

Cleaning Instructions

1. Cleaning and Low Level Disinfection of the Vitalograph ALPHA, ALPHA Touch and COMPACT

The parts of the Vitalograph ALPHA, ALPHA Touch and COMPACT that make up the flowhead, which comes into contact with subjects being tested, require **low level disinfection**. The body of the device may be **cleaned** with an alcohol wipe.

A spirometer is not designed as a 'sterile' device.

A new BVF should be used with each subject to prevent cross contamination, the BVF protects both the subject and the device.

One cleaning cycle should be performed weekly.

It is recommended that the complete flowhead and flowhead connection tube be replaced annually. When used together with a BVF, a longer replacement interval can be expected. Flowhead and tubing must be replaced if damage is evident or if cleaning does not remove visible soiling.

Table of Cleaning/Disinfection Methods

Part	Clean/Low Level Disinfection	Recommended Cleaning/Low Level Disinfection
Case Exterior	Clean	Wiping with a 70% isopropyl alcohol impregnated cloth. Note: Ensure isopropyl alcohol does not come in contact with the screen. Warning: Paper tear bar contains sharp edges. Users should take care not to cut/scrape their fingers.
Flowhead Tube	Clean	
Screen	Clean	For the screen, lightly wipe the surface with a cotton pad or other soft material. NOTE: Do not use any chemicals. Do NOT wipe in a circular motion. Strokes should be either up/down or over/back
Fleisch Element	Clean	See section 2 for disassembling and cleaning of flow head. See section 3 for reassembling and low level disinfection of the flowhead
Flow Conditioning Meshes	Clean	
Flowhead Body	Clean & Low Level Disinfection	
Flowhead Cone	Clean & Low Level Disinfection	
Flowhead End Cap	Clean & Low Level Disinfection	

2. Disassembling and Cleaning of the Fleisch Flowhead

1. Remove the cone and the end cap from the flowhead.
2. Remove the flow conditioning meshes from inside the cone and the end cap, and examine them for damage or contamination. If they are damaged or blocked, discard and replace with new parts.
3. To remove the flowhead body from the fleisch element, place the fleisch element on a hard, flat surface with blue tapping/ribbed connector side of the flowhead body furthest away from the flat surface. Push down on the flowhead body with thumbs and forefingers until it reaches the flat surface. A final pulling and twisting action will separate the parts. To clean the fleisch element, swill vigorously in warm soapy water. Do not attempt to "rub" or "scrub" at capillaries.

4. To clean the flowhead end cap, flowhead body, flow conditioning meshes and flowhead cone, wash in warm soapy water. Rub surfaces to remove any visible soiling.
5. Examine all parts to ensure they are visibly clean. If not visibly clean repeat the cleaning process.
6. Rinse all parts in distilled water.
7. Leave to dry completely before reassembling. Drying the fleisch element components may require placing them in a warm place overnight. A drying cabinet is ideal.

Always follow the safety guidelines given by the manufacturer of cleaning and disinfectant chemicals.

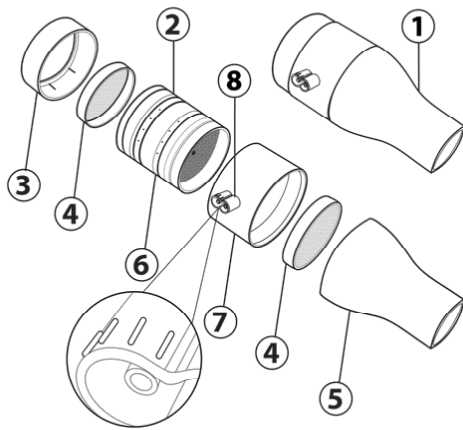


Fig 1: Flowhead Assembly

1. Flowhead Complete
 2. 'O' rings
 3. Flowhead End Cap
 4. Flow Conditioning Meshes
 5. Flowhead Cone
 6. Fleisch Element
 7. Flowhead Body
 8. Port Pressure Tappings
- Lubrication: Silicone Grease*

3. Reassembling and Low Level Disinfection of the Fleisch Flowhead

1. Examine the fleisch element to ensure that no liquid or particles remain in the holes, grooves or pressure tappings.
2. Check the 'O' rings for damage and ensure that they are correctly positioned within the grooves.
3. Apply a very small amount of silicone grease to 'O' Rings and inside the surfaces of the flowhead body. Wipe off any visible amounts of grease. Ensure that the tiny annular holes on the outside of the fleisch element are not blocked.
4. When re-assembling the flowhead, fit the flow head element assembly into the flow head body ensuring that it is inserted at the blue tapping /ribbed connector side of the body.
5. Ensure that the flowhead body is pushed fully home and rotate it so that the pressure ports are approximately 180° opposite the end of the fleisch element coil.
6. Fit flow conditioning meshes to both the flowhead cone and the flowhead end cap. (See Fig 1, Flowhead Assembly.)
7. Push the flowhead end cap onto the fleisch element at the blue tapping /ribbed connector side of the flowhead body and push the flowhead cone onto the opposite side.
8. Wipe all external surfaces of the flowhead with a 70% isopropyl alcohol impregnated cloth.
9. When attaching the flowhead connection tube, ensure that the matching ribbed port pressure tappings on the flowhead and the Vitalograph device are connected to each other.

It is recommended that an accuracy check is carried out following reassembly to verify correct operation and accuracy.

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