# Cleaning and Shutdown

## Frequency: After every use  
**Duration:** 10 minutes

1. **Cleaning Protocol**
   - Pipette 2 ml of AmphaClean (check expiration date and make sure it is stored in the fridge) into a FACS tube and let it equilibrate to room temperature
   - Put the AmphaClean bottle or aliquot back in the fridge
   - In the AmphaSoft Navigation panel on the left, click on **Instrument Control** and select the **Basic** tab. Check the **Cleaning** checkbox and click **Start Rinsing** (Fig. 1)
   - An instruction appears. Place a container or empty tube under the sample holder (Fig. 2) and click **Continue Rinsing** (Fig. 3)
   - Another instruction appears. Check the waste and water bottles and click **Continue Rinsing** (Fig. 3)
   - After 1 minute a tube request notification will be shown on the bottom left part of the window (blue box, Fig. 4)
   - Place the FACS tube with AmphaClean under the sample holder (Fig. 5) and click **Continue Rinsing** (Fig. 3)
   - After about 4 minutes a second tube request notification will be shown on the bottom left part of the window (blue box, Fig. 4)
   - Remove the AmphaClean FACS tube, place a container or empty tube under the sample holder (Fig. 6) and click **Continue Rinsing** (Fig. 3)

   **TIP:** Ensure that the measurement chips are not exposed for prolonged periods (e.g. one hour) to AmphaClean, i.e. do not interrupt the cleaning process.

2. **Disconnect**
   - Click on **Instrument Control** in the **Navigation** panel on the left, select the **Admin** tab and click on **Disconnect**

3. **Remove Chip**
   - Store the measurement chip in a dark, dry and dust free environment, e.g. the chip box

4. **Empty Waste Bottle and Store Buffers**
   - Empty and clean the waste bottle to prevent growth of microorganisms
   - Put leftover buffer aliquots in the fridge for storage

   **TIP:** Waste bottles can be put in a laboratory dishwasher for cleaning

5. **Switch off Instrument**

## Maintenance Recommendations

- **✓ Daily (after use)**  
  - Cleaning with AmphaClean

- **✓ Once a Week**  
  - Disinfection with 70% ethanol and Cleaning Chip (see page 2)

- **✓ Quarterly**  
  - Exchange of external fluidics and O-rings  
  (materials included in standard and professional service and maintenance agreements)

- **✓ Yearly**  
  - Exchange of complete instrument fluidics by trained professional  
  (materials and work included in standard and professional service and maintenance agreements)

- **✓ Every 250 Measurements**  
  - Chip Test (when prompted)
**Disinfection**

**Frequency:** Weekly  
**Duration:** 10 minutes

- Pipette 3 ml of 70% ethanol into a FACS tube  
- Place a container or empty tube under the sample holder  
- Place the Cleaning Chip in the instrument (Fig. 1)  
- In the AmphaSoft Navigation panel on the left click on Measurements and add a new measurement in the worklist (+) (Fig. 2)  
- Select the new measurement from the list of measurements in the Navigation panel on the very left of the window (Fig. 3)  
- Select Cleaning from the Chip dropdown menu (Fig. 4)  
- In the Navigation panel click on Instrument Control and select the Basic tab. Check the Disinfection checkbox and click Start Rinsing (Fig. 5)  
- An instruction appears. Place a container or empty tube under the sample holder and click Continue Rinsing (Fig. 6)  
- Another instruction appears. Check the waste and water bottles and click Continue Rinsing  
- After 1 minute a tube request notification will be shown on the bottom left part of the window (blue box)  
- Place the FACS tube with 70% ethanol under the sample holder and click Continue Rinsing  
- After about 4 minutes a second tube request notification will be shown on the bottom left part of the window (blue box)  
- Remove the FACS tube, place a container or empty tube under the sample holder and click Continue Rinsing  
- After termination of the disinfection process you can shut down the instrument

**Chip Test**

**Frequency:** Upon prompt (every 250 measurements)

- Take the AmphaCalib solution out of the fridge and mix it thoroughly by shaking  
- Pipette 3 ml of AmphaCalib into a FACS tube and let it equilibrate to room temperature  
- In the AmphaSoft menu under Tools select Chip Test  
- Select the appropriate chip from the dropdown menu  
  - **TIP:** In case the chip to be tested is not in the list, enter the chip name in the worklist and return to the Chip Test  
- Carefully agitate the AmphaCalib sample (no foaming) and put it under the sample holder  
- Press Start. The Chip Tests starts and upon completion you will be notified with a popup window  
  - If the chip is OK (Fig. 1), perform an instrument rinsing in the Basic tab  
  - If the chip is not OK (Fig. 2), remove it from the instrument, rinse it with water using the chip wash station and carefully clean the chip electrodes using a soft tissue. Perform the chip test again. If the chip test is still not OK, don’t use the chip anymore for measurements. Perform an instrument rinsing in the Basic tab  

Attention: Only use the Cleaning Chip for the disinfection protocol.