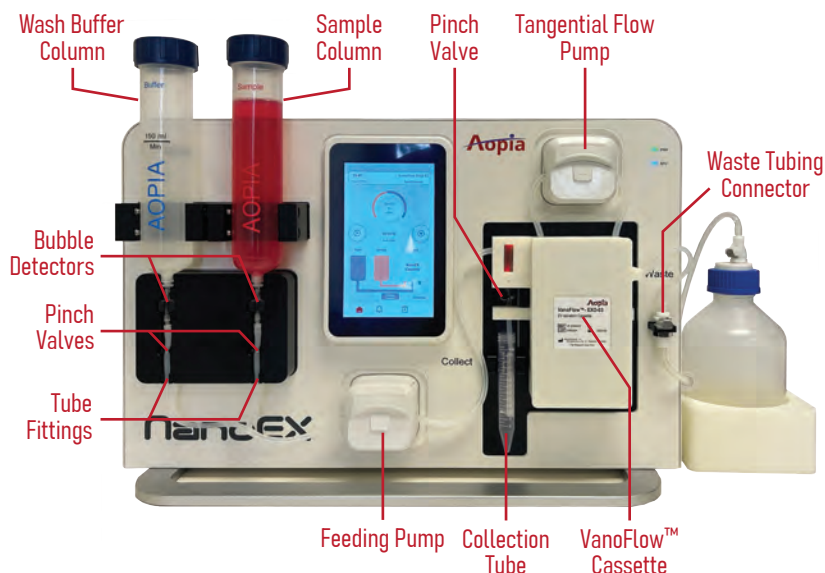


## Process Overview

## Device Installation Points Overview

- Step 1 Install VanoFlow™ cassette
  - Step 2 Install sample and buffer columns
  - Step 3 Add sample and wash buffer
  - Step 4 Automated processing
  - Step 5 Install collection tube
  - Step 6 Automated collection
  - Step 7 Post collection processes
- Total hands-on time ~5 min



## Step-by-Step Guide

### 1 Install Cassette

- Install the **Magnetic VanoFlow™ Cassette** by placing the **Positioning Bars** inside the brackets and pushing against the panel.
- Ensure the **Outlet Tubing** sits inside the **Pinch Valve**.
- A **Green** cassette name should appear on the top-right corner of the screen. **Unknown, Used, or Expired** cassette will appear in **Red Text**.

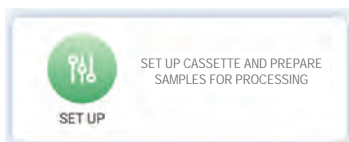


Outlet Tubing

**VanoFlow-EX0-02**  
NanoEX Cassette

### 2 Begin Processing Setup

- On the main screen, click the **SET UP** button and follow on-screen instructions to install cassette and sample/wash buffer columns



### 3 Select Processing Mode

#### Standard Mode

- (Recommended)** Optimized for high-purity processing.
- Suitable for most samples with moderate to high protein concentrations, including plasma, serum, and conditioned medium with/without exosome-depleted FBS

#### Accelerated Mode

- Processes samples at a faster speed with reduced purification efficiency.
- Suitable only for samples with minimal impurities.

### 4 Pump Operation

- Open both **Pumps** by pushing the top covers upward.

#### Tips for pump operation

- To install tubing, place the tube on the V-shaped inner brackets and push down the top cover to close.

Open Position

Closed Position



### 5 Complete Cassette Installation

- Follow screen instructions to install **Cassette Top Tubing, Waste Tubing, Wash Buffer and Sample Columns, Column Tubing, and Feeding Tubing**.
- Smaller columns will require "push-in" **Column Adapters** (provided).

#### IMPORTANT

- DO NOT** reverse the position of the Wash Buffer and Sample Columns.
- DO NOT** add sample or buffer to the columns at this step.

### 6 Add Sample and Wash Buffer

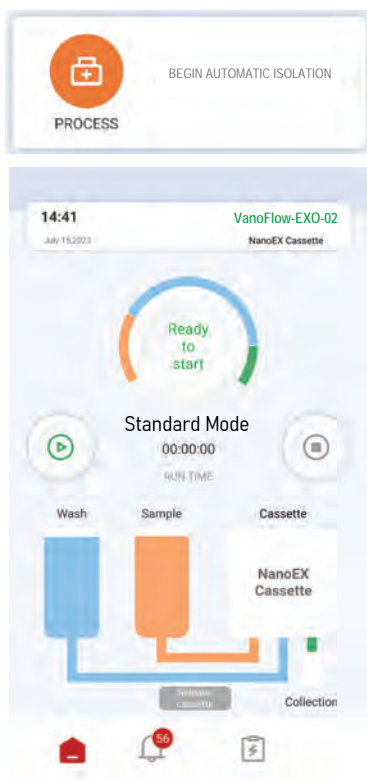
- When prompted on the screen, add sample and wash buffer. (the pinch valves should have closed) Refer to the table below for recommended volumes of sample and wash buffer for different cassettes.
- Refer to **NanoEX™ Sample Preparation Guide** for more information for different sample types.

Cassette	VanoFlow™-EX0-01		VanoFlow™-EX0-03	
Column	Sample	Wash	Sample	Wash
Volume	3-60ml	45ml	25-250ml	150ml

Continue to next page

## 7 Begin Processing

- After completing setup steps, the screen will return to the main page.
- Click the **Process** button to proceed to the main processing screen



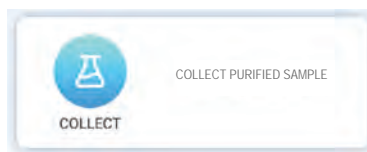
- On the main processing screen, click the button to begin automated processing.
- On-screen animation will indicate processing steps and reagent flow.

### Function Icons

- Return to home screen
- Alert and warning messages
- Run logs

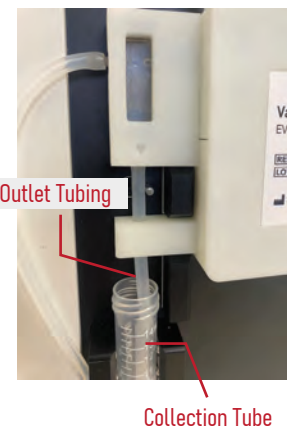
## 8 Processing Completes and Proceed to Collection

- After processing is completed, an alarm will sound and a message window will pop up. Click the "OK" button to return to the main page.
- Click the **Collect** button to proceed to automated collection.



## 9 Begin Collection

- Follow the on-screen instructions to install a 15ml collection tube (not provided) below the **Outlet Tubing**.
- Ensure that the **Outlet Tubing** is inserted below the edge of the **Collection Tube**.
- Ensure that the **Cassette Waste Tubing** remains connected.
- Proceed to the main collection screen and click the button to begin automated collection.



## 10 Post-processing Operations

- After collection is completed, a screen message will appear with an alarm. Upon confirming, the **Release Cassette Button** at the bottom of the screen will activate (from grey to green).
- **BEFORE clicking the Release Cassette Button**, if there is sample remaining in the **Sample Column** (this may occur if filtration pressure reaches the threshold during sample loading), remove the sample from the column.
- Disconnect the **Cassette Waste Tubing** and open both **Pumps**. Remove the **Cassette** and **Sample/Wash Buffer Columns** from the device.
- Flush the **Waste Bottle Tubing** through the **Waste Bottle Connector** using the **Rinsing Syringe** (provided) with 20ml **Distilled H2O** followed by 20ml **70% Isopropyl alcohol or Ethanol**, and then push air through the tubing to prevent microbial growth.
- Empty the **Waste Bottle**, rinse with **Distilled H2O**, and open the cap to dry.



## Additional Information

### Aborting a Run

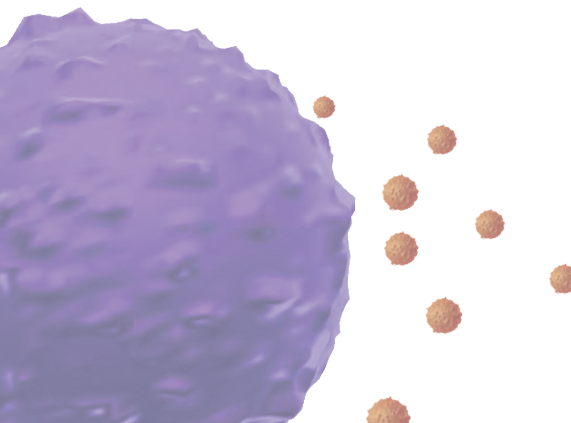
- If the run is aborted. The **Release Cassette** button will be activated. Remove remaining sample and wash buffer and then click the **Release Cassette** button to remove cassette.

### Incomplete Sample Loading

- If the cassette pressure reaches the pre-set threshold, the system will automatically switch to washing. This may be caused by excessive protein, particle aggregates, or debris in the sample. Perform a pre-filtration or dilution of the sample before processing. Refer to the **NanoEX™ Sample Preparation Guide** for more information.

### Error Message During Processing

- An error message may appear, and processing will pause, if the system detects the absence or incorrect installation of the cassette. Thoroughly check all installation points of the cassette and resume processing. If problem persists, contact technical support.



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