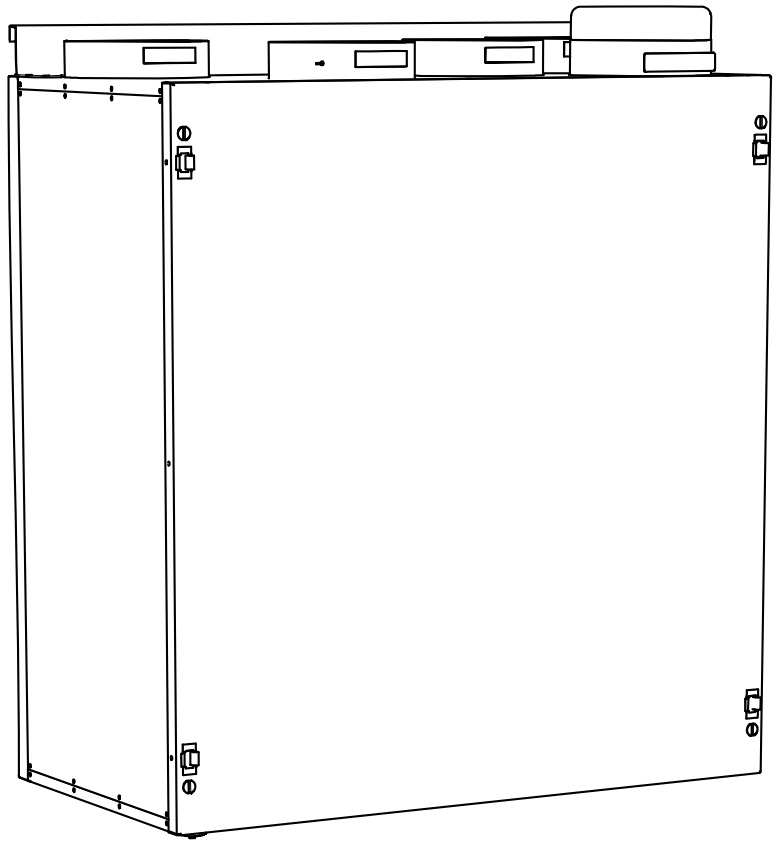
VR 300 ECV/B
(1000W/500W)

Air Handling Unit



GB Operation and maintenance instructions

Introduction

Installation, operation and maintenance manual concerns air handling unit type VR 300 ECV/B manufactured by Systemair AB. It consists of basic instructions and recommendations concerning the design, installation, start-up and operation, which shall be obeyed to ensure proper and fail-free operation of the unit. For proper and safe operation, read this manual thoroughly. Use the unit according to guidelines given and follow all safety requirements.

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Safety information

In order to avoid electrical shock, fire or other damage which might occur in connection with faulty use and operation of the unit, it is important to consider the following:

Warning!

- **The system should operate continuously, and only be stopped for maintenance/service**
- **Beware of sharp edges when mounting and during maintenance. Use protective gloves!**
- **Tumble dryer must not be connected directly to the ventilation system**
- **Make sure that filters are mounted in their place before running the system**
- **Before performing any maintenance or electrical work make sure that the mains supply is disconnected**
- **Maintenance must be performed according to below instructions.**

Operation

Airflow can alternatively be controlled from fan speed control with external 3-step speed regulator or from the cooker hood.

Airflow (fan speed)

Min (1) Minimum ventilation. To be used during holidays or when the building is not in use.
Norm (2) Normal ventilation adapted to the building.
Max (3) Forced ventilation. Is used when extra airflow is required.

Supply air temperature

Supply air temperature within normal range can be set from a switch inside the unit (**Fig.1**). Supply air temperature to be increased/lowered by turning clockwise/anti-clockwise respectively. The temperature setting is pre set from factory in the middle of “Min.” and “Max”.

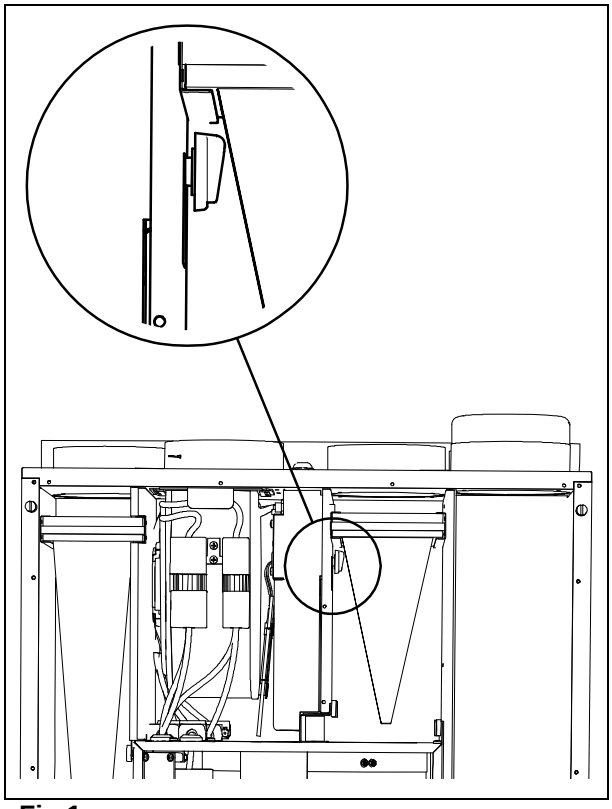

Fig.1

When heat recovery from the extract air is insufficient to obtain set supply air temperature, an electrical heater battery will automatically be switched on. (In general it is recommended to set supply air temperature as low as possible, avoiding the feeling of draught. This gives the ultimate energy and ventilation efficiency).

"Summer operation"

When supply air temperature exceeds set temperature, the rotor will stop and there will be no heat recovery (summer operation).

Extract from cooker

The VR 300 ECV/B is designed to be connected to a special cooker hood, adapted for its use.

Note! **The cooker hood must be equipped with a damper leaving no opening in closed position (without opening for basic ventilation).**

During forced ventilation from the cooker (when cooking) the damper in the cooker hood is opened from switch "A"**.** At the same time the fans will automatically change to MAX fan speed (3) from switch "B" (**Fig.2**).

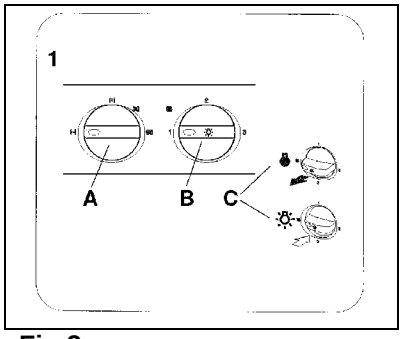

Fig.2

Extract from the cooker is led directly through the extract fan, and not through the heat exchanger. The capacity of the extract fan is then primarily used for extract from the cooker, but a minor airflow is maintained through the extract louvers. The opening time for the cooker hood damper can be set from 5 to 60 minutes. The damper closes automatically according to chosen time, or manually by turning switch "A" to ⊢.

Maintenance

Maintenance of the VR-300 TK/B should normally be performed 3 - 4 times a year. Apart from general cleaning the following should be observed:

1. **Changing fresh air/extract filter (1-2 times per year or as necessary)**
   The bag filters cannot be cleaned and must be changed as necessary.
   Take hold of the filter frame and pull straight out (**Fig.3**).

   Each time a filter change is performed it is recommended to check the driving belt for the heat exchanger rotor. Check that the belt is undamaged and tight. Test that the drive belt wheel moves when the rotor is moved by hand. If the belt needs to be replaced contact your installer.

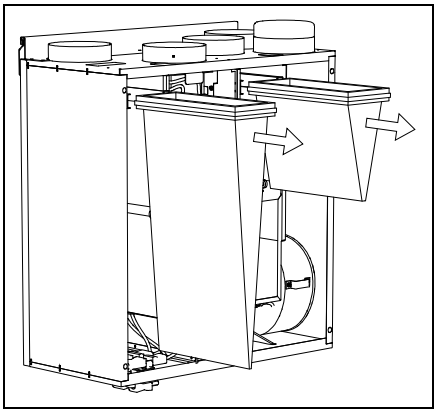

Fig.3

Call your supplier for new filters

2. **Checking the heat exchanger/Rotor belt**

Even if the required maintenance in point 1 is carried out, dust will build up in the exchanger block. It is therefore of vital importance for the upkeep of a high efficiency that the exchanger block is removed from the unit and cleaned periodically (every 3 years) (**Fig.4**). Wash in hot soapy water. Do not use detergent containing ammonia.

The belt that drives the exchanger rotor should be controlled on a regular basis. It is recommended to do this whenever it is time to change filters. Check that the belt is whole and without any visible damage and that it is tight enough to move the heat exchanger wheel (check by turning the exchanger wheel by hand and see if the belt pulley on the rotor motor moves as well. If the belt needs to be replaced contact your installer.

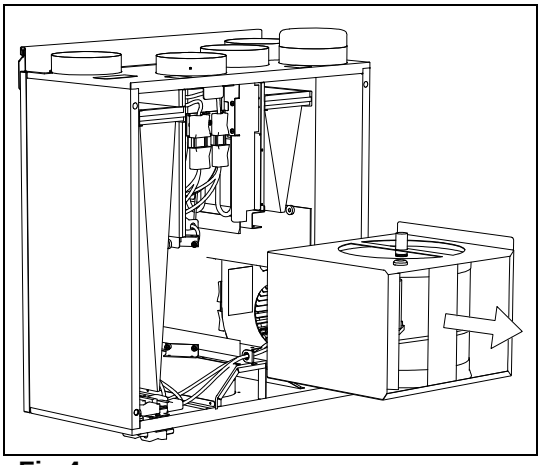

Fig.4

Note! Ensure that the rotor motor is not exposed to moisture.

3. Checking the fans

Even if the required maintenance, such as changing of filters is carried out, dust and grease may slowly build up inside the fans. This will reduce the efficiency.
The fans may be removed and cleaned with a cloth or a soft brush (every 3 years) (**Fig.5**). The fans can be removed after unplugging the fast couplings for the electrical wiring. Do not use water. White spirit can be used to remove obstinate settlements. Allow to dry properly before remounting.

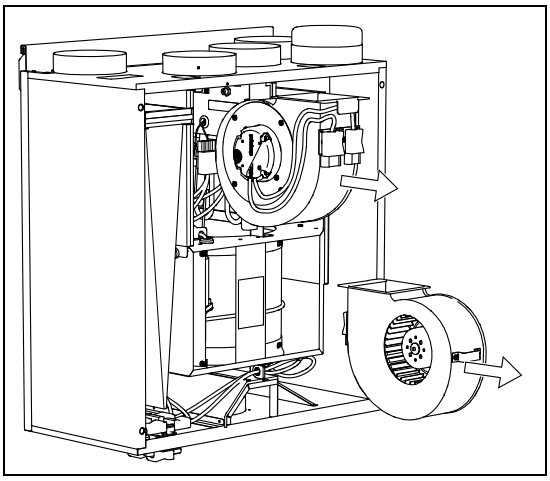

Fig.5

4. Cleaning extract louvers and inlet diffusers

The system supplies fresh air to your home and extracts the used indoor air via the duct system and diffusers/louvers. Diffusers and louvers are mounted in ceilings/walls in bedrooms, living room, wetrooms, WC etc. Remove diffusers and louvers and wash in hot soapy water as required (**Fig.6**). (Diffusers/ louvers must not be exchanged).

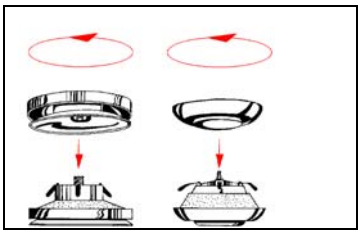

Fig.6

5. Checking the fresh air intake (at least twice a year)

Leaves and pollution could plug up the air intake grille (**Fig.7**) and reduce the capacity. Check the air intake grille, and clean as necessary.

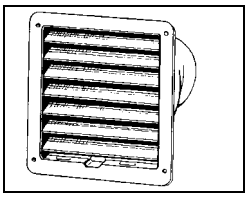

Fig.7

6. Checking the duct system (every 5 years)

Dust and grease settlements may, even if required maintenance such as changing of filters is being carried out, build up in the duct system. This will reduce the efficiency of the installation. The duct runs should therefore be cleaned/changed when necessary. Steel ducts can be cleaned by pulling a brush soaked in hot soapy water, through the duct via diffuser/ louver openings or special inspection hatches in the duct system (if fitted) (**Fig.8**).

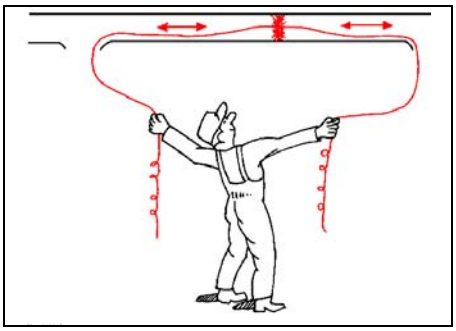

Fig.8

NOTE! In addition roof cowl must be checked once a year and cleaned as necessary.

For user and maintenance instructions for cooker hood, see separate instructions.

Troubleshooting

Should problems occur, please check or correct the items below before calling your service representative.

1. **Fan(s) do not start**
   Check that all fuses and plugs are connected (mains supply and fan plugs).

2. **Reduced airflow**
   a) Check setting of airflow on control panel
   b) Change of filter required?
   c) Cleaning of diffusers/louvers required?
   d) Cleaning of fans/exchanger block required?
   e) Is roof unit/air intake clogged?
   f) Duct system. Check visible duct runs for damage and/or build-up of dust/pollution.
   g) Check diffuser/louver openings.

3. **Cold supply air**
   a) Check set supply air temperature on the control switch "D", (**Fig.1**)
   b) Check if fire thermostat is still alert. If necessary, reset by pressing the red button in the unit (**Fig.9**).

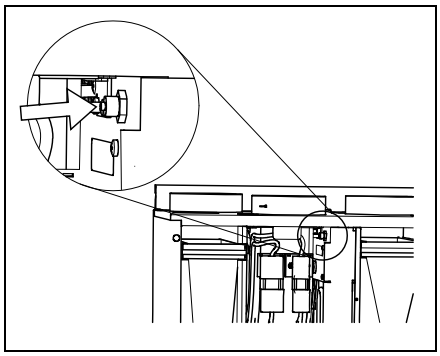

Fig.9

   c) Check if the extract filter must be changed.
   d) Check that the heat exchanger is rotating

4. **Noise/vibrations**
   a) Clean fan impellers
   b) Pull the fans out and check that screws holding the fans are tightened.

Service

Before calling your service representative, make a note of **the item no.(pos 1, fig10) and production number (pos. 2, fig. 10) from the type label, which can be found on top of the unit**.

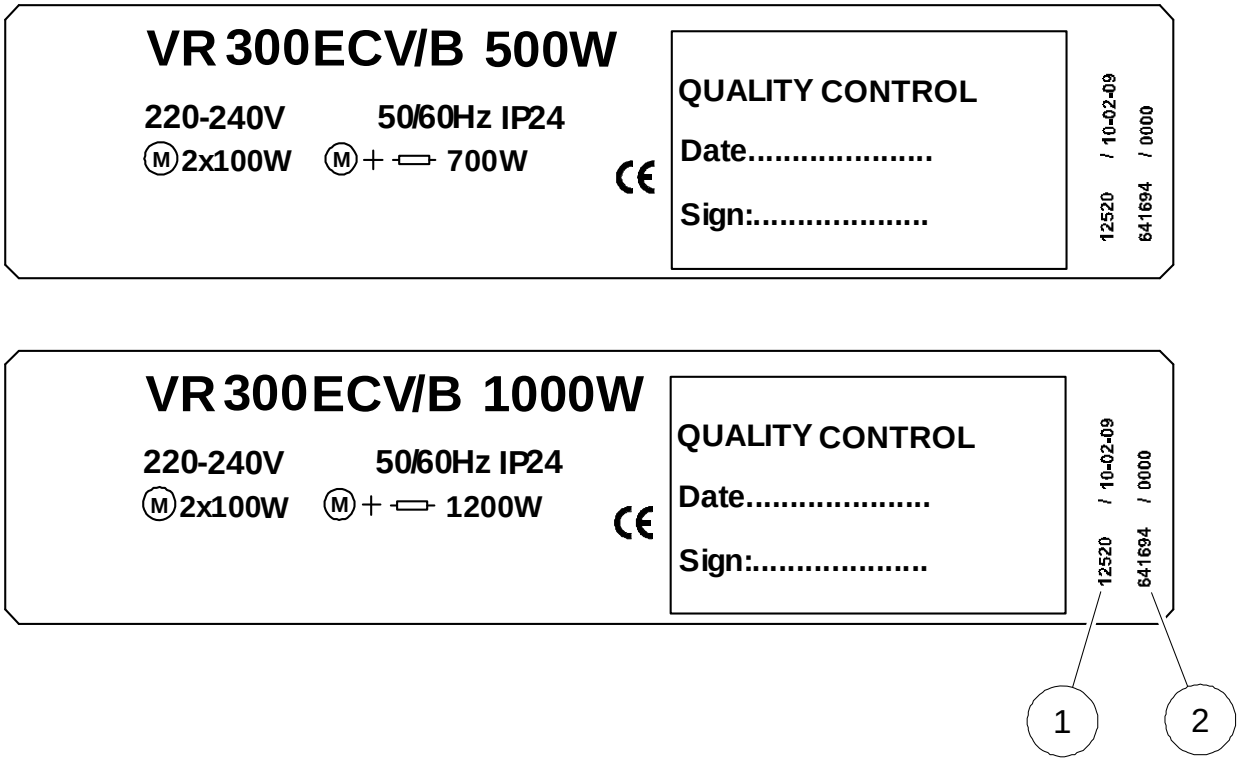

Fig.10

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206788 (16-11-2010)