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SIMTECH

Frequently Asked Questions
XA00335

YSI 9220 TOC Analyzer Frequently Asked Questions (FAQs)

1

Q: How does the 9220 measure Total Organic Carbon (TOC)?

A: The 9220 uses the Heated Persulfate Oxidation with NDIR Detection method for the determination of TOC as Non-Purgeable Organic Carbon (NPOC).

2

Q: What is NPOC?

A: Non-Purgeable Organic Carbon, or NPOC, is the form of carbon that remains in solution after acidification and sparging. Acidification removes the Inorganic Carbon (IC). Sparging removes the carbon dioxide formed by the reaction of acid with IC.

3

Q: Why is IC removal necessary?

A: Regulatory methods require measurement of the IC fraction in a sample or removal of the IC fraction. In the NPOC measurement, IC is removed from the sample.

4

Q: What is the advantage of measuring NPOC?

A: The alternative to NPOC for determining TOC is known as TOC by Subtraction. In this technique, Total Carbon (TC) is measured, and then IC is measured. The IC concentration is subtracted from the TC concentration. This technique requires two measurements and can be inaccurate if IC concentration is high relative to TOC concentration. NPOC determination requires only one measurement.

YSI 9220 TOC Analyzer
More information available at YSI.com/9220

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Q: Is the 9220 EPA compliant?

A: The 9220 complies with Standard Method 5310C (water and wastewater) and EPA 415.3 (source and drinking water).

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Q: What reagents are required for the operation of the 9220?

A: The 9220 uses 5% Phosphoric Acid and 10% Sodium Persulfate.

7

Q: Are the reagents proprietary?

A: No. The reagents and the stock material for the reagents are commercially available. In many cases, users of the 9220 prepare their own reagents.

8

Q: What is the reagent consumption?

A: With the standard settings and a cycle time of 6 minutes, you can expect the reagents to last 30 days. Reagent consumption can be extended if a cycle delay is used.

9

Q: What are the monthly maintenance requirements for the 9220?

A: Monthly maintenance is limited to the replacement of the reagents.

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Q: Does the 9220 have automatic calibration and validation?

A: Yes. The 9220 can be programmed for either or both automatic calibration and validation.

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Q: Does the 9220 require compressed gas from a cylinder or other source?

A: No. The 9220 does require gas; however, an onboard Process Gas Module (PGM) generates the gas.

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Q: Does the analyzer need to be in a controlled environment?

A: The operating temperature range is 5˚ to 55 ˚C (41˚ to 113 ˚F). Ideally, the 9220 should be installed in a controlled environment. However, it can be installed outside if the climate is within the temperature specifications, and the 9220 is protected from direct sunlight and other weather conditions. The enclosure has an IP66 rating.

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Q: How many sample streams can the 9220 analyze?

A: The 9220 can analyze up to four (4) sample streams. A standard system can analyze two sample streams.

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Q: Are there any add-on kits or other peripheral devices necessary for operation of the 9220?

A: The 9220 system is fully self-contained and comes ready to analyze two sample streams. If the application requires the analysis of additional sample streams, then it is necessary to order additional Sample Inlet Devices.

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Q: Can the 9220 be networked into an IQ SensorNet system?

A: Yes, you can use an IQ SensorNet IC2 module to connect the 9220 to an IQ SensorNet network via the 9220's 4-20mA output.

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Q: What are the yearly Preventative Maintenance (PM) requirements?

A: PM service entails replacement of the syringe drive barrel and plunger, one check valve and calibration check. A typical PM service takes less than one hour.

YSI 9220 TOC Analyzer
with mounting panel, PGM and Sample Inlet Devices

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EPA Approved Methodology

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