ALVEOLAR AIR: EQUIPMENT, SAMPLING AND STORING

Equipment: storage
Before using the 20 ml-glass vials and caps (Teflon caps with aluminium ring), they have to be stored at least three hours at 80 °C until collection time.
If you use the electronic crimper (electronic crimper Agilent), which works with battery, remember it has to be recharged every once in a while, generally every two months.
The Bio-Voc Sampler is a device with uni-directional valves and we use it to prevent the air flow inversion during the sample collection, ensuring the sample only composed by alveolar air. The Bio-Voc sampler could be periodically disinfected by germicidal solutions (i.e. sodium hypochlorite: Amuchina with recommended concentrations) after disassembling its components by unscrewing the rings.

SAMPLING OF THE ALVEOLAR AIR
The fieldworker should execute 2-3 refilling – emptying operations of air in the Bio-Voc sampler, then unscrew the green plunger and put the disposable mouthpiece.
It’s necessary to explain to the patient that he/she has to hold the Bio-Voc Sampler and to execute a deep inspiration and then to breathe out continuously and gently into the mouthpiece, until the lungs are empty; the fieldworker need to capture the end tidal air which consists in alveolar air. In case of error or doubt, You can repeat the sampling in the same vial.
During the expiration of the patient the fieldworker has to lean the glass vial against the opposite part of the Bio-Voc sampler and make to get in the vial the expired air with an angle of 120-150°. (see below).

Straight after the end of expiration the vial must be plugged up with Teflon cap, which will well-tightened by the crimper. To verify if vial has been sealed try to unscrew the cap: it could be fixed; otherwise repeat the sealing operation. (Sometimes the electronic crimper needs to be set up for tightening pushing the button + - on the handle of the crimper).
The samples collected have to be stored in freezer until analysis, at –18/20°C.