



## CLF10 sc Free Chlorine Sensor, SC200 Controller, and Stainless Steel Panel with Grab Sample Only

Product #: 2981100

**OBSOLETE ITEM**  
This item is no longer available.

### Hach's answer to reagentless amperometric chlorine measurement.

The CLF10 sc analyzer uses Hach's exclusive self diagnostics to alert users when the process has changed or the instrument needs servicing. Diagnostic features include the Cal Watch algorithm for warning of pH and chlorine calibration deviation and a non-contacting flow sensor for notification of insufficient sample flow. Free chlorine measurement with an amperometric analyzer, such as the CLF10 sc, does not require reagents, eliminating the need for routine reagent replacement and waste stream management. The CLF10sc free chlorine analyzer allows for real-time control of disinfection processes by providing continuous readings that indicate when treatment conditions have changed. Product includes free chlorine sensor, chlorine sensor block, SC200 controller, sc Gateway, stainless steel panel, pH flow cell and pHD sensor.

#### Compatible with Hach's "Plug and Play" Digital Controllers

The CLF10 sc and CLT10 sc analyzers leverage Hach's exclusive self diagnostics to alert users when the process has changed or the instrument needs servicing. Diagnostic features include the Cal Watch algorithm for warning of pH and chlorine calibration deviation and a non-contacting flow sensor for notification of insufficient sample flow.

#### EPA compliant according to Method 334.0

Chlorine measurement with an amperometric analyzer, such as the CLF10 sc or CLT10 sc, does not require reagents, eliminating the need for routine reagent replacement and waste stream management.

#### Exclusive Self Diagnostics

The CLF10 sc and CLT10 sc analyzers allow for real-time control of disinfection processes by providing continuous readings that indicate when treatment conditions have changed.

#### No Reagent Replacement, No Waste Stream

The CLF10 sc and CLT10 sc analyzers can be used with any Hach sc digital controller. Whether you're measuring turbidity or chlorine, you only need to learn one controller for all your water analysis measurement points. Hach sc controllers have no complicated wiring or setup procedures. Just plug in any Hach digital sensor and it's ready to use without software configuration.

#### Real-time Process Control

In accordance with EPA Method 334.0, the CLF10 sc and CLT10 sc analyzers can be used for reporting chlorine residual measurements. Additionally, Hach has created a suite of laboratory products and methods to help with startup and quality control procedures required in Method 334.0. (See page 4 for a partial listing of accessories.)

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## Specifications

Accuracy:	Free Chlorine: $\pm 3$ % of the reference test** (DPD) at constant pH less than 7.2 ( $\pm 0.2$ pH unit)
Accuracy 2:	Free Chlorine: $\pm 10$ % of the reference test** (DPD) at stable pH less than 8.5 ( $\pm 0.5$ pH unit from the pH at calibration)
Accuracy 3:	Total Chlorine: $\pm 10$ % of the reference test** (DPD) at stable pH less than 8.5 ( $\pm 0.5$ pH unit from the pH at calibration)
Accuracy 4:	Total Chlorine: $\pm 20$ % of the reference test** (DPD) at stable pH greater than 8.5

Cable Connection:	5 pin, M12 connector
Cable Length:	1 m (between gateway and sc controller)
Calibration Method:	1-point or 2-point (zero and slope) calibration
Certifications:	CE compliant for conducted and radiated emissions:  - CISPR 11 (Class A limits)  - EMC Immunity EN 61326-1 (Industrial limits)  Additional certifications when connected to an sc controller
Connection Drain Line:	pH Flow Cell Outlet: 1/2-inch ID
Connection Sample Line:	1/4 inch OD
Controller:	Single Digital
Controller Compatibility:	SC200, SC1000, SC4500. All controllers sold separately
Controller Options:	Single Input
Description:	CLF10sc Free Chlorine Sensor, SC200 Controller, and Stainless Steel Panel with Grab Sample Only
Dimensions:	Sensor Only: 195
Fitting:	USA
Fitting Type:	USA
Interferences:	Free chlorine: monochloramine, chlorine dioxide, ozone, and chalk deposits.  Total chlorine: chlorine dioxide, ozone and chalk deposits
Length:	Sensor: 195 mm
Lower Limit of Detection (LOD):	30 ppb (0.03 ppm)
Material:	Corrosion-resistant materials, fully-submersible  (stainless steel, PEEK, PVC, silicon rubber and polycarbonate)
Measurement method:	Reagentless, electrochemical, three-electrode amperometric system
Mounting:	Panel or Wall Mounting
Operating temperature range:	0 - 45 °C
Options:	SC200 Controller, Stainless Steel Panel
Parameter:	Free Chlorine
pH Monitoring Required?:	None
pH Range:	4 - 9
Power requirements (Voltage):	110 - 230 VAC
Pressure Range:	0.5 bar, no pressure impulses and/or vibrations
Range:	0 - 20 ppm Cl <sub>2</sub>
Repeatability:	30 ppb or 3%, whichever is greater
Response Time:	Total Chlorine: 100 s or less for 90% change (T90)  at a stable temperature and pH
Response time:	Free Chlorine: 140 s or less for 90% change (T90)  at a stable temperature and pH
Sample Flow Rate:	30 - 50 L/h (7.9 - 13.2 gal/hour), Optimal is 40 L/hour (10.5 gal/hour)
Sample Temperature:	5 - 45°C (41 - 113°F)
Storage conditions:	-20 °C to 60 °C dry
Warranty:	12 months
Weight:	13.19 kg Approximately 5.5 kg (12 lbs)

Panel and empty panel-mounted components only

What's included?:

SC200 Controller, Mounting Hardware, SC200 Basic User Manual, CL10sc Panel, 1 m digital extension cable, Panel Manual, Chlorine Sensor Manual.

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SC200 Controller, Mounting Hardware, SC200 Basic User Manual, CL10sc Panel, 1 m digital extension cable, Panel Manual, Chlorine Sensor Manual.