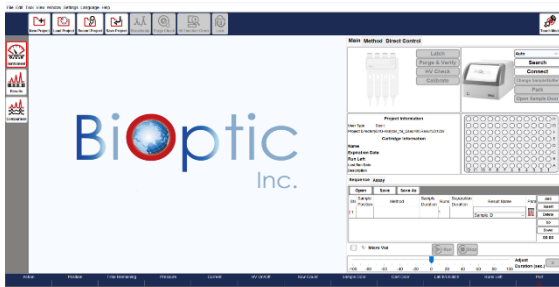


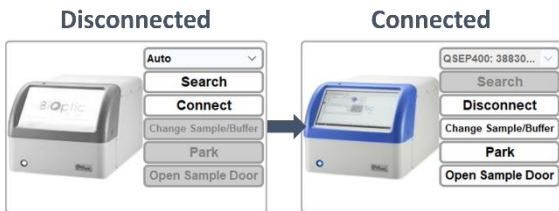
1. Turn on the power.
2. Double-click on the *Q-Analyzer* Icon.



3. *Q-Analyzer* software user interface will appear:

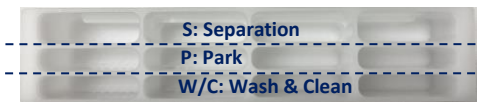


4. Click "Connect" to link the instrument.



5. Buffer and Alignment Marker preparation:

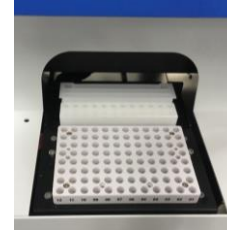
- A. Add Separation Buffer into "S" wells and add diH₂O into P and W/C wells.



- Use the droppers to fill the wells.
- Each well should be 80% full. Overfilling or having droplets left on the dividers will conduct the current and will be hard to keep track of the changes.

- B. For Alignment Marker (AM) preparation: Add ≥ 20 μl Alignment Marker (20 bp & 1000 bp, C109100) into 0.2 ml tubes (4 tubes) and add 10 μl Mineral Oil on top (optional).

6. Click "Change Sample/Buffer".



7. Place the buffer tray on the tray holder.

8. Allocate Alignment Markers in "AM" row on the holder, ensuring they are in the correct positions.

AM-01 (position 1, 4, 7, 10)	20-1k (C109100) 20-5k (C109102) 20-1.5k (C109109) 20-15k (C109110)	
AM-02 (position 2, 5, 8, 11)	RNA-LM (C109120) Protein-LM (C104605)	
AM-03 (position 3, 6, 9, 12)	User Define AM	

- Use individual 0.2 ml PCR tubes for both Alignment Markers and Size Markers.
- Centrifuge the Alignment Marker to the bottom of the tube, removing any air bubbles.
- Remove the lids of Alignment Marker tubes.

9. Use your thumb to press the Alignment Marker tubes tightly down into the wells.

10. Allocate the samples (sample volume ≥ 20 μl).
 - Centrifuge the samples to the bottom of the tubes and ensure no air bubble appears.
 - Remove the lids of the tubes placed at positions A1-A12.

11. Click "Park" to move the holder back to the park position.



Components of Cartridge Kit (Cat. C405201 & C405202)

- Cartridge
- Alignment Marker
- Separation Buffer
- Dilution Buffer
- Mineral Oil
- Buffer Tray
- Droppers
- 0.2 ml tubes



12. Unpack Cartridge:

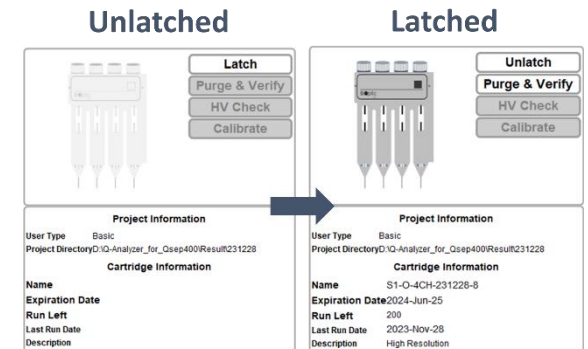
Follow the steps outlined in "Unpacking Guide" in the cartridge kit.

13. Open the cartridge door and insert multi-channel cartridge, ensuring the L-shaped connector follows the guiding groove inside the instrument.



14. Close the cartridge door.

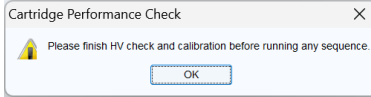
15. Click "Latch". The cartridge information will display on the screen after latching.



! Please wait a few second before you open the cartridge door.

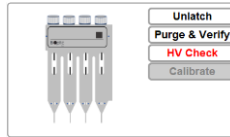
16. Cartridge Calibration:

Calibration is necessary before its initial use to ensure the quality of a new cartridge after shipment. Follow the steps below:



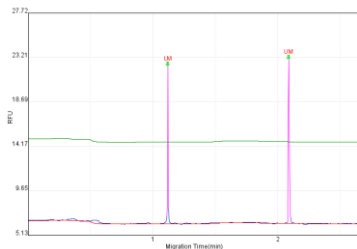
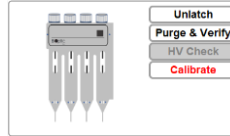
A. Click "HV Check".

- Check if the current is stable after HV Check. Repeat 2-3 times if the current remains unstable.



B. Click "Calibrate".

- Ensure the Alignment Marker is placed correctly. DO NOT use Size Marker or DNA sample for calibration.



For troubleshooting, please refer to cartridge unpacking guide for more detailed instructions.

17. Designate ① the sample positions, ② test method, sample duration, runs, ③ result name and ④ parameters. Click on the blank column and follow these steps:

Open	Save	Save As	Sample Position	Method	Sample Duration	Runs	Separation Duration	Result Name	Para	Add
			1			1		Test Sample ID		Insert

① Click "Sample Position" to mark the sample positions on the plate and press "OK".

② Click "Method" to select the analysis method.

- Choose the appropriate Alignment Marker if analyzing samples with it, and then place it on the corresponding position (Check ✓ the box).

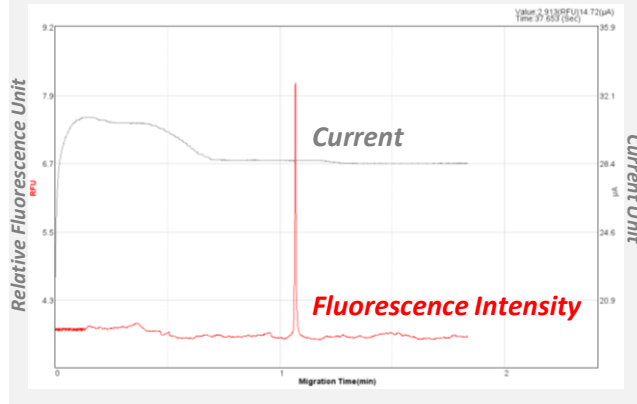
③ Enter the result name.

Open	Save	Save As	Sample Position	Method	Sample Duration	Runs	Separation Duration	Result Name	Para	Add
			1	A-01.A.	M-4-10-06-300	10	1	300	Test Sample ID	Insert

④ Click the "Para" icon to set parameters (Baseline Factor, Peak Threshold, Calculate, etc.).

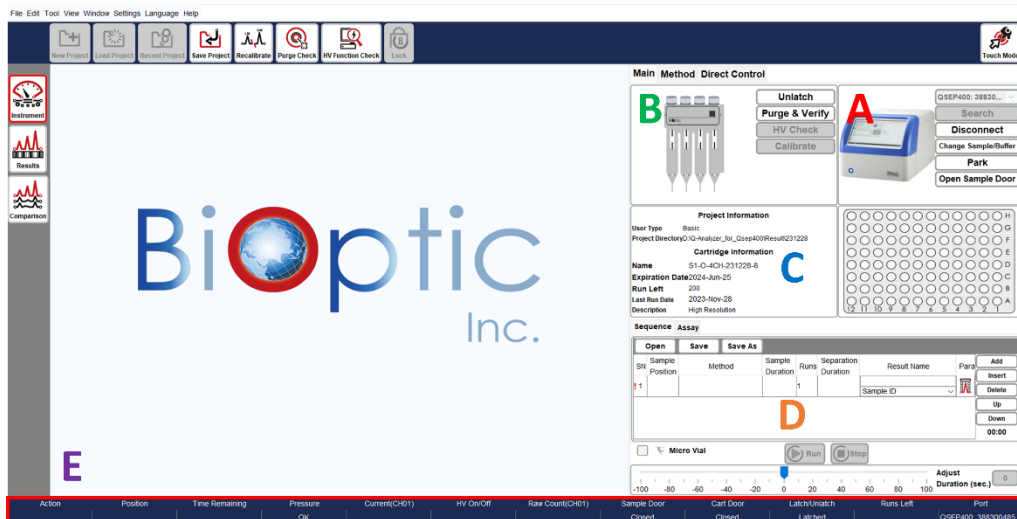
18. Click "Run" to start the analysis.

Brief introduction of the Signal Chart:

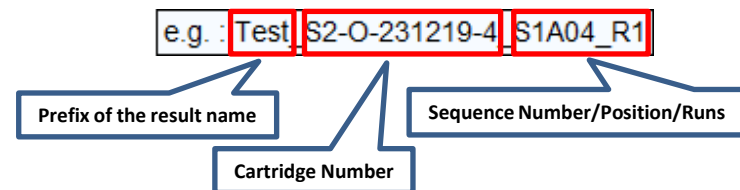
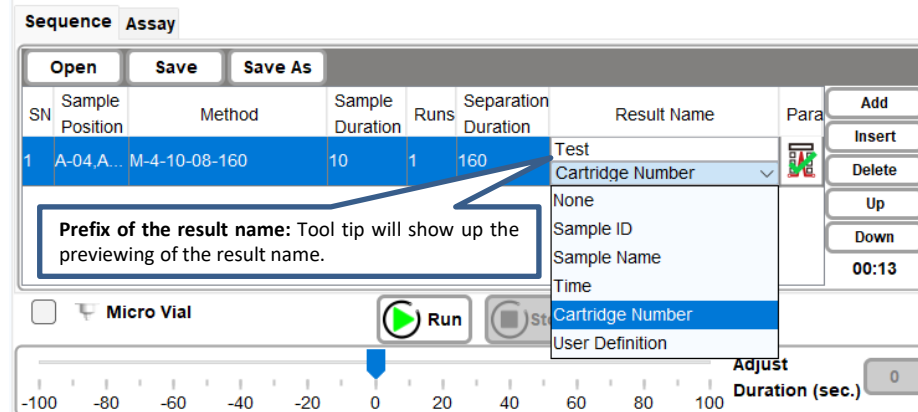
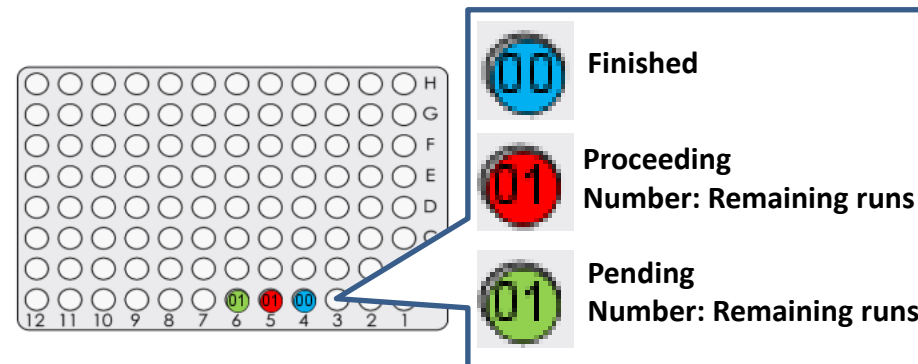


Please refer to the Qsep₄₀₀ Bio-Fragment Analyzer User Manual for detailed information.

Introduction of the Control Panel



- A:** Instrument Control
- B:** Cartridge Control
- C:** Project and Cartridge Information
- D:** Sequence Setup
- E:** Status Bar



Introduction of the Control Panel (Touch Mode)

The screenshot shows the control panel with the following elements:

- A: Instrument Information**: Includes fields for Name and Instrument ID, and buttons for Connect, Change Sample/Buffer, and Park/Close Sample Door.
- B: Cartridge Information**: Includes fields for Name, Expiration Date, Run Left, Last Run Date, and Description, and buttons for Latch, Recalibrate, and HV Check.
- C: Sequence and Assay**: Includes buttons for Sequence and Assay, and a table for sequence setup.
- D: Sequence Setup**: A table with columns for SN, Sample Position, Method, Sample Duration, Runs, Separator Duration, Result Name, and Para. It includes buttons for Add, Insert, Delete, Up, and Down.
- E: Status Bar**: A row of status indicators including Action, Position, Time Remaining, Pressure, Current, HV on/Off, Raw Count, Sample Door, Cart Door, Latch/Unlatch, Runs Left, and Port.
- F: Description Box**: A welcome message: "Welcome to Q-Analyzer! If you are not clear any operation step, you can read 'Qsep400 Quick Start' or 'Cartridge User Guide' from BIOptic website. Or you can contact with your distributor."

- A:** Instrument Control
B: Cartridge Control
C: Sequence and Assay
D: Sequence Setup
E: Status Bar
F: Description Box


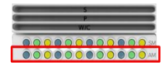


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Tel: +886-2-2218-8726, Fax: +886-2-2218-8727, E-mail: service@bioptic.com.tw

Function	Description Box
Connect/Disconnect	 If you would like to use with your own PC, please connect the USB port at the backside of the instrument.
Change Sample Buffer	 Marker & Buffer preparation: Add $\geq 20\mu\text{l}$ Alignment Marker into 0.2 ml tubes (4 tubes). S: Separation buffer P & W/C: dH_2O
Latch	 For new cartridge, please insert the pin into the small hole of cartridge cap and press it all the way in.
Unlatch	After unlatch the cartridge, please wait at least 10s to open the cartridge door. Open the door and take out the cartridge directly might damage the instrument.
Recalibrate	Make sure place alignment marker ($\leq 20\mu\text{L}$) and select voltage that match the "Method" to be used.
HV Check	 If a "HV check Failed" message appears, please refer to the unpacking guide for troubleshooting instructions and/or perform purge five before repeating the step.
Calibrate	Make sure you place $20\mu\text{l}$ of 20bp&1kb / 20bp&1.5kb / LM at AM position. *Hold the holder and use the thumb to press the Alignment Marker tubes tightly down into the well.