FLOW DIAGRAMS

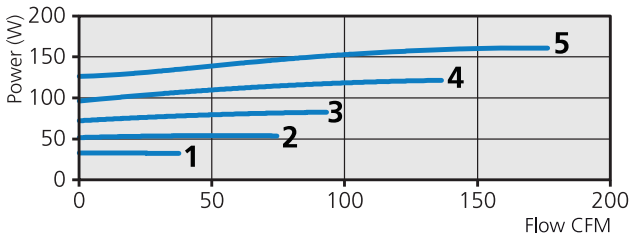
The pressure/flow diagrams apply to both supply and exhaust air. Indicated power applies to both fans together.

HERU 14 S AC

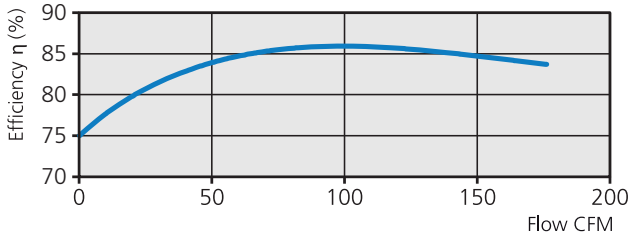
PRESSURE/FLOW



TOTAL FAN POWER/FLOW



TEMPERATURE EFFICIENCY

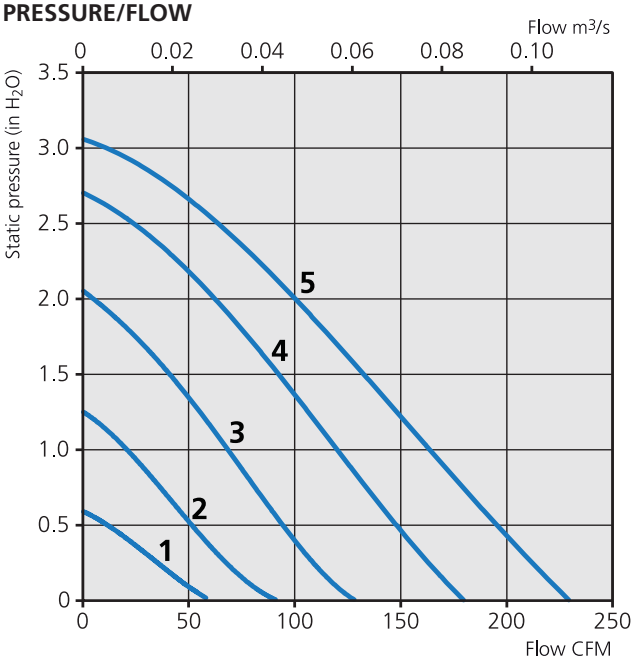


TRANSFORMER STEP / TRANSFORMATORSTEG

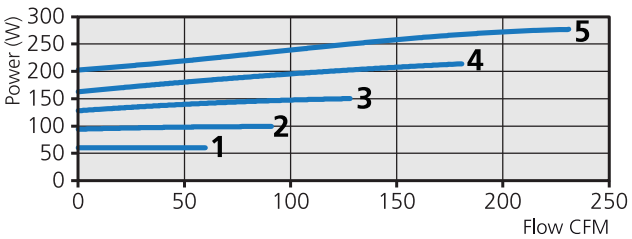
1	2	3	4	5	6	7
50 V	65 V	75 V	85 V	95 V	105V	120 V

HERU 19 S AC

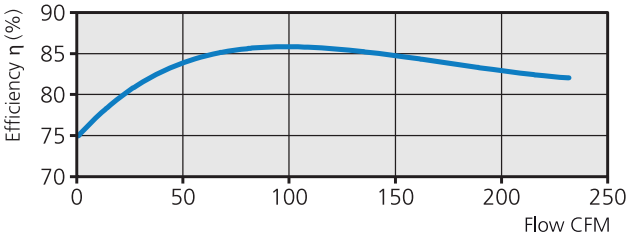
PRESSURE/FLOW



TOTAL FAN POWER/FLOW



TEMPERATURE EFFICIENCY



TRANSFORMER STEP / TRANSFORMATORSTEG

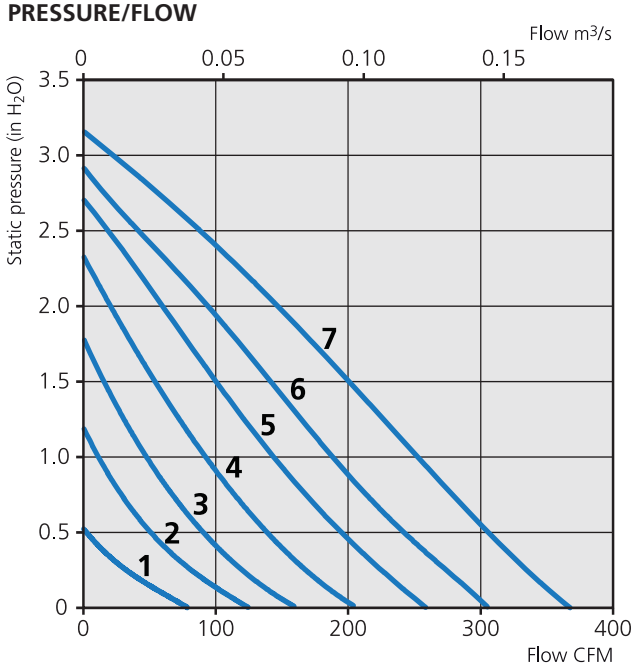
1	2	3	4	5	6	7
50 V	65 V	75 V	85 V	95 V	105V	120 V

PRESSURE/FLOW DIAGRAMS

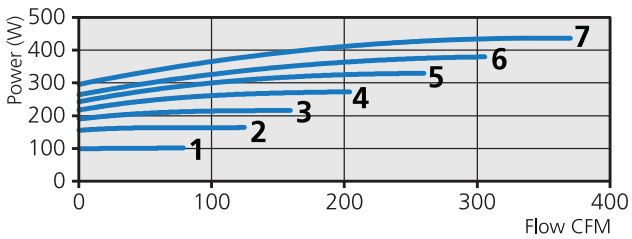
The pressure/flow diagrams apply to both supply and exhaust air. Indicated power applies to both fans together.

HERU 35 S AC

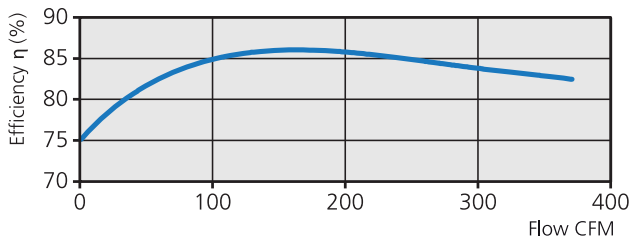
PRESSURE/FLOW



TOTAL FAN POWER/FLOW



TEMPERATURE EFFICIENCY

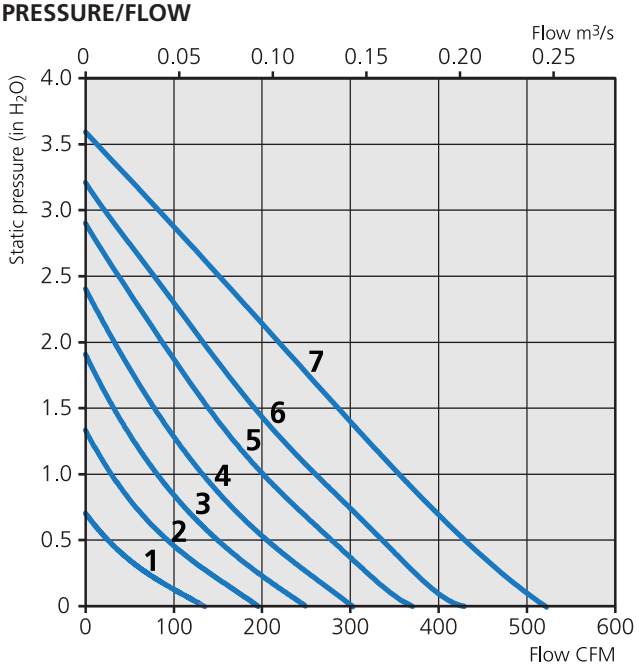


TRANSFORMER STEP / TRANSFORMATORSTEG

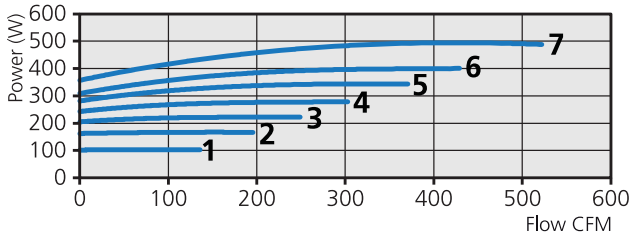
1	2	3	4	5	6	7
50 V	65 V	75 V	85 V	95 V	105V	120 V

HERU 52 S AC

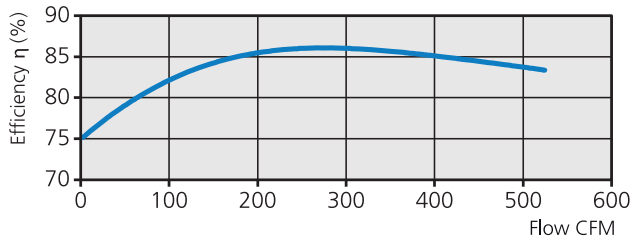
PRESSURE/FLOW



TOTAL FAN POWER/FLOW



TEMPERATURE EFFICIENCY

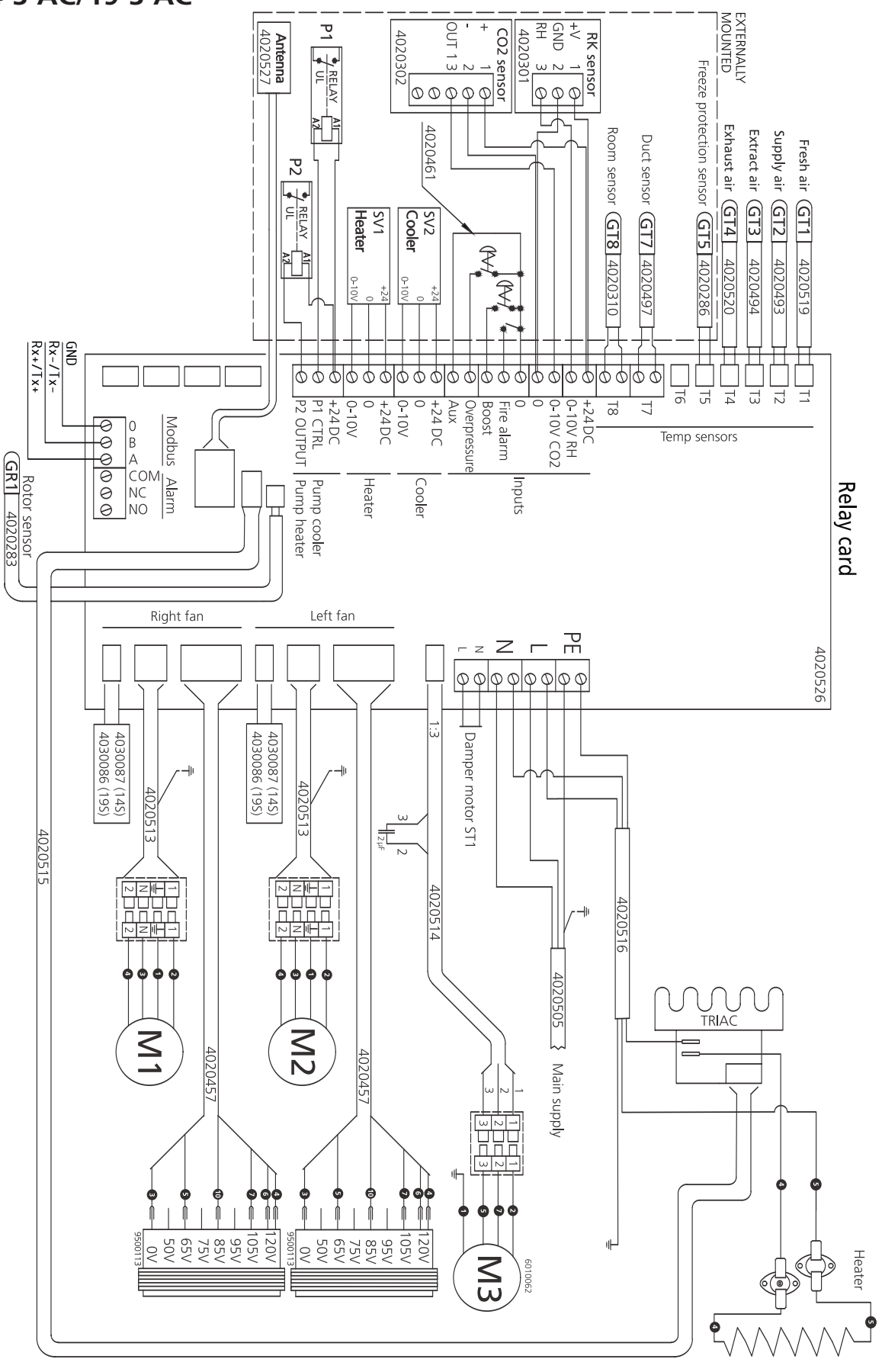


TRANSFORMER STEP / TRANSFORMATORSTEG

1	2	3	4	5	6	7
50 V	65 V	75 V	85 V	95 V	105V	120 V

WIRING DIAGRAM 4040155

HERU 14 S AC/19 S AC

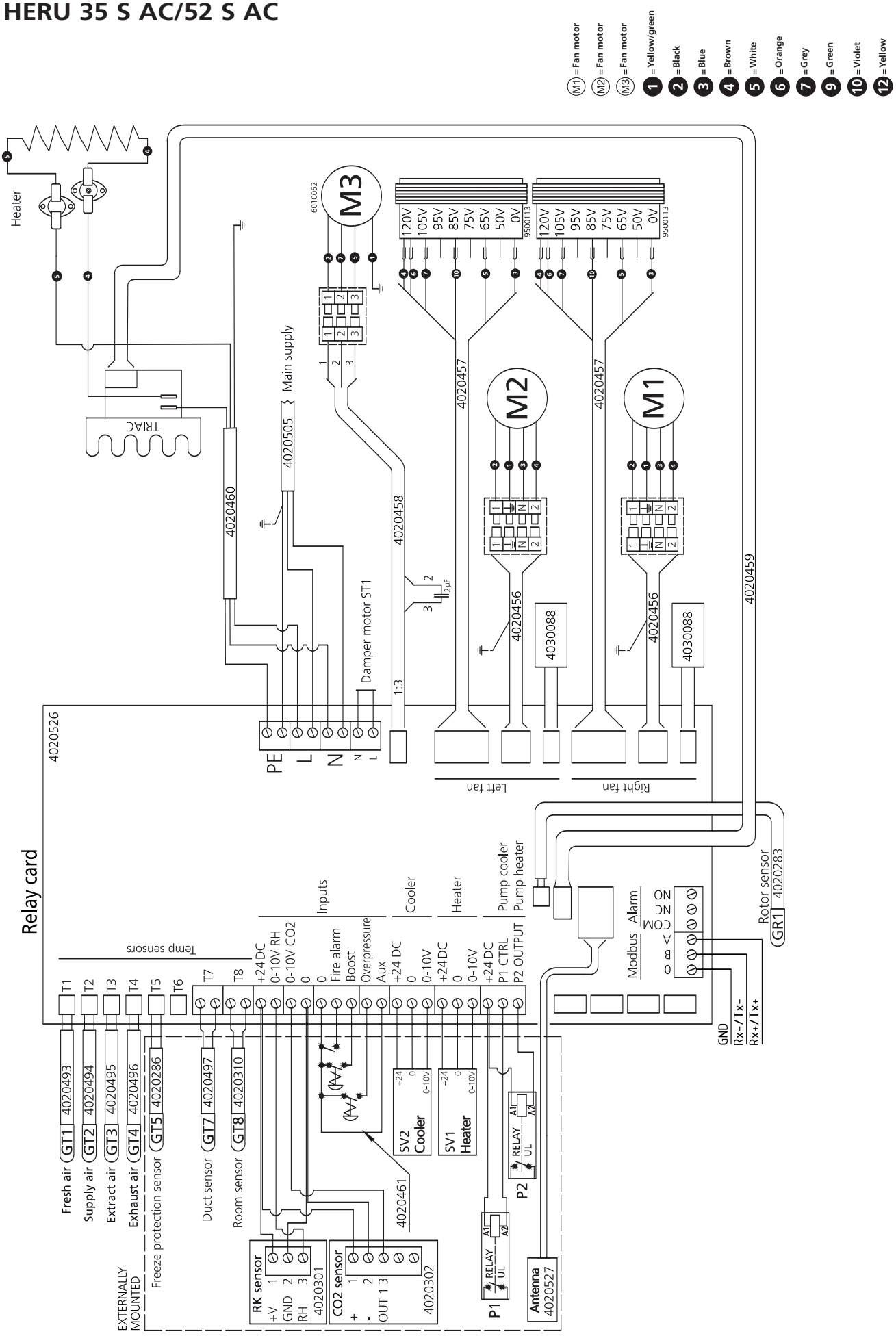


(M1) = Fan motor
(M2) = Fan motor
(M3) = Fan motor

1 = Yellow/green
2 = Black
3 = Blue
4 = Brown
5 = White
6 = Orange
7 = Grey
9 = Green
10 = Violet
12 = Yellow

WIRING DIAGRAM 4040149

HERU 35 S AC/52 S AC



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