



## Frequently Asked Questions:

# DR1300 FL Portable Fluorometer



### Why has Hach added the DR1300 FL to our existing de-chlorination solution portfolio?

The DR1300 FL's ULR chlorine tests offer a solution that validates the health and efficiency of a de-chlorination process. This solution will help to ensure that your downstream assets are protected and your process is running properly through consistently measuring down to 2ppb chlorine and 6ppb sulfite with an industry first, fluorescence testing technology.

### Why did Hach develop the ultra low range fluorescence chemistry testing methods?

Colorimetric and Amperometric chlorine testing techniques have been the market standard for a long time. Those techniques have their limits, however. Hach's commitment to innovation led us to explore ways in which we can go lower yet maintain simple test procedures. Groundbreaking ULR fluorescence tests from Hach offer easy-to-perform ultra low range tests for free or total chlorine and sulfite. The DR1300 FL mitigates ULR technique sensitivities and limits while also handling traditional interferences with ease. You'll have the precision and accuracy you need.

### If I am not familiar with water testing could I operate the DR1300 FL?

Yes. The days of needing a PhD and an automated titrator are gone. With only 2 dropper bottles and 10 drops of reagent, you can have a trusted ULR analysis in minutes.

### What does Ultra-Low Range (ULR) mean?

Ultra-Low range of analyte usually means its concentration is routinely below 0.2 mg/L or ppm (parts per million) that corresponds to 200 µg/L or ppb (parts per billion), e.g. of chlorine in the water.

### What applications are ideal for the DR1300 FL?

The DR1300 FL is intended for use with clean water samples that are measured for either presence of chlorine at low levels or its absence, e.g. after dechlorination. Dechlorination can be found in many industries and DR1300 FL, in particular, is designed to help verify that this process is efficient to ensure downstream asset protection of nanofiltration equipment or reverse osmosis membranes and product quality. Power / cogeneration, semiconductors, pharmaceuticals, food, beverage, desalination and petrochemical.

### Is the DR1300 FL right for me?

If your processes involve RO membranes and/or any form of de-chlorination, such as chemical (e.g. sulfite/bisulfite) and/or adsorption (e.g. activated carbon), the DR1300 FL can be used to ensure presence of chlorine and sulfite at very low levels, or its absence, depending on the needs of your process and equipment.

Additionally if your aim is to verify that your product water is chlorine free, DR1300 FL is the choice for you.

### How is depending on chlorine and sulfite measurements better than previous de-chlorination methods?

The DR1300 FL provides portable tests for free and total chlorine as low as 2ppb chlorine and sulfite down to 6ppb. It works with your monitoring and control tools to improve your current process. You'll get quick and easy direct measurements to help ensure product quality.

### Is the DR1300 FL Claros connected?

No, not currently.

### How do I get a good representative sample?

Allow the water to run for a few minutes and then turn down the flow, rinse the sample cell a minimum of three times before taking the final sample.

### How do I store my glassware to prevent chlorine demand?

Sample vials are best stored for long term storage by filling with clean deionized or distilled water and with caps on.

### Why are some of my reagent bottles black and some clear?

Pigmented / UV resistant bottles are necessary in order to prevent excess exposure to UV light which has been shown to prematurely degrade Hach's fluorescent reagents.

### Can I obtain a sample with an alternative container and bring it back to lab to run the test?

If your sampling points require the use of an alternative sample container before filling your Fluorescence Sample Vials with sample, best practice is to ensure that the container is thoroughly cleaned and pre-treated for chlorine demand. This is crucial to obtaining ultra low range chlorine results. Ultra Low Range chlorine changes very quickly and so time is always a factor when testing ultra low range chlorine; the faster the better.

### Does the reagent drops size and consistency need to be the same and kept vertical during an introduction to the sample?

Yes. Add your drops carefully and consistently while holding your reagent bottles in a vertical position over the sample vials. Holding your reagent bottles horizontally while adding drops of reagents will change the volume of reagent being delivered.

### What if my online analyzer and DR1300 FL are giving different readings?

Currently, the DR1300 FL method has the greatest accuracy and detection limit and best reflects the true concentration. The DR1300 FL is also not subject to interferences from other oxidants.

### Do I have to chlorine pretreat my sample vial and sample cap?

Yes, you need to soak your sample vial and cap with dilute commercial bleach, with the concentration of (1mL commercial bleach in 1L DI water) for at least one hour. Rinse the sample vial and sample cap thoroughly with DI water before use.

### Can I measure free and total chlorine with the DR1300 FL?

Yes, you can measure down to 2ppb free chlorine, 3ppb total chlorine as well as sulfite down to 6ppb.

### What happens if I add the reagents out of order while testing?

Total Chlorine-reading may be higher. Free Chlorine-Reading may be higher or lower than actual. Sulfite- There will be a very small impact. You will still receive sulfite analysis within our accuracy specifications.

## Service: FAQ

### What service offerings are available for this instrument?

Service Plans, including repairs at the Hach Service Center are available to protect your investment and maximize instrument uptime. Consult with your local Hach representative for more information on coverage options in your region.



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DOC062.53.20333.Nov21