

HYGIENE & CLEANING OF THE VITALOGRAPH 2120

GENERAL RECOMMENDATION

To reduce the risk of cross infection the use of SafeTway mouthpieces for expiratory only testing, or Bacterial Viral Filters for Inspiratory/Expiratory testing, is recommended. A Risk Assessment should be carried out to assess the risks presented to both operator and subject, and an action plan devised by the facility to minimise the chance of cross infection occurring, particularly where known-infectious or immuno-deficient subjects are being tested. An assessment should be made of methods of decontamination available to the operator, and their effectiveness against potential risks - a table of materials used is provided below to assist in this. It is recommended that in cases of high risk with no effective disinfection methods available, that the contaminated parts are disposed of. For this device, the FLOWHEAD COMPLETE.

ROUTINE PRACTICE

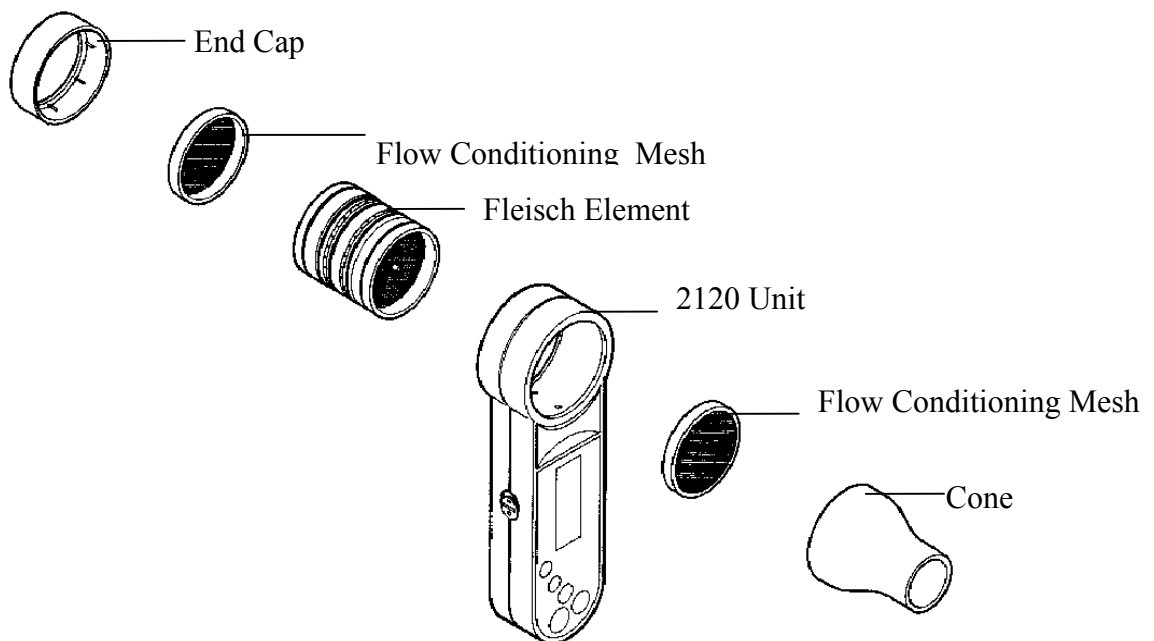
A new mouthpiece (either SafeTway or Bacterial Viral Filter) should be used for each subject. A delay of at least 5 minutes should be allowed between subjects to allow settling of previously aerosolised particles in the measuring device.

It is recommended that the Flowhead Assembly be regularly cleaned according to the guidelines of the user's facility.

In the event of visible contamination to the FLOWHEAD CONES or FLOWHEAD ELEMENT - these should be cleaned and disinfected. The FLOW CONDITIONING MESHES should be replaced regularly. The frequency of this is dependent on the Facilities' Risk Assessment, usage, and test environment, but should be at least monthly or every 100 subjects (500 blows). They should also be replaced in the event of damage, or if visibly contaminated. It is recommended to replace the complete Flowhead Assembly: FLOWHEAD COMPLETE at least annually. In mass screening a spare flowhead should be available and the flowhead removed for cleaning and disinfection every 50 patients, or immediately if contamination is suspected.

All external and flowhead parts require **cleaning**, i.e. the removal of visible particulate contamination. The parts that make up the flowhead also require **disinfecting**.

Components of Disassembled Vitalograph 2120



Disassembling the Vitalograph 2120

Follow these steps to disassemble the Vitalograph 2120 unit.

1. Remove the cone and the end cap from the unit.
2. Remove the filter meshes from inside the cone and the end cap, and either clean or discard them.
3. With the display facing downwards, place the unit on a flat surface.

4. Press down lightly on the unit so that it slides down and exposes the Fleisch element.
5. Press down the unit fully on the flat surface so that the Fleisch element is exposed as much as possible.
6. Hold the unit case with one hand and the exposed part of the Fleisch element with the other. Pull and twist the Fleisch element to remove it entirely from the case.
7. You can now clean and disinfect the separate parts of the Vitalograph 2120.

Cleaning and Disinfecting the Vitalograph 2120

- Clean each separate part of the flowhead by washing in a mild detergent to remove particulate contamination. To clean the Fleisch element, swill vigorously in water with mild detergent. Do not attempt to “rub” or “scrub” at capillaries. If the flow conditioning meshes appear dirty or blocked they should be thrown away and replaced.
 - Rinse with clean water.
 - Disinfect by immersion in sodium dichloroisocyanurate solution at 1000 ppm concentration of free chlorine for 15 minutes. Prepare disinfectant solution as directed in the manufacturer’s guidelines.
 - Rinse with hot water to aid drying.
 - Leave to dry completely before reassembling. Drying the Fleisch element assembly may require placing it in a warm place overnight. A drying cabinet is ideal; alternatively another heat source could be used.
 - Wiping with a 70% Isopropyl Alcohol impregnated cloth provides a suitable form of cleaning and low-level disinfection for the case exterior, display, and keypads. Repeat at least weekly to prevent build-up of grime from normal handling and use.
- Always follow the safety guidelines given by the manufacturer of cleaning and disinfectant chemicals or equipment.

Part	Material	Clean/Disinfect	Autoclave	Recommended Disinfectants
Case Exterior	A.B.S.	Clean	No	Wiping with a 70% Isopropyl Alcohol impregnated cloth provides a suitable form of cleaning and low-level disinfection.
Fleisch Element Assembly	Anodised Aluminium and Stainless Steel	Clean & Disinfect	Viable	
Flowhead Cone	TPX	Clean & Disinfect	Viable	Disinfect by immersion in sodium dichloroisocyanurate solution at 1000 ppm concentration of free chlorine for 15 minutes.
Flow Conditioning Mesh	Acetyl and Polyester	Disinfect Dispose	No	
End Cap	TPX	Clean & Disinfect	Viable	(See recommended cleaning/disinfection method for the Vitalograph 2120) The flowhead will also withstand autoclaving at 134°C for 3 minutes.

Cleaning/Disinfecting- Recommendations Chart

Definitions of cleaning and disinfection are as defined in “Sterilization, Disinfection and Cleaning of Medical Equipment: Guidance on Decontamination from the Microbiology Committee to Department of Health Medical Devices Directorate, 1996” Recommendations for chemical disinfectants are derived from the PHLS publication “Chemical Disinfection In Hospitals” 1993.

Reassembling the Vitalograph 2120

1. After cleaning the Vitalograph 2120, make sure that no liquid remains in the holes, grooves or pressure tappings of the Fleisch element assembly.
2. If replacing the sealing ‘O’ rings, check for damage and very lightly grease each ring before replacing them in the housing grooves. (Molycote 55 silicone grease or its equivalent is recommended.) Make sure you remove excess grease as it can cause blockage of the holes in the flowhead body, resulting in false readings.
3. Insert the Fleisch unit from the rear of the unit, i.e. the side without the display, and twist it into place.
4. Place cleaned or new flow conditioning meshes into the cone and the end cap.
5. When the Vitalograph 2120 is reassembled, an accuracy check should be performed. For more details on this procedure, refer to User Manual.