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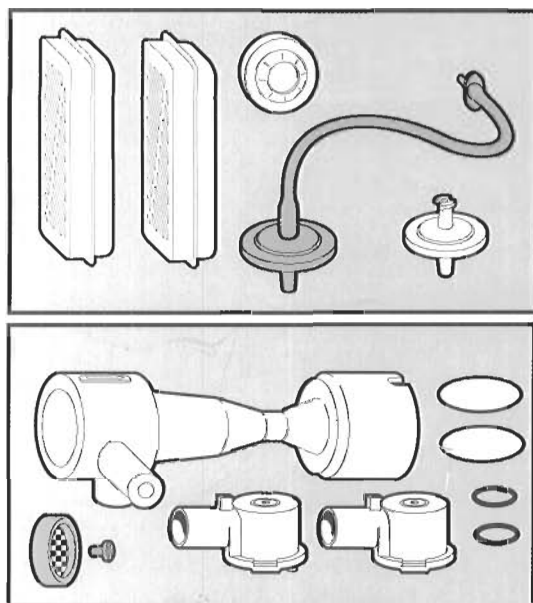


The internal battery shall be replaced every 3 years. See instructions in the Service Manual. An old non-functioning battery must be returned to the place of purchase or to a place where it can be disposed of properly. The battery must not be disposed of with ordinary waste. All disposable parts shall be discarded according to hospital rules and in an environmentally safe way.

All personnel should be aware of the risk of parts being infected when disassembling and cleaning the ventilator.

Make sure the parts that have been in contact with the patient's expiratory gas are clean before any other work, e.g., repair, exchange of parts, etc, is started.

3000 hour overhaul with complete cleaning



300-K55X

Disposable parts

Only spare parts from Siemens shall be used.

Bacteria filters:

- 2 for gas modules.
- 1 for inspiratory pressure transducer.
- 1 with 13 cm tube and nipple for expiratory pressure transducer.
- 1 for O₂ cell.

Other items:

- Expiratory valve tube.
- Mesh net, including screw, for expiratory flow transducer.

- 2 diaphragms for gas modules. *
 - 2 O-rings for gas modules.

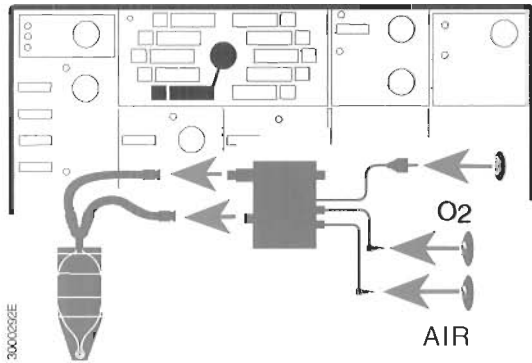
- 2 complete plastic nozzle units

* for gas modules with metal nozzle units

Equipment

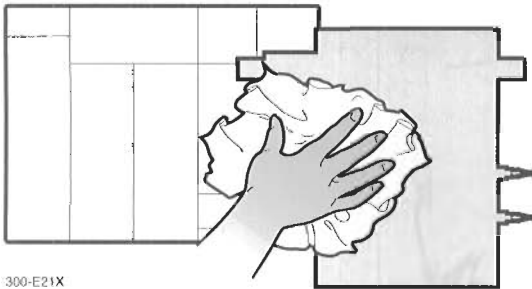
- Screwdriver.
- Hexagonal wrench 5 mm.

3000 hour overhaul with complete cleaning



Preparations

- Set the mode selector to "Ventilator off Battery charging".
- Disconnect the ventilator from mains and gas supply.
- Remove all accessories.

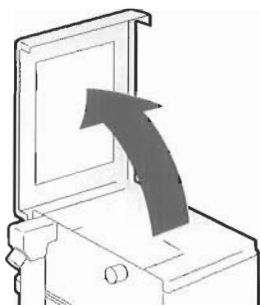


- Wipe the outside of the ventilator with a soft cloth moistened in a disinfectant.

3000 hour overhaul with complete cleaning

Gas modules

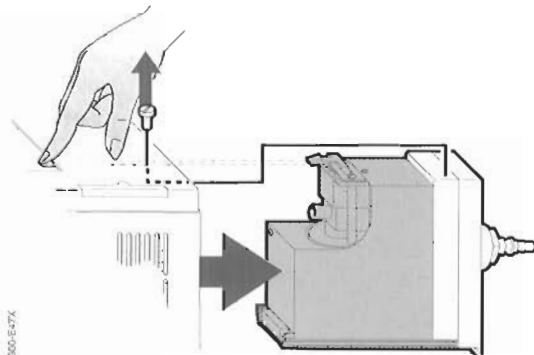
- Open the lid on the patient unit.



300-E22X

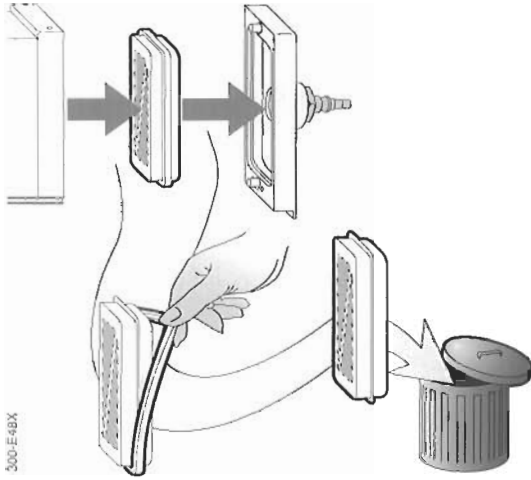
Make sure the ventilator is disconnected from mains and the mode selector is in position "**Ventilator off Battery charging**" before the gas modules are removed.

- Remove the plastic screw on gas module AIR.
- Press the hatch and pull the module out.

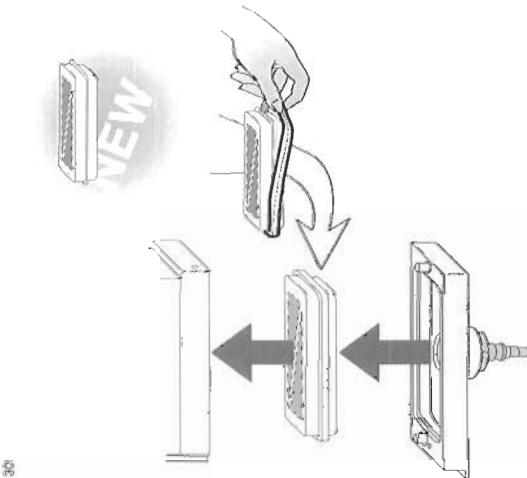


300-E47X

3000 hour overhaul with complete cleaning



- Unscrew the two screws on the cover with a hexagonal wrench. Open the module and take the bacteria filter out.
- Remove and save the rubber sealing for the bacteria filter.
- Discard the bacteria filter.

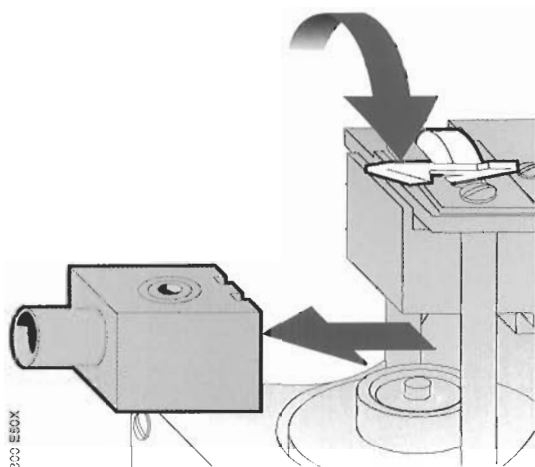


- Put the rubber sealing on the new bacteria filter.
- Put the new bacteria filter in the lid and tighten the gas module.

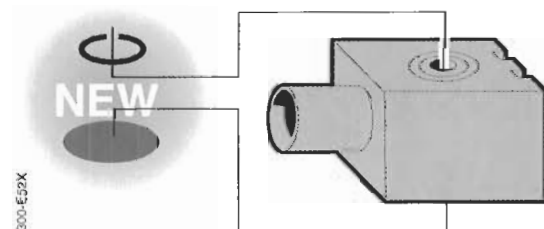
Gas modules

1. With metal nozzle units

- Open the hatch and remove the nozzle unit.



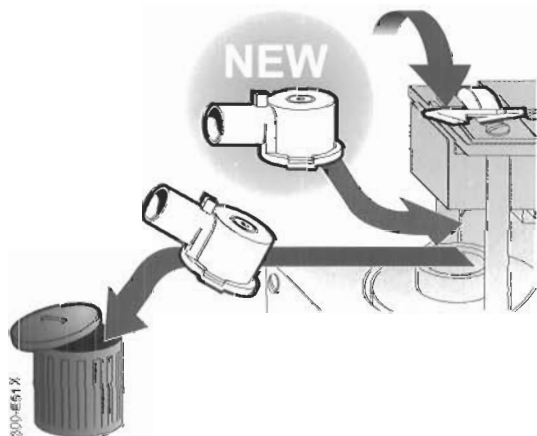
- Exchange the O-ring and the diaphragm.



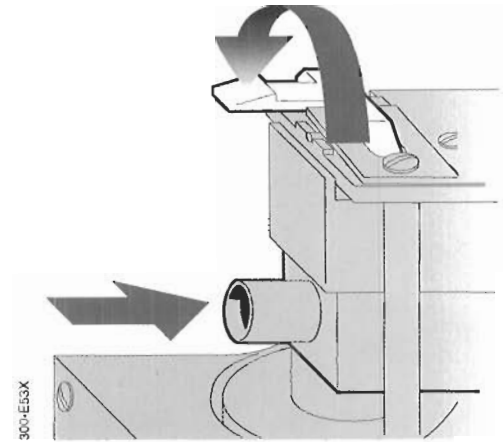
Note! Do not use any sharp tool that may damage the valve seats.

2. With plastic nozzle units

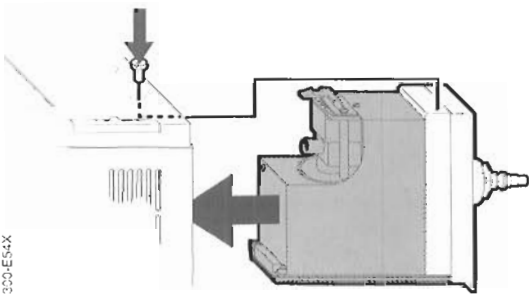
- Open the hatch and exchange the complete nozzle unit.



3000 hour overhaul with complete cleaning



- Put the nozzle unit back and close the hatch.



- Put the gas module back in the ventilator and make sure the hatch snaps into place.
- Tighten the screw.

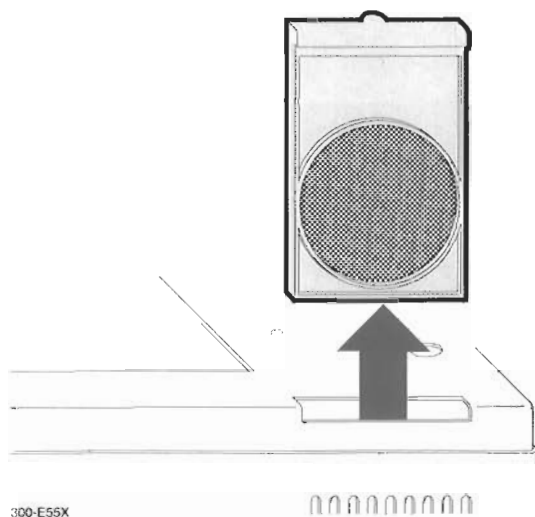
- Repeat the procedure for the gas module O₂.

Note! Wait 10 minutes before connecting pressure to the gas modules.

3000 hour overhaul with complete cleaning

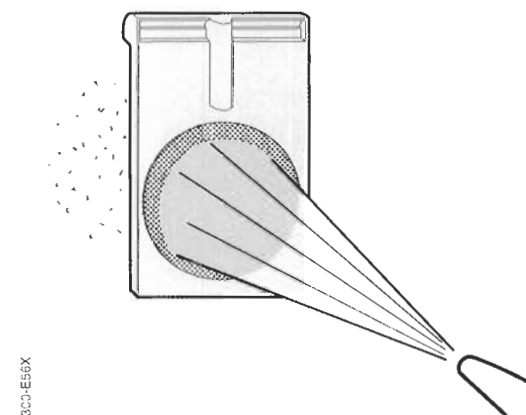
Dust filter

- Remove the filter.

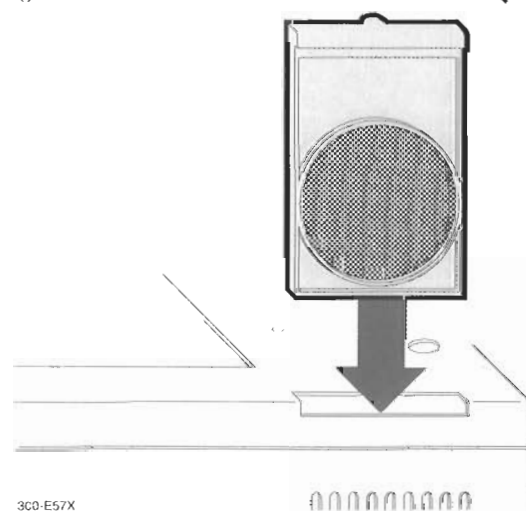


- Use compressed air to blow the filter clean. If compressed air is not available, the filter can be cleaned in water.

Do not direct the flow of compressed air toward the eyes or other unprotected parts of the body.



- Put the filter back.

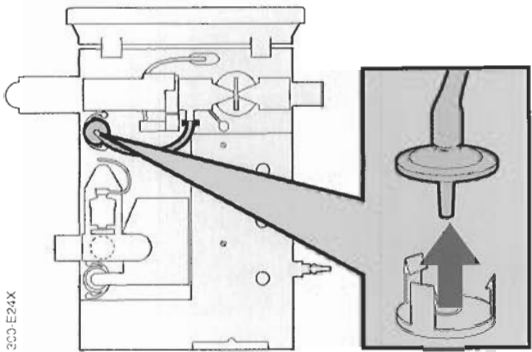


3000 hour overhaul with complete cleaning

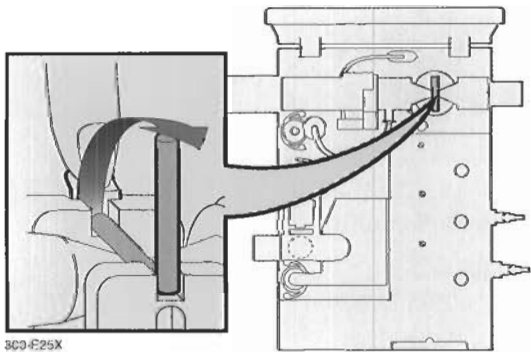
Dismantling

Expiratory channel

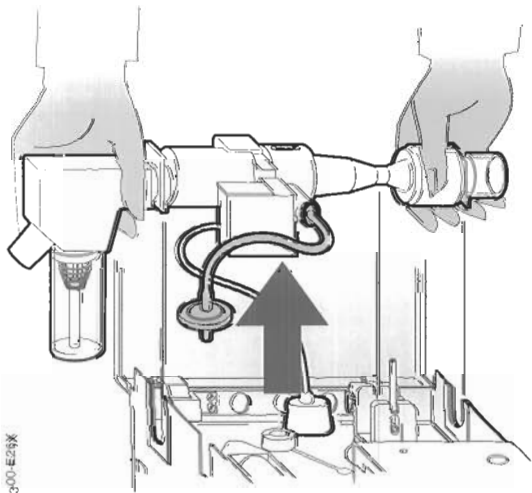
- Loosen the bacteria filter.



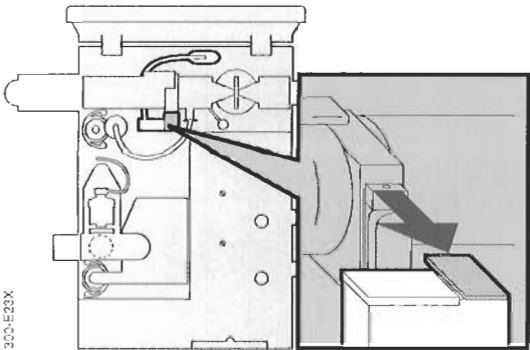
- Press the spring to open the expiratory valve.



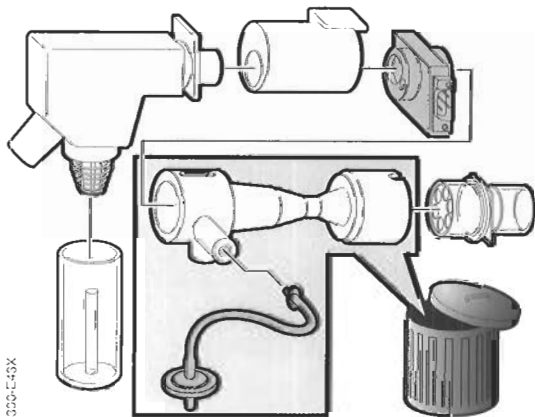
- Lift the entire expiratory channel upward.



3000 hour overhaul with complete cleaning



- Disconnect the flow transducer from its amplifier.

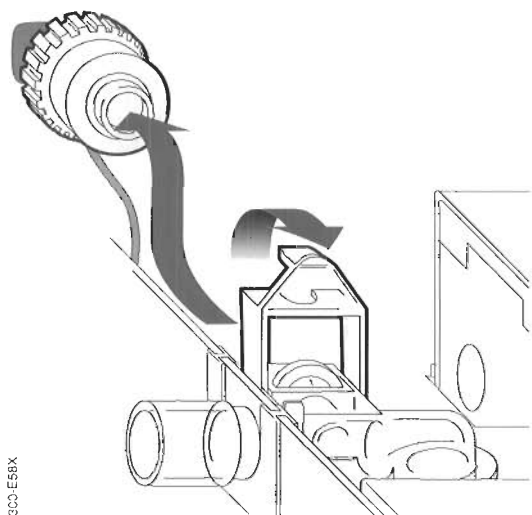


- Dismantle the parts.
- Discard the expiratory valve tube and the bacteria filter with tube and nipple.

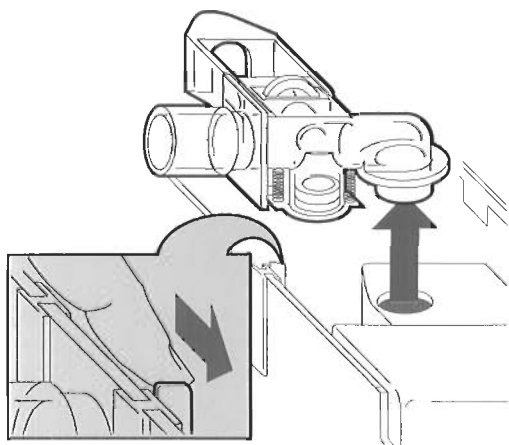
3000 hour overhaul with complete cleaning

Inspiratory channel

- Remove the O₂ cell from the inspiratory pipe.



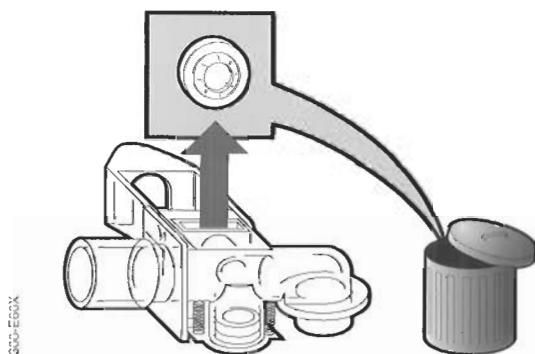
300-E58X



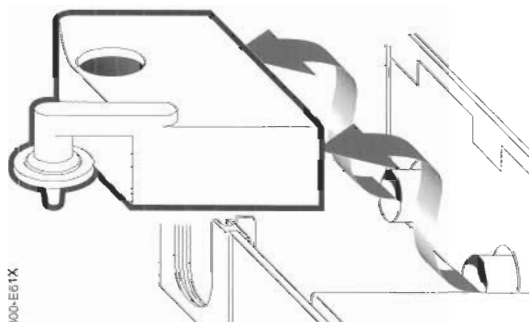
300-E59X

- Press the hatch and lift the inspiratory pipe upward.

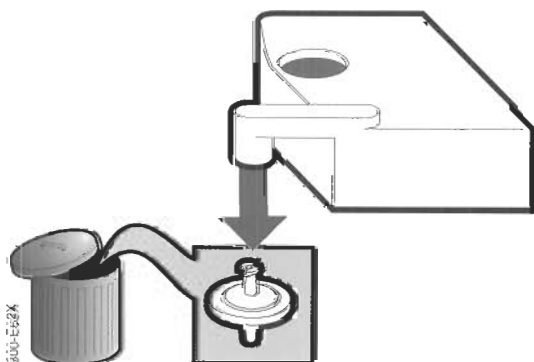
3000 hour overhaul with complete cleaning



- Remove and discard the bacteria filter for the O₂ cell.



- Loosen the bacteria filter from its seat and remove the inspiratory mixing part.



- Remove and discard the bacteria filter.

3000 hour overhaul with complete cleaning

Cleaning

Flow transducer

The flow transducer is a precision instrument and must be handled carefully. The metal disc in the small channel of the transducer is very fragile and may break if handled carelessly.

Do not poke at the metal disc in the transducer channel.

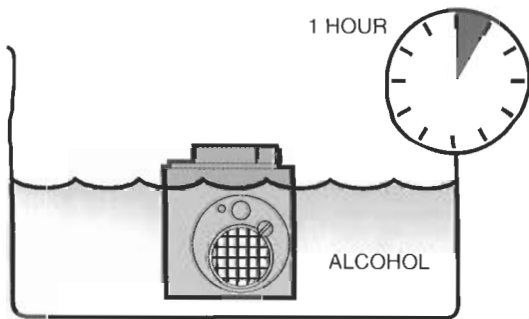
Do not flush the channel with water.

The flow transducer must not be cleaned in a dish washing machine, by ultra-sound or by using agents which contain aldehydes.

Solutions other than alcohol may cause disturbances in the function of the flow transducer.

If an agent other than alcohol is used, the cleaning routine should be carried out according to the instructions of the respective manufacturer.

The agents used for cleaning and disinfection must have a pH between 4 and 8.5.

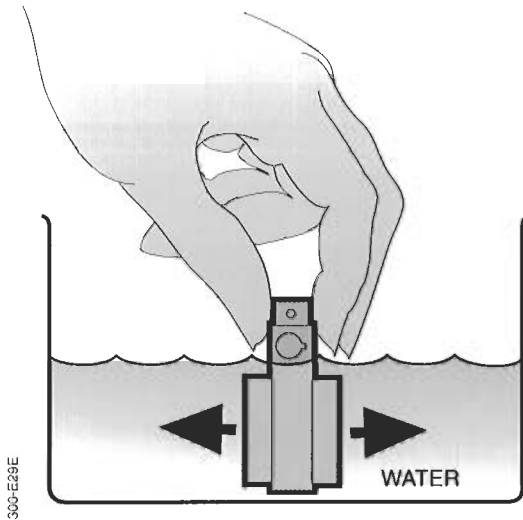


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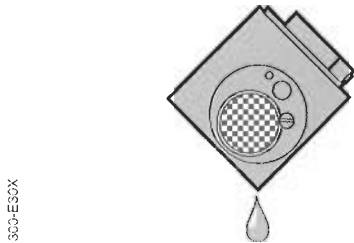
- Let the flow transducer lie in a 70% alcohol solution for about one hour.

3000 hour overhaul with complete cleaning

- If a solution other than alcohol is used, rinse the solution from the flow transducer by carefully moving it to and fro in a bowl of distilled water.

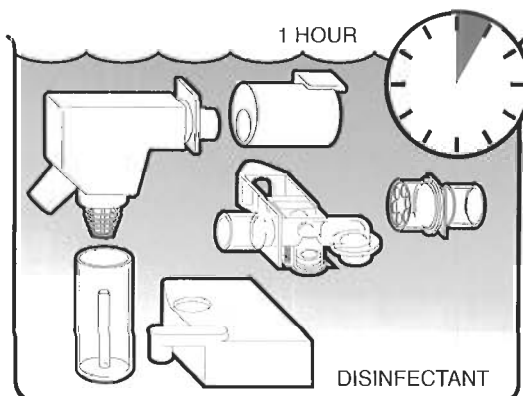


- Let the water run off the transducer after rinsing.

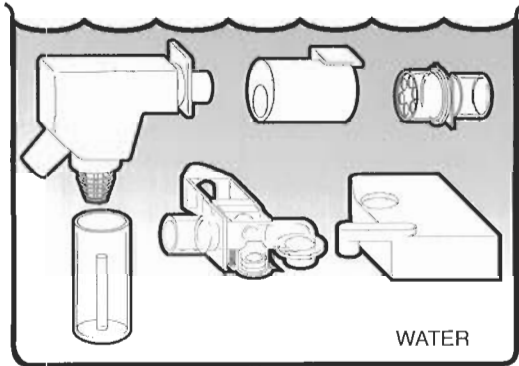


Other parts

- Soak the other parts in a disinfectant for about one hour.

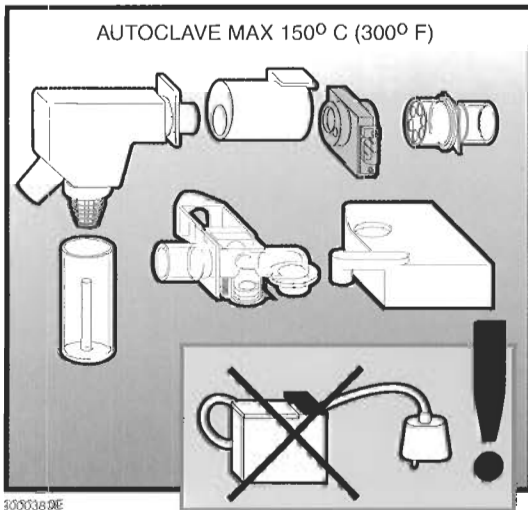


3000 hour overhaul with complete cleaning



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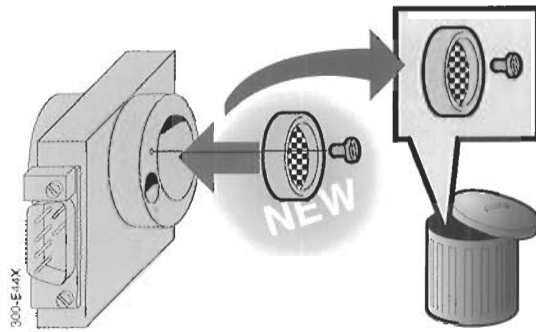
- Rinse the parts in water.



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- Autoclave all parts, including the flow transducer, at a maximum temperature of 150°C (300°F).

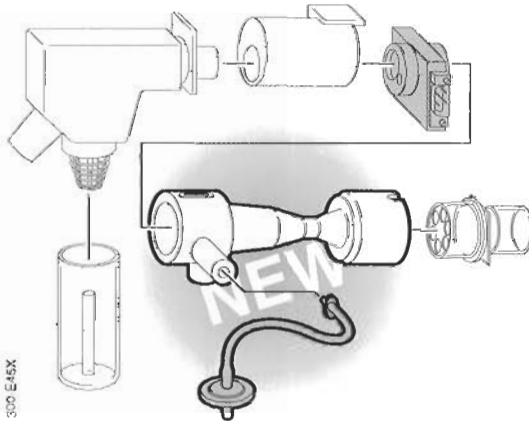
Note! Do not autoclave the flow transducer amplifier with cable!



Assembling

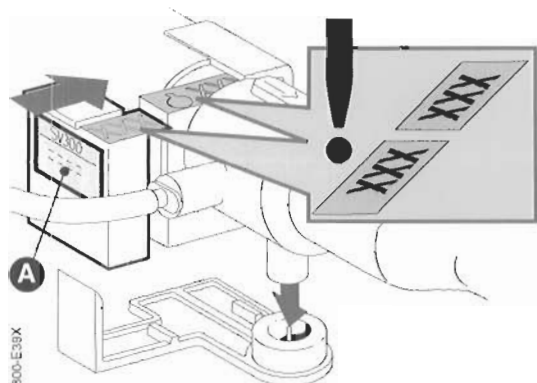
Expiratory channel

- Replace the mesh net in the flow transducer as follows:
 - remove the screw,
 - take out the mesh net.
 - insert and secure the new mesh net.



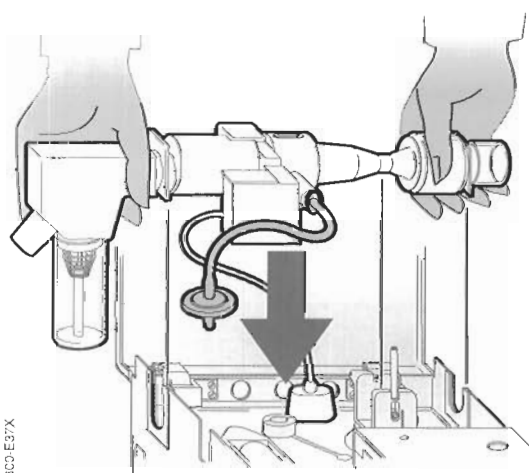
- Assemble the expiratory channel. The following items should be new:
 - expiratory valve tube.
 - bacteria filter with 13 cm tube and nipple.
 - mesh net in flow transducer.

3000 hour overhaul with complete cleaning

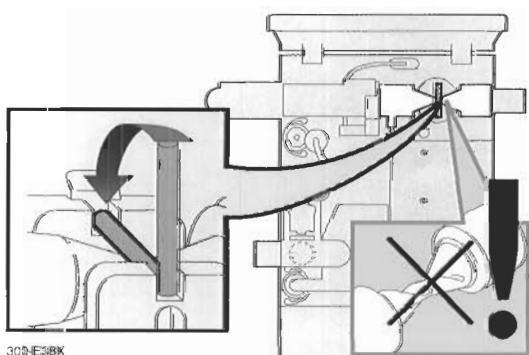


- Connect the flow transducer amplifier. Make sure:
 - the numbers on the flow transducer and the amplifier correspond.
 - the serial number on the amplifier label (A) corresponds to the serial number on the SV 300/SV 300A.

If the expiratory channel has been calibrated in another ventilator, make sure the minute volume reading is correct (see Function check pp 12-13).

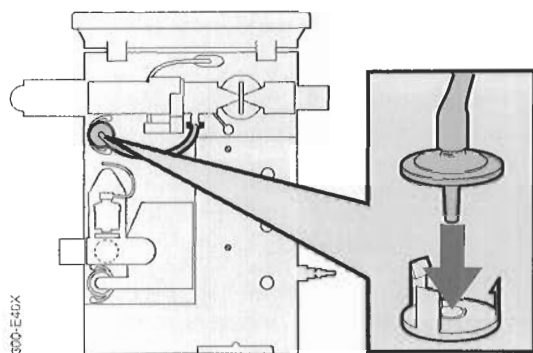


- Put the complete expiratory channel in place.

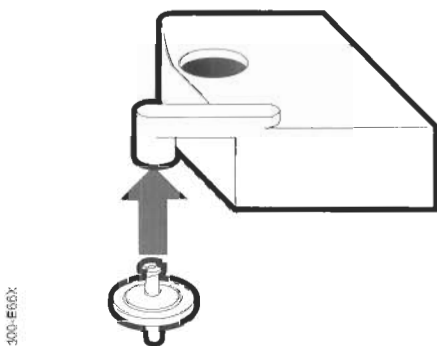


- Make sure the expiratory valve is not bent or twisted.
- Close the expiratory valve.

3000 hour overhaul with complete cleaning

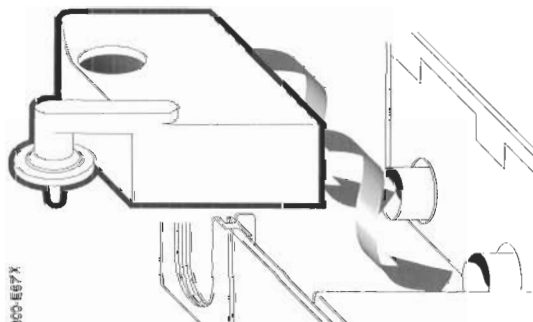


- Connect the bacteria filter.



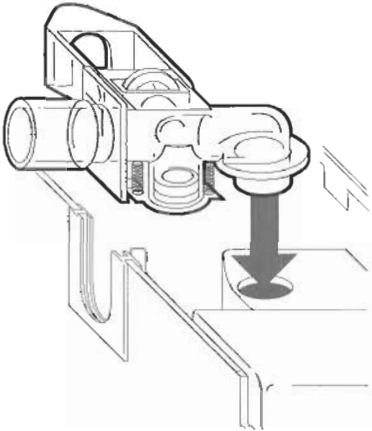
Inspiratory channel

- Connect a new bacteria filter to the inspiratory mixing part. Make sure the filter is inserted correctly and well into the inspiratory mixing part. See picture.

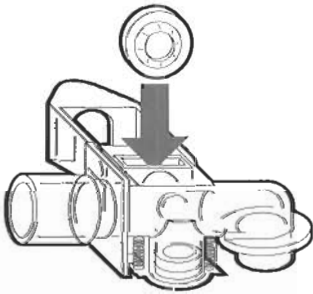


- Put the inspiratory mixing part in position and connect the bacteria filter.

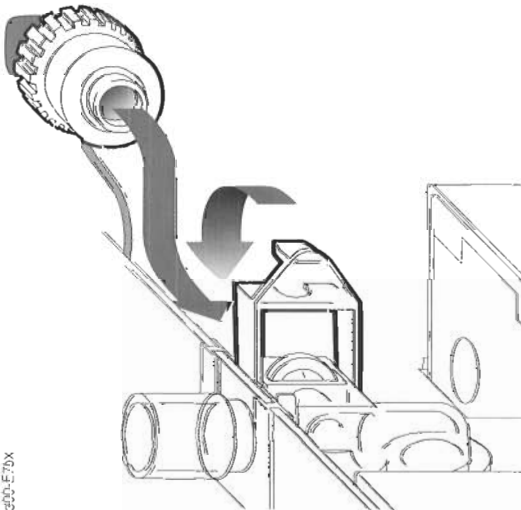
3000 hour overhaul with complete cleaning



- Put the inspiratory pipe in position.
- Make sure the hatch locks.



- Insert a new bacteria filter for the O₂ cell.



- Connect and put the O₂ cell with O-ring in position.
- Close the O₂ cell holder.

3000 hour overhaul with complete cleaning

Calibration and function check

- Calibrate and check the ventilator as described in chapters Calibration and Function check.

Log sheet

- Note on a log sheet that a 3000-hour overhaul has been done.