

A turnkey solution for free chlorine measurement

Complete EPA compliant
reagent-less free chlorine
measurement system



Free Chlorine Measurement System

EPA compliant free chlorine measurement using amperometric sensor technology eliminates reagents

A complete panel solution

- EPA compliant according to Method 334.0
- Reagent-less system using amperometric free chlorine measurement
- pH compensated measurement ensures accurate DPD verification
- Easy DPD testing with built-in test valve
- Inlet and outlet valves allow isolation for routine sensor maintenance

Integrated flow assembly and pressure regulation

- Designed to properly hold chlorine and pH probes
- Built in needle valve for flow control between 30 and 120 L/hour
- Inductive low flow alarm switch indicates when flow is too low for proper measurement
- Pressure regulator to maintain constant measurement conditions

Liquiline and Memosens® technology

- Memosens sensors eliminate problems associated with analog sensor technology
- Liquiline transmitter in two or four channel version with a range of I/O simplifies control system integration
- Optional Memobase Plus hardware and software enables intelligent sensor management

The Free Chlorine Analytical Systems (FCAS) are designed to provide a turn-key panel-mounted solution for free chlorine measurement. These panel systems incorporate a Memosens amperometric free chlorine probe, available in two different ranges and a Memosens pH probe for accurate and reliable measurement. Each panel is designed with a Liquiline transmitter, either a CM442 for up to two sensor input channels and two analog outputs or a CM444 transmitter with two analog outputs and the ability for multiple sensor input channels and additional I/O.

The FCAS panels are EPA compliant according to Method 334.0, which recognizes both reagent-based systems or amperometric measurement systems for Free Chlorine analysis. The FCAS panels accomplish free chlorine analysis using amperometric sensor technology, eliminating the need for costly reagents or the maintenance reagent-based systems require, making the systems ideally suited for applications in drinking water, industrial water or power.

System Design

A FCAS panel is comprised of an amperometric free chlorine sensor and a pH probe mounted in a integrated flow assembly (Flowfit CCA250), sensor cables and a Liquiline transmitter, either the CM442 or CM444. An integral flow switch mounted in the flow assembly monitors for proper system flow and provides an alarm through the transmitter if flow is interrupted. System tubing is 3/8-inch stainless steel. An integral lead free pressure regulator sets system pressure to 15 PSI. All components are installed on a 20 X 20-inch stainless steel panel, with 3/8-inch ID mounting holes, that is ready to be mounted to a secure vertical surface. Stainless steel Inlet and outlet shut off valves, with 1/2-inch female NPT fittings, allow for system isolation during routine sensor maintenance. A separate 1/4-inch sample valve allows for ease of performing a DPD verification test without interrupting system measurement.

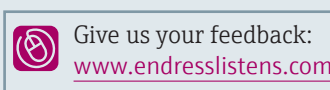
The transmitter has a NEMA 4X (IP66) rating and all other components are water-proof, for installation indoors, outdoors or in an enclosure.

- DPD test valve:

Material Numbers

Material Number	Transmitter	Description
71337195	Liquiline CM442	Free Chlorine Analysis System complete with Liquiline CM442 transmitter, 0.05 to 20 mg/L chlorine range, compliant to EPA Method 334.0.
71337196	Liquiline CM444	Free Chlorine Analysis System complete with Liquiline CM444 transmitter, 0.05 to 20 mg/L chlorine range, compliant to EPA Method 334.0.
71367911	Liquiline CM442	Free Chlorine Analysis System complete with Liquiline CM442 transmitter, 0.01 to 5 mg/L chlorine range, compliant to EPA Method 334.0.
71367912	Liquiline CM444	Free Chlorine Analysis System complete with Liquiline CM444 transmitter, 0.01 to 5 mg/L chlorine range, compliant to EPA Method 334.0.

Note: Variations from these standard panels are available upon request. Consult your local Endress+Hauser sales representative to define a version tailored to a specific need.



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