

Recommended Laboratory Equipment and Supplies for FlowCam Users

One of the benefits of FlowCam is that the instrument can be readily added to an analytical lab without major expenses in lab equipment or supplies. Below is a list of recommended items to help anyone setting up a new lab or who wants to ensure that all necessary items are available at installation.

This list includes items needed for basic sample analysis along with those required to set up a new lab. The most important supplies are listed first, and durable items are listed last. Links are provided for reference and are examples only – they do not imply endorsement by Yokogawa Fluid Imaging Technologies for a particular product. Users do not need to purchase these exact items or use the same suppliers.

RECOMMENDED LAB SUPPLIES

The following are recommended lab supplies for FlowCam analyses, regardless of application.

Sample Handling:

- 100-1000 μL pipettor; for smaller volume sampling 20-200 μL is more appropriate
<https://us.vwr.com/store/product/4698601>
- 50-1000 μL pipet tips; for small volume pipettor 2-200 μL pipet tips
<https://online-shop.ependorf.us/US-en/Manual-Liquid-Handling-44563/Pipette-Tips>

Pipettors cost ~\$500 and up, so if this is cost prohibitive transfer pipets can also be used but provide less accurate volumetric measurements.

- 1.5 mL or 5 mL disposable transfer pipets
<https://us.vwr.com/store/product/4758852>

Personal Protective Equipment (PPE):

- Nitrile gloves
<https://us.vwr.com/store/product/27315705>
- Chemical splash goggles – recommended for analyses involving hazardous solvents
<https://us.vwr.com/store/product/21739712>
- Lab coat
<https://us.vwr.com/store/product/27315705>

Cleaning:

- Lens tissue for flow cell cleaning
<https://us.vwr.com/store/product/4632965>
- Silicone-free luer lock syringes for cleaning flow cells
<https://us.vwr.com/store/product/7597498>
- Wash bottles for easily adding water and detergent to sample port during manual cleaning
<https://us.vwr.com/store/product/4583996>
- DI water source – an ultrapure water system is recommended (see useful lab equipment section), but if purchase or installation is not possible bottled or boxed water can be purchased
<https://us.vwr.com/store/product/4544438>
- Detergents
 - A 2% solution of Micro 90 is recommended as an all-purpose flow cell and glassware cleaner
<https://us.vwr.com/store/product/4619461>
 - A 2% solution of Hellmanex III is recommended for cleaning proteinaceous or oily residues in the flow cell
<https://www.sigmaaldrich.com/product/sial/z805939>

USEFUL SAMPLE PREPARATION SUPPLIES

These supplies are more application-dependent and may not be necessary for your particular sample type(s). Recommended application is shown in parentheses after the supply description.

- 15 mL or 50 mL centrifuge tubes for sample preparation and storage (general)
<https://us.vwr.com/store/product/4675770>
- 2 mL microcentrifuge tubes for aliquoting small sample volumes (biopharma)
<https://ca.vwr.com/store/product/en/4674613>
- PluriStrainers for physical sample filtration: 20 µm, 50 µm, 70 µm, 100 µm, and 500 µm depending on flow cell depth (aquatics)
<https://www.pluriselect.com/us/products/cell-strainer/pluristrainer.html>
- 100 mL beakers for dilution or sample preparation (general)
<https://us.vwr.com/store/product/4537528>
- Larger glass beakers (250-1000 mL) for preparation of larger samples (aquatics/FlowCam Macro)
<https://us.vwr.com/store/product/16582554>
- 50 mL graduated cylinder for sample preparation (general)
<https://us.vwr.com/store/product/4590540>
- 0.22 µm syringe filters for applications that require pre-filtration of buffers or solvents (biopharma)
<https://us.vwr.com/store/product/35891663>
- Weighing dishes for preparing powdered samples (industry)
<https://us.vwr.com/store/product/4622696>
- Scoopulas for preparing powdered samples (industry)
<https://us.vwr.com/store/product/14396054>

USEFUL LAB EQUIPMENT

This list includes more expensive equipment (> \$500) that is appropriate for most laboratory work and sample preparation/storage.

- Stir/Hot Plate Combo for sample preparation and stir bars
<https://us.vwr.com/store/product/4644841>
<https://us.vwr.com/store/product/4905248>
- Vortex mixer for samples that require vigorous mixing
<https://us.vwr.com/store/product/13911949>
- Heated ultrasonic bath for sample sonication
<https://us.vwr.com/store/product/10666967>
- Analytical balance for preparing powdered samples with 0.0001 g readability
<https://www.amazon.com/Ohaus-Pioneer-Analytical-Electronic-Balance/dp/B07HBN1YBZ>
- Lab refrigerator and freezer for sample storage
<https://us.vwr.com/store/product/18618226>
- Ultrapure water system for rinse water and aqueous sample diluent
<https://www.sartorius.com/shop/ww/en/usd/products-laboratory-lab-water-systems-arium-mini>
<https://www.emdmillipore.com/US/en/products/water-purification/type-1>
- Benchtop centrifuge for particle separation and removal
<https://us.vwr.com/store/product/17944646>
- pH meter
<https://us.vwr.com/store/product/33868669>