# Maurice
# icIEF 400 Cartridge

**Part#** **PS-MC01-400C**
**PS-MC02-400C**

## Introduction

The Maurice icIEF 400 cartridge is used for charge heterogeneity analysis on Maurice, Maurice C., or MauriceFlex systems.

### Ordering Options

| Part # | Description | Qty/ Kit |
|---|---|---|
| PS-MC01-400C | Maurice icIEF 400 Cartridge | 1 |
| PS-MC02-400C | Maurice icIEF 400 Cartridge | 2 |

### Storage Conditions

- Store cartridges at 18–28 °C.

### Other Things You'll Need

#### If This Is Your First Time Developing a cIEF Method:

- Maurice cIEF Method Development Kit, PN PS-MDK01-C
- Deionized (DI) water
- Filtered, compressed air
- Maurice sample vials with integrated inserts, 0.2 mL, PN 046-083 **or** 96-well plates, PN 046-021
- Maurice glass reagent vials, 2 mL, PN 046-017
- Maurice clear screw caps for sample and reagent vials, PN 046-138
- Maurice cIEF blue pressure caps, PN 046-573
- Pipettes and tips

#### If You've Already Developed Your cIEF Method:

- Maurice cIEF Fluorescence Calibration Standard, PN 046-025
- 0.5% Methyl Cellulose Solution, PN 102505
- 1% Methyl Cellulose Solution, PN 101876
- iCE Electrolyte Kit, PN 102506
- Maurice cIEF pI Marker: 3.38, PN 046-028
- Maurice cIEF pI Marker: 4.05, PN 046-029
- Maurice cIEF pI Marker: 5.85, PN 046-030
- Maurice cIEF pI Marker: 6.14, PN 046-031
- Maurice cIEF pI Marker: 7.05, PN 046-032
- Maurice cIEF pI Marker: 8.40, PN 046-033
- Maurice cIEF pI Marker: 9.99, PN 046-034
- Maurice cIEF pI Marker: 10.17, PN 046-035
- Deionized (DI) water
- Filtered, compressed air
- Maurice sample vials with integrated inserts, 0.2 mL, PN 046-083 **or** 96-well plates, PN 046-021
- Maurice glass reagent vials, 2 mL, PN 046-017
- Maurice clear screw caps for sample and reagent vials, PN 046-138
- Maurice cIEF blue pressure caps, PN 046-573
- Pipettes and tips

### A Few Things You Should Know

- Whenever you handle the cartridge or remove it from its packaging, make sure the capillary inlet doesn't come in contact with any surfaces.
- The capillary in the icIEF 400 Cartridge is exposed to air within the cartridge's optical region. Refer to the "icIEF 400 Cartridge Handling Guide" for more information.
- Do not get any liquid on the cartridge's optical window.
- After a run, clean the electrolyte tanks as described in the "End of the Batch" section of this product insert. Run a Cartridge Post-Run cleanup before storing the cartridge in its original packaging at room temperature.
- Performance for each cartridge is guaranteed for up to 100 injections and supports a maximum of 40 batches. The injection limit of the cartridge is 400. Its RFID will keep track of how many injections are left for you.

# 1 // Let's Get Started!

## A. Prepare Your Samples

See the instructions in the Maurice User Guide or Method Development Kit product insert for sample prep details.

## B. Prepare Your Cartridge

1. Take the cartridge out of its packaging. Save the packaging, you'll need it later.
2. Use filtered, compressed air to clean the cartridge's optical window from the side so the airflow is directed across the surface, not directly onto it.

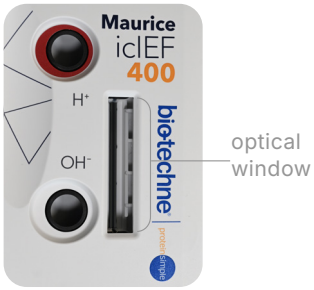


**Figure 1.** icIEF 400 cartridge optical window.


**Figure 2.** Cleaning the cartridge optical window from the side.

**NOTE:** Refer to the "icIEF 400 Cartridge Handling Guide" for more details.

3. Place the cartridge on a flat surface with its electrolyte tanks facing up.
4. Remove the stoppers from both electrolyte tanks.
5. Add 2.0 mL of Catholyte solution to the $OH^-$ electrolyte tank (white port).
6. Add 2.0 mL of Anolyte solution to the $H^+$ electrolyte tank (red port).

   **NOTE:** Make sure not to overfill the electrolyte tanks. Do not pass the electrolyte pipette over the cartridge's optical window to avoid dripping onto the exposed capillary.

7. Firmly seal each tank with the rubber stoppers, ensuring they are fully seated in their respective ports. Use the grey stopper for the $OH^-$ tank and the red one for the $H^+$ tank. If excess liquid comes out of the tank, make sure to wipe it with a lint-free laboratory wipe.

   **NOTE:** Do not invert the cartridge after electrolyte has been added.

## C. Insert the Cartridge in your Maurice System

1. Open Maurice's door by touching the metal plate on top of the door. The lights on either side of the cartridge slot will be **orange**.
2. Double check to make sure you've got electrolytes loaded and the tanks are properly sealed with the stoppers.
3. Lift the cartridge and hold it vertically using the finger holds on either side, capillary inlet down, with the icIEF 400 label facing you.
4. Gently insert it into the slot.
5. Continue to slide the cartridge into the slot until the locking mechanism engages. The lights on either side of the slot will change to **blue** once the cartridge is installed correctly.

# 1 // Let's Get Started! *(continued)*

## D. Place your samples and reagents in Maurice

Prepare your batch reagents as shown in the table in FIGURE 3 and place the reagent vials in Maurice as shown in FIGURE 3. Depending on how you prepared your samples, place the sample vials insert or the 96-well plate insert into Maurice.

**NOTE:** If you need to seal the 96-well plate during your run, we recommend the 4titude Pierceable Film (PN 4ti-0566, Azenta) or the Slit Seal, 96-well plate seal from BioChromato (https://biochromato.com/slit-seal/). They can be used in both absorbance and native fluorescence modes. If you're currently using X-Pierce adhesive film (PN XP-100, Excel Scientific), we recommend using it in absorbance mode only.

**NOTE:** If you're using a MauriceFlex system, lock your batch reagents in place by sliding the locking mechanism from the left to the right before starting the batch.

| Reagent | Volume | Cap | Position |
|---|---|---|---|
| **0.5% Methyl Cellulose** | 2.0 mL | **Blue** pressure cap | P1 |
| **Fluorescence Calibration Standard** | 500 µL | **Blue** pressure cap | P2 |
| **DI Water** | 2.0 mL | **Blue** pressure cap | P3 |
| **Empty vial (air)** | N/A | **Blue** pressure cap | P6 |
| **DI Water** | 2.0 mL | **Clear** screw cap | N1 |

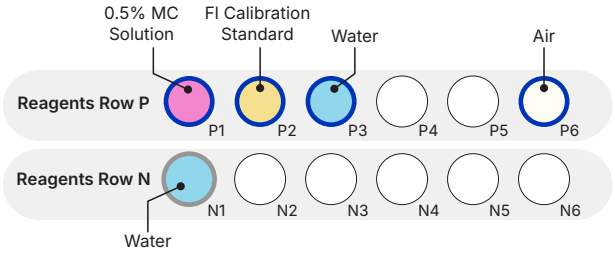


**Figure 3.** Reagent vial placement.

# 2 // Start Maurice

1. Launch Compass for iCE.
2. Open a cIEF batch or create a new one and define your parameters.
3. Click **Start**.

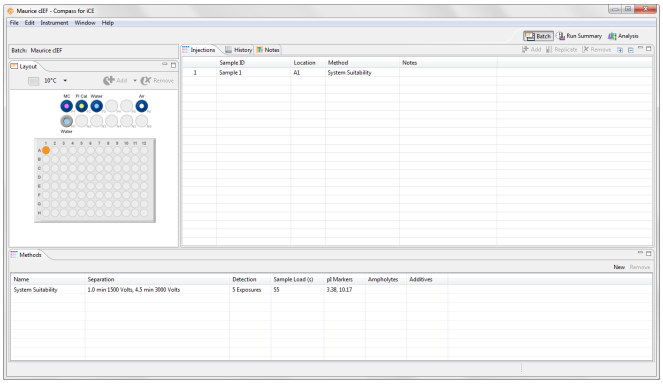

**Figure 4.** Compass for iCE Batch view. Here it is possible to edit plate layout, set injection sequences and view history, and create/edit method parameters used in batches.

# 3 // At the End of the Batch

**NOTE:** It is important to follow the appropriate cleaning procedures promptly to ensure cartridge longevity and performance. Failure to follow the procedures below may result in cartridge-clogging issues and affect data quality.

1. Open Maurice's door.
2. Remove your samples. Leave the Water (P3) and Air (P6) vials in place if your cartridge still has injections left since they will be needed for the cleanup step.
3. Remove the cartridge.

**If you're at 100 injections, you've reached the limit of guaranteed performance for the cartridge.** To dispose of the finished cartridge put it back in its original packing and discard it per your institution's safety and waste disposal guidelines.

That's it, you're done!

**If the cartridge will be used again.** Clean up and store the cartridge.

1. Place the cartridge on a flat surface with its electrolyte tanks facing up.
2. Remove the stoppers on both electrolyte tanks.
3. Using a pipette or low vacuum, aspirate the solution from each tank.

   **NOTE:** Do not pass the pipette or aspirator over the cartridge optical window to avoid dripping liquid onto the exposed capillary.

4. Fill each tank with 2.0 mL of DI water, then aspirate it out. Repeat this rinse 3 times.

   **NOTE:** Make sure not to get any liquid on the cartridge's optical window.

5. Aspirate all the remaining liquid and make sure that the tanks are dry.

**If you're using Compass for iCE v3.0.0 or higher, go to the next step. If you're using an earlier version of Compass for iCE, skip to step 9.**

6. Put the stoppers back on the tanks and install the cartridge in Maurice.
7. In the Compass main menu, select **Instrument** and click **Cartridge Post-Run Cleanup**. It'll only take 7 minutes.
8. Remove the cartridge and reagent vials.
9. Leave the stoppers off to allow the tanks to air dry.
10. Put the cartridge and stoppers in the protective packaging and store at room temperature.

That's it, you're done!


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