Reliable high temperature TOC analysis with superior uptime and a lower cost of ownership.

- *Large-volume furnace extends maintenance intervals preventing plugging and failing*
- *Simplified sample delivery system*
- *Passive cooling system avoids complex heat management*
- *Utilizes proven, patented high temperature reactor system*
- *Industrial design withstands the most severe conditions*
- *Analyzer-protecting advanced diagnostics*

Reduced Cost of Ownership and Maintenance

The patented large-volume furnace prevents severe-duty samples from plugging or failing prematurely consequently extending routine maintenance intervals. A platinum catalyst provides an enlarged surface area for the oxidation reaction in the furnace. This increases the lifecycle of the catalyst reducing cost of ownership.

Simplified Sample Delivery System

Innovative sample delivery system avoids inherent mechanical breakdown of complicated sample injection mechanisms. Customarily high temperature analyzers use an injection valve mechanism,which is prone to fail due to its narrow passages, small parts and exposed seals.

The astroTOC HT has a continuous sample feed by a peristaltic pump providing a robust, easy-to-maintain sample injection into the furnace. This dramatically reduces maintenance cost.

How To Order

Contact your local Hach sales representative to configure a TOC analyzer for your application.

Primary Applications

- **Industrial Water**
- **Wastewater**

*Specifications**

Range
Note: Must specify range at time of order.
0-25 up to 0-20,000 mg/L TOC

Accuracy
± 5% of reading at ranges less than 1000 mg/L with and without dilution at 25°C (77°F)
± 2% of reading in the range of 2000 to 20,000 mg/L with dilution at 25°C (77°F)

Repeatability
± 5% of reading at ranges less than 1000 mg/L with and without dilution at 25°C (77°F)
± 2% of reading in the range of 2000 to 20,000 mg/L with dilution at 25°C (77°F)

Minimum Detection Limit
< 0.1 mg/L for the range 0-25 mg/L at 25°C (77°F)

Response Time
T90 ≤ 8 minutes (includes TIC sparging)

Inlet Pressure
0.15-6 bar (2-87 psig)

Flow Rate
20-200 mL per minute

Sample Temperature Range
2° to 70°C (36° to 158°F)

Operating Temperature Range
5° to 40°C (41° to 104°F)

Recorder Outputs
Two 4-20 mA analog outputs selectable for sample concentration, analyzer system warning or auto range indication

Alarms
Five alarms selectable for sample concentration alarm, analyzer system warning or analyzer system shutdown alarm.

Optional Serial Communication
One multi-function RS232 or RS485 optional serial port (MODBUS®, CSV)

Power
115/230 Vac 50/60 Hz (switch selectable), 1500 VA maximum

Sample Inlet/Outlet Connection
1/4-inch OD tube, compression fitting

Drain Connection
1 1/2-inch OD standard drain pipe

Carrier Gas
Clean, CO_2 free air or Nitrogen at 2.8-6.2 bar (40-90 psig)

Compliance/Certification
CE certified, listed to UL and CSA safety standards by ETL
Standard Methods 5310 B, EPA 415.1

Enclosure
Cold Rolled Steel epoxy powder coated, IP54/NEMA 12
Optional Stainless Steel IP54/NEMA 12

Dimensions
Approximately 983 mm (38.7 inches) tall, 973 mm (38.3 inches) wide, 244 mm (9.6 inches) deep

Mounting
Wall mount

Shipping Weight
212 lbs. (97 kg)

**Subject to change without notice.*

See pages 186-187 for reagents, test kits, and accessories for measuring TOC in the lab or field.

Turbidity: FilterTrak 660™ sc Nephelometer

EPA-approved method, ultra low range turbidity measurement.

EPA COMPLIANT

- *Highest sensitivity available at the lowest levels of turbidity*
- *Optimize your filtration process*
- *EPA approved method for drinking water compliance monitoring*

Laser Turbidity Method, Approved for Drinking Water Compliance Monitoring

Hach's FilterTrak™ 660 sc Nephelometer is approved for measuring turbidity for drinking water compliance monitoring. This approval provides utilities the opportunity to both monitor and optimize their filtration processes using a single technology.

New Technology for Filtration Optimization

With unprecedented sensitivity and quick response, the FilterTrak 660 sc is capable of providing all the data needed to monitor and control filter and membrane performance. FilterTrak technology is not hindered by any theoretical particle size detection limit. This instrument readily detects the presence of sub-micron particles unseen by other instruments.

Primary Applications

- **Drinking Water**
- **Industrial Water**

*Specifications**

Range
0.0 to 5000 mNTU (0.0 to 5.0 NTU) 5000 mNTU = 5.000 NTU

Accuracy
± 5% of reading

Resolution
0.001 mNTU (0.000005 NTU)

Repeatability
+ 3.6% at 30 mNTU (0.03 NTU) / + 1.7% at 800 mNTU (0.8 NTU)

Flow Rate
100 - 750 mL / min (1.6 to 11.9 gal/hour)

Light Source
660 nm Laser Diode

Sample Temperature
0 to 50°C

Recorder Output
Selectable for 0-20 mA or 4-20 mA

Alarms
Two nephelometric set-point alarms (SOM required)

Power Requirements
10 to 28 Volts DC at 1.5 Watts

Surge Protection
Internal, PS2401 Power Supply

Communications Distance
Maximum node to node distance: 400 m (1312')
Maximum total wire length: 500 m (1640')

**Subject to change without notice.*

Prod. No.	Description
FT660 sc LASER NEPHELOMETER SYSTEMS	
Single-Sensor System	
6016400	Sensor assembly with sc100 controller
Network Add-on Sensor	
6016000	Sensor assembly only
System with Digital Communication	
6016401	Sensor assembly with sc100 controller with RS-485 output
6016402	Sensor assembly with sc100 controller with RS-232 output
6016403	Sensor assembly with sc100 controller with LonWorks output

Does not include power cords.

OPTIONAL ACCESSORIES	
5743200	Instrument stand
5448800	Power Cord with strain relief, 125 Vac
5448900	Power Cord with strain relief, 230 Vac

EXTENSION CABLES	
To be used only between sensor and sc100 controller.	
5796000	7.6 m (25 ft.)
5796100	15.2 m (50 ft.)
5796200	30.5 m (100 ft.)

Standard cable length 10 m (33 ft.)
Maximum total length 100 m (328 ft.)

Ask About Our Service Programs
See page 15.

For more information, call to request Literature #1627, or visit www.hach.com

See pages 71-75 for information on Hach laboratory and portable turbidimeters.

The low range turbidimeter.

Accuracy

Continuously flowing sample flows through the patented bubble removal system, which vents entrained air from the sample stream and eliminates the most significant interference in low level turbidity measurement. The 1720E Turbidimeter is also not affected by variations in flow and pressure.

Simplicity

A simplified two-module design includes the sensor and the controller interface. The digital controller systems accept two turbidity sensors—adding a second 1720E sensor makes a system with two complete turbidimeters or any other digital sensor. Connections are simple plug-and-play.

Data Collection and Display

The 1720E Turbidimeter uses the sc100 Controller to receive data from up to two sensors. A built-in data logger collects turbidity measurement at user selectable intervals (1-15 minutes), along with calibration and verification points, alarm history, and instrument setup changes for 6 months. Communications using digital protocols are available. The sc100 Controller is also compatible with AquaTrend® Networks by using a Lonworks card.

Prod. No.	Description
1720E TURBIDIMETER	
6010100	**1720E Turbidimeter**, with sc100 Controller
6010101	**1720E Turbidimeter**, sensor only
1720E WITH DIGITALDIRECT COMMUNICATIONS	
6010102	1720E/sc100 with MODBUS®/RS-485 output
6010103	1720E/sc100 with MODBUS®/RS-232 output
6010104	1720E/sc100 with LonWorks® output
CABLES	
5796000	Extension Cable, 7.7 m (25 ft.)
4630600	Power Cord w/ strain relief, 125 Vac
4630800	Power Cord w/ strain relief, 230 Vac, European-style plug
Note: Power cables must be ordered separately.	
ACCESSORIES	
5743200	Floor Stand
CALIBRATION SUPPLIES	
ICE-PIC Calibration/Verification Module / 1720E	
5225000	20 NTU Module
5221500	1 NTU Module
StablCal Comparative Calibration Standards	
2660153	20.0 NTU, 1 L each
(Calibration Cylinder, Prod. No. 4415300, must be ordered separately.)	
StablCal Verification Standards	
2697953	0.3 NTU, 1 L each
2698053	0.5 NTU, 1 L each
2723353	0.1 NTU, 1 L each
2659853	1.0 NTU, 1 L each
2746353	40.0 NTU, 1 L each
Formazin Calibration Standards	
4415600	Formazin Calibration Kit for user-prepared calibration (includes 500 mL of 4000 NTU Formazin, TenSette® Pipet, and calibration cylinder)
246149	Formazin Primary Standard, 4000 NTU, 500 mL (replacement for P/N 44156-00)
4415300	Calibration Cylinder, 1 L

For more information, call to request Literature #2457, or visit www.hach.com

Ask About Our Service Programs
See page 15.

Primary Applications

- **Drinking Water**
- **Industrial Water**

*Specifications**

Range
0.001-100 Nephelometric Turbidity Units (NTU)

Accuracy
(Defined according to ISO 15839.)
±2% of reading or ±0.015 NTU (whichever is greater) from 0 to 40 NTU;
±5% of reading from 40 to 100 NTU

Displayed Resolution
0.0001 NTU up to 9.9999 NTU; 0.001 NTU from 10.000 to 99.999 NTU

Repeatability
(Defined according to ISO 15839.)
Better than ±1.0% of reading or ±0.002 NTU, whichever is greater

Sample Flow Required
200 to 750 mL/minute (3.1 to 11.9 gal/hour)

Power Requirements
100-230 Vac, 50/60 Hz, auto selecting; 40 VA

Recorder Outputs
Two selectable for 0-20 mA or 4-20 mA; output span programmable over any portion of the 0-100 NTU range; built into the sc100 Controller

Alarms
Three set-point alarms, each equipped with an SPDT relay with unpowered contacts rated 5A resistive load at 230 Vac; built into the sc100 Controller

**Subject to change without notice.*

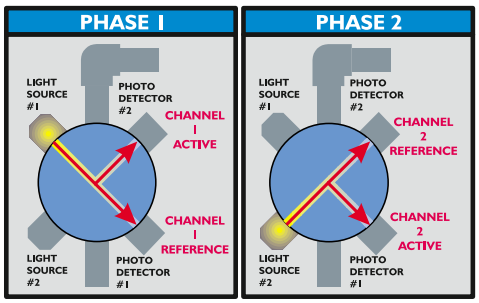
See pages 71-75 for information on Hach laboratory and portable turbidimeters.

Turbidity: Accu4™ Low Range Turbidimeter

Measures low range turbidity levels.

- *Provides accuracy and stability with the patented four-beam technology*
- *Verification with the patented Cal-Cube™ Assembly provides factory-certified, 100% reproducible NTU value*
- *Color compensation*
- *Long-lasting LED light sources*

EPA COMPLIANT



Principal of Operation

The four-beam method uses two light sources and two photodetectors spaced at 90° intervals around the sample chamber. Two measurement phases provide four independent measurements from two light sources. This method mathematically cancels the error effects from aging or fouling of the components and compensates for color effects.

Primary Applications

- **Drinking Water**
- **Industrial Water**

*Specifications**

8320T SENSOR

Ambient Temperature
0–60°C (32 to 140°F)

Sample Temperature
0–60°C (32 to 140°F)

Flow Rate
0.05–7 GPM (0.19–26.5 LPM)

Pressure Range
Standard:0–50 psig at 68°F
High pressure option available

Residence Time
9.5 seconds at 1 GPM

Wetted Materials
PVC, polycarbonate, polystyrene, PPO, nitrile and Buna-N

Enclosure:
NEMA 4X (IP65)

Compliance/Certification
UL/CSA, CE approved

T53 ANALYZER

Measuring Range
0.000–1.000, 0.00–10.00, and 0.0–100.0 NTU with auto-ranging

Ambient Temperature
-20 to +60°C (-4 to +140°F)

Relays
Four electromechanical

Analog Outputs
Two isolated 0/4–20 mA

Communication
Optional HART® Protocol

Power
90–130 or 180–260 Vac, 50–60 Hz

System Performance
Accuracy:± 2% of reading, all ranges
Sensitivity:0.001 NTU
Repeatability: 0.1% of span or better

Enclosure
1/2 DIN, NEMA 4X (IP65)

**Subject to change without notice.*

Prod. No.	Description
	ACCU4 LOW RANGE TURBIDITY ANALYZER-ANALOG OUTPUTS
AC4A1A0N	Accu4/T53 Controller, 60 Hz, 0-50 psig, analog outputs
AC4A2A0N	Accu4/T53 Controller, 50 Hz, 0-50 psig, analog outputs
	ACCU4 LOW RANGE TURBIDITY ANALYZER-ANALOG AND DIGITAL OUTPUTS
AC4B1A0N	Accu4/T53 Controller, 60 Hz, 0-50 psig, analog & digital outputs-HART
AC4B2A0N	Accu4/T53 Controller, 50 Hz, 0-50 psig, analog & digital outputs-HART
	ACCU4 LOW RANGE TURBIDITY ANALYZER-HIGH PRESSURE, WITH ANALOG OUTPUTS
AC4A1A1N	Accu4/T53 Controller, 60 Hz, 0-150 psig, analog outputs
AC4A2A1N	Accu4/T53 Controller, 50 Hz, 0-150 psig, analog outputs
	ACCU4 LOW RANGE TURBIDITY ANALYZER-HIGH PRESSURE, DIGITAL OUTPUTS
AC4B1A1N	Accu4/T53 Controller, 60 Hz, 0-150 psig, analog & digital outputs-HART
AC4B2A1N	Accu4/T53 Controller, 50 Hz, 0-150 psig, analog & digital outputs-HART
	CALIBRATION STANDARDS
	StablCal® Calibration Standard
2746353	StablCal®, 40 NTU, 1 L
	Formazin Calibration Standards
246149	Formazin Primary Standard, 4000 NTU, 500 mL
	CALIBRATION VERIFICATION
8220G1300	Cal-Cube Assembly

For more information, visit www.hach.com

See pages 71-75 for information on Hach laboratory and portable turbidimeters.

Suitable for low to medium turbidity applications.

- *Large measuring range—0 to 1,000 NTU*
- *Self-cleaning sample chamber option*
- *Stable/long lasting light source with IR ratio technology*
- *Dry verification modules with ranges from 0.6 to 25 NTU*

The ULTRATURB plus sc facilitates optimal filtration management in municipal and industrial water treatment—from checks on untreated water to outlet monitoring. The measured data from one or several sensors are processed by the sc controller platform.

ULTRATURB sc and ULTRATURB plus sc comply with DIN EN ISO 7027 and are identical models, except the ULTRATURB plus sc has an automatic cleaning feature with a wiper system. This wiper reliably prevents fouling of the measuring chamber and guarantees stable measured values in higher turbidity water sources.

ISO 7027 APPROVED

NEW!

Prod. No.	Description
SENSOR OPTIONS	
LPV415.52.11002	**ULTRATURB sc** .35M Sensor Cable
LPV415.52.21002	**ULTRATURB sc** 5M Cable
LPV415.52.10002	**ULTRATURB plus sc** .35M Cable & Autoclean
LPV415.52.20002	**ULTRATURB plus sc** 5M Cable & Autoclean
SC100/1000 CONTROLLER OPTIONS	
LXV401.52.00002	sc100 Controller, Standard
LXV402.99.00002	sc1000 Display Module
LXV400.99.1R572	sc1000 Probe Module, 4 Sensors - Analog
DRY/SECONDARY VERIFICATION MODULES	
LZV414.00.00000	CVM Module, 0.6 NTU
LZV414.00.10000	CVM Module, 1.5 NTU
LZV414.00.20000	CVM Module, 6 NTU
LZV414.00.30000	CVM Module, 15 NTU
LZV414.00.40000	CVM Module, 25 NTU
CALIBRATION TOOLS	
246142	4000 NTU Formazin, 500 ml
LZV451	Calibration/Cleaning Kit

Ask About Our Service Programs
See page 15.

For more information, visit www.hach.com

Primary Applications

- **Drinking Water**
- **Wastewater**
- **Industrial Water**

*Specifications**

Measuring Method
90° scattered light in accordance with DIN EN ISO 7027 infrared light 860 nm

Measuring Range
0.0001-1000 NTU (TE/F, NTU, FNU) can be programmed as required (0.0001-250 EBC = 2500 ppm SiO_2)

Resolution
0.0001-0.9999 / 1.000-9.999 /10.00-99.99 / 100-1000 FNU

Precision
±0.008 FNU or ±1 % (0-10 FNU))

Reproducibility
±0.003 FNU or ±0.5 % (0-2 FNU)

Verification
With StablCal or dry standard CVM

Sample Size Required
Min. 0.2 l/min, max. 1 l/min, max. 6 bar (20C°) (87 psi, 68°F)

Sample Temperature
Max. 50 °C (122°F)

Ambient Temperature
Sensor: +2 °C to +40 °C, (36°F to 104°F)
Display unit: -10 °C to +40 °C (14°F to 104°F)

Sample Connection
Hose ID 13 mm or fixed connection with G+F system parts

Automatic Cleaning
Cleaning with wiper

Materials Measuring
window: quartz; wiper profile: silicone; measuring chamber: Noryl, GFN2; housing: ASA; wiper axle: stainless steel 1.4571

Enclosure Rating
IP 65

Weight
Approx. 1.5 kg

**Subject to change without notice.*

See pages 71-75 for information on Hach laboratory and portable turbidimeters.

Turbidity & Suspended Solids: SOLITAX® sc

Accurate color-independent suspended solids and turbidity measurements.

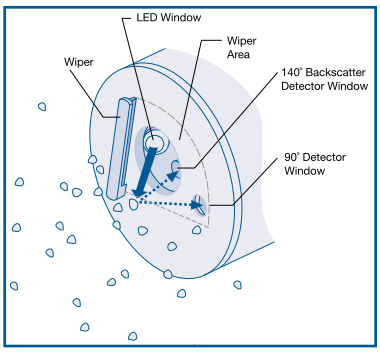
- *Self-cleaning device prevents erroneous values*
- *Excellent correlation to laboratory analysis*
- *Fully serviceable sensors extend the life of the sensor*
- *Easy one-point calibration*
- *Any two SOLITAX® sc sensors can be installed using one Hach sc100 Controller*

Greater Accuracy, Less Maintenance

Hach SOLITAX sc sensors provide accurate, color-independent measurement of turbidity and suspended solids in drinking water, wastewater, and industrial process applications. A self-cleaning device prevents measurement error due to fouling. This system's reliable performance and full data communication capability help improve process control and reduce treatment costs associated with polymer use, digester volume, and sludge handling.

Principle of Operation

With a dual-beam infrared/scattered light photometer, the SOLITAX sc sensors are capable of measuring either turbidity or, on certain models, both turbidity and suspended solids. A backscatter photoreceptor enables the instrument to accurately measure suspended solids. (Included on all models except the SOLITAX sc t-line.)



Primary Applications

- **Drinking Water**
- **Wastewater**
- **Industrial Water**

For more information, call to request Literature #2472, or visit www.hach.com

*Specifications**

Measuring Principle
Dual beam infrared/scattered light photometer to measure turbidity. A backscatter photoreceptor to measure suspended solids.

Range
t-line sc sensor
Turbidity only 0.001 to 4000 NTU†
ts-line sc sensor
Turbidity 0.001 to 4000 NTU
Suspended Solids 0.001mg/L to 50 g/L†
hs-line sc sensor
Turbidity 0.001 to 4000 NTU
Suspended Solids 0.001mg/L to 500 g/L†
inline sc sensors
Turbidity 0.001 to 4000 NTU
Suspended Solids 0.001mg/L to 50 g/L††
highline sc sensors
Turbidity 0.001 to 4000 NTU
Suspended Solids 0.001mg/L to 500 g/L††

Accuracy
Turbidity
Less than 1% of reading or ±0.001 NTU, whichever is greater
Suspended Solids
Less than 5% of reading (depends on homogeneity of municipal activated sludge)

Repeatability
Turbidity
Less than 1% of reading
Suspended Solids
Less than 3% of reading (depends on the homogeneity of municipal activated sludge)

Response Time
Initial response in 1 second

Calibration
Turbidity
Formazin or 800 NTU StablCal® Standard
Suspended Solids
Based on gravimetric SS analysis with a correction factor procedure

Operating Temperature
>0 to 40°C (>32 to 104°F)

Weight
Insertion stainless steel: 2.4 kg (5.3 lb.)
Immersion, stainless steel: 1.38 kg (3.0 lb.)
Immersion, PVC: 0.52 kg (1.2 lb.)

**Subject to change without notice.*
†Sensors for immersion in open tanks
††Sensors for insertion in pipes

HACH® Be Right™

800-227-4224
Outside the United States, call 970-669-3050

Quick Reference Guide

Product Name	t-line sc	ts-line sc	hs-line sc	inline sc	highline sc
Product Description	Turbidity sensor for immersion in open tanks	Solids and Turbidity sensor for immersion in open tanks	Solids and Turbidity sensor for immersion in open tanks	Solids and Turbidity sensor for insertion in pipes	Solids and Turbidity sensor for insertion in pipes
Range	Turbidity: 0.001-4000 NTU	Turbidity: 0.001 to 4000 NTU Suspended Solids: 0.001 mg/L to 50 g/L	Turbidity: 0.001 to 4000 NTU Suspended Solids: 0.001 mg/L to 500 g/L	Turbidity: 0.001 to 4000 NTU Suspended Solids: 0.001 mg/L to 50 g/L	Turbidity: 0.001 to 4000 NTU Suspended Solids: 0.001 mg/L to 500 g/L
Material of Construction	PVC	Stainless Steel or PVC	Stainless Steel or PVC	Stainless Steel	Stainless Steel
Product Number	**LXV423.99.10000**	**LXV423.99.10100 (PVC) LXV423.99.00100 (SS)**	**LXV423.99.10200 (PVC) LXV423.99.00200 (SS)**	**LXV424.99.00100**	**LXV424.99.00200**

Prod. No. **Description**

SOLITAX sc TURBIDITY AND SUSPENDED SOLIDS ANALYZERS (common controller and sensor configurations)

Immersion in Open Tanks Applications

6940000 Turbidity Analyzer
includes sc100 controller and PVC t-line sc sensor (0.001 to 4000 NTU) with wiper

6940100 Turbidity and Suspended Solids Analyzer
includes sc100 controller and stainless steel ts-line sc sensor (0.001 to 4000 NTU, 0.001 mg/L to 50 g/L) with wiper

6940200 Turbidity and High Range Suspended Solids Analyzer
includes sc100 controller and stainless steel hs-line sc sensor (0.001 to 4000 NTU, 0.001 mg/L to 500 g/L) with wiper

Insertion in Pipes Applications

6940300 Turbidity and Suspended Solids Analyzer
includes sc100 controller, stainless steel inline sc sensor (0.001 to 4000 NTU, 0.001 mg/L to 50 g/L) with wiper, and insertion mounting kit

6940400 Turbidity and High Range Suspended Solids Analyzer
includes sc100 controller, stainless steel highline sc sensor (0.001 to 4000 NTU, 0.001 mg/L to 500 g/L) with wiper, and insertion mounting kit

NOTE

1. Power cords must be ordered separately.

2. Fixed point installation kit or handrail mount kit must be ordered separately for all immersion analyzers.

INDIVIDUAL SOLITAX sc SENSORS

Immersion Sensors

LXV423.99.10000 Turbidity, t-line sc, PVC with wiper (0.001 to 4000 NTU)

LXV423.99.10100 Turbidity and Suspended Solids, ts-line sc, PVC with wiper (0.001 to 4000 NTU, 0.001 mg/L to 50 g/L)

LXV423.99.00100 Turbidity and Suspended Solids, ts-line sc, stainless steel with wiper (0.001 to 4000 NTU, 0.001 mg/L to 50 g/L)

LXV423.99.10200 Turbidity and Suspended Solids, hs-line sc, PVC with wiper (0.001 to 4000 NTU, 0.001 mg/L to 500 g/L)

LXV423.99.00200 Turbidity and Suspended Solids, hs-line sc, stainless steel with wiper (0.001 to 4000 NTU, 0.001 mg/L to 500 g/L)

Prod. No. **Description**

Insertion Sensors

LXV424.99.00100 Turbidity and Suspended Solids, inline sc, stainless steel with wiper (0.001 to 4000 NTU, 0.001 mg/L to 50 g/L)

LXV424.99.00200 Turbidity and Suspended Solids, highline sc, stainless steel with wiper (0.001 to 4000 NTU, 0.001 mg/L to 500 g/L)

ACCESSORIES

5733000 Calibration Kit, includes calibration cylinder, two 500-mL 800 NTU StablCal®, and a sensor bracket

2660549 800 NTU StablCal®, 500-mL (two required per calibration)

LZX050 Wiper Blades, replacement only, pkg. of 5

LZX961.54 Sun Shield for sc100 controller

CABLE ACCESSORIES

5867000 Junction Box (for extension cables*)

5796000 7.6 m (25 ft.) Extension Cable

5796100 15.2 m (50 ft.) Extension Cable

5796200 30.5 m (100 ft.) Extension Cable

**Maximum total length 100 m (328 ft.)*

INSTALLATION ACCESSORIES

5734400 Fixed Point Installation Kit for t-line, ts-line, and hs-line immersion sensors, includes stand and sun shield for controller and pipe for sensor cable
(See page 465 for installation drawing.)

5738400 Insertion Mounting Kit for inline and highline insertion sensors (ball valve and extraction system). Kit includes a 4 inch pre-coped Carbon Steel Flange. Non-coped flanges are available. See below.

AHA033NPT Sensor Adapter, straight 1-1/2 FNPT

AHA034NPT Sensor Adapter, elbow 1-1/2 FNPT 90°

MH236B00Z Handrail Mounting Kit (for sensor to be used with either adapter above) includes 1.5-inch diameter by 7.5-ft long CPVC pipe and swivel/pivot/pipe clamp assembly

LZX660 Non-coped stainless steel welding flange for insertion kit

LZX661 Non-coped carbon steel welding flange for insertion kit

Turbidity & Suspended Solids: Tx-Pro™-2

Economical suspended solids measurement without sacrificing accuracy.

- *Reliable construction with advanced diagnostics*
- *Simple installation and calibration*
- *Economical to own and operate*
- *Application experience you can rely on*
- *Easy-to-install mounting kit*

Economical and Durable

The TxPro™-2 is an economical solution for the cost conscious operator. A durable construction will weather all your application demands without sacrificing response time or accuracy.

TxPro-2 Controller Operation

Two probe channels, individually configured via RS485 communication ports are standard in every controller. Measuring ranges and operating principles depend on the probe, see relevant probe specifications. TxPro-2 is compatible with either one or two Series 200 RD Suspended Solids probes.

Primary Applications

- **Wastewater**
- **Drinking water**
- **Industrial Water**

*Specifications**

Control Interface
Menu-driven software, Multi-point calibration, programmable intervals for cleaning, range and relay / output assignments.

Measurements
Two probe channels, individually configured via RS485 communication ports are standard in every controller. Measuring ranges and operating principles depend on the probe, see relevant probe specifications. TxPro-2 is compatible with either one or two Series 200 RD Suspended Solids probes.

Operating Conditions
Temperature range for continuous operation: -20 to 55°C (- 4 to 131°F)

Recorder Output
Two scalable 0/4-20 mA dual range outputs, galvanically isolated from controller; 800 Ohm maximum load

Relay Output
Three alarm relays, 2 A @ 250 Vac or 0.5 A @ 100 Vac, N.O. or N.C.; user-configurable One purge timer relay, 2 A @ 250 Vac or 0.5 A @ 100 Vac, N.O. or N.C.; user configurable

Reading Update
Every 0.5 second

Signal Averaging
User adjustable from 1 second to 5 minutes

Power Requirements
Auto-ranging 90-265 Vac, 50/60 Hz
Maximum power consumption: 25 VA

Controller Enclosure
Enclosure: polyester-coated aluminum; NEMA 4X (~IP66)

Weight
2.3 kg (5 lb)

Universal mounting bracket accommodates up to 50 mm (2 in) diameter pipe

Complies with CE, UL and CSA requirements

Controller Dimensions
144x144x150 mm
(5.6x5.6x5.85 inches)

**Subject to change without notice.*

The Hach TxPro™-2 Suspended Solids and Turbidity Controller is supplied with the controller, mounting hardware, and user manual. Ask your sales representative for loop pricing on combinations.

Prod. No.	Description
INDIVIDUAL CONTROLLER	
5855000	TxPro-2 controller only, (115 or 230V)
6001-2400-33	RD-240 immersion probe, 0-10 g/L
6001-2420-00	RD-242 insertion probe, 0-10 g/L
6001-2600-33	RD-260 immersion probe, 0-25 g/L
6001-2620-00	RD-262 insertion probe 0-25 g/L
ACCESSORIES	
971	Power Cord, US
2220	Power Cord, European
6021-0020	Ball valve, Insertion

For more information, visit www.hach.com

HACH® Be Right™

800-227-4224
Outside the United States, call 970-669-3050

Turbidity: Surface Scatter® 7 sc Turbidimeter

Measures high range turbidity levels.

- *Optical components never touch the sample—less fouling for easy maintenance*
- *Wide measurement range—measures turbidity from 0 to 9999 NTU*
- *Durable—manufactured with corrosion/heat-resistant materials for extended life*

NEW!

Able to measure very high and low turbidity levels accurately, the Surface Scatter 7 sc is suitable for a wide variety of applications in water and wastewater treatment processes. The Surface Scatter design is ideal for monitoring raw water, clarifier effluent, and wastewater, where a high solids level can quickly foul a conventional turbidimeter.

All Surface Scatter 7 Turbidimeters are shipped with calibration cup, 4000 NTU Formazin calibration standard, installation accessories, and instruction manual (power cords must be ordered separately).

Prod. No.	Description
7121000	Surface Scatter 7 sc Turbidimeter with Hach sc100 Controller
7121500	Surface Scatter 7 sc High Sample Temperature (HST) Turbidimeter; with Hach sc100 Controller

SENSOR ONLY

LPV431.99.00002	Surface Scatter 7 sc Turbidimeter
LPV432.99.00002	Surface Scatter 7 sc High Sample Temperature (HST) Turbidimeter

CONTROLLER

This sensor requires a Hach sc100 or sc1000 Digital Controller. See pages 388-391 for details.

SAMPLE CONDITIONING OPTIONS

4669212	Auto Flush Kit; 120 Vac
4669222	Auto Flush Kit; 220 Vac
4668000	Bubble Trap, Head Regulator
4028400	Flow Meter; 100 to 1600 mL/minute Calibration Standards
7121649	400 NTU StablCal; 500 mL
246149	4000 NTU Formazin; 500 mL

CABLES

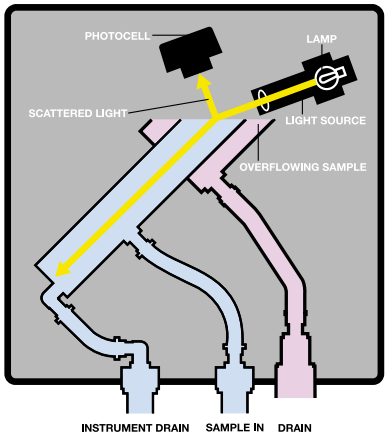
5796000	Sensor Cable Extension; 7.7 m (25 ft.)
4630600	Power Cord; 125 Vac, 10 A, 1.83 m (6 ft.)
4630800	Power Cord; 250 Vac, 10 A, 1.83 m (6 ft.)

OPTIONAL ACCESSORIES

68700	Cylinder Brush; size 2
4502100	Calibration Cup
2351300	Verification Plates
LZX961.54	Sun Shield, sc100 controller

For more information, call to request Literature #2509, or visit www.hach.com

As the sample overflows the top of the turbidimeter body, a photocell measures the light scattered by suspended particles.



Primary Applications

- **Drinking Water**
- **Wastewater**
- **Industrial Water**

*Specifications**

Range
0 to 9999 Nephelometric Turbidity Units (NTU)

Accuracy
±5% from 0 to 2000 NTU; ±10% from 2000 to 9999 NTU

Sample Flow Required
1.0 to 2.0 L/min (15 to 30 gal/hr)

Alarms
Two turbidity set-point alarms, instrument warning and system shutdown alarms are each equipped with an SPDT relay with unpowered contacts rated for 5A resistive load at 230 Vac; alarm 2 can be disabled and its contacts used to control flush valves

Power Requirements
115/230 Vac, 50/60 Hz, switch selectable; 0.5/0.3 A

**Subject to change without notice.*

Turbidity Standards and Verification Modules

Hach Prepared Reagents

You can eliminate slight variations in reagent concentration and chemical purity when you choose Hach premeasured, premixed reagents that are produced under the most stringent laboratory controls. In the long run, your instrument will last longer and you'll be confident in the accuracy of your results.

On-line Turbidity Instruments Standards and Verification Modules

You can eliminate slight variations in reagent concentration and chemical purity when you choose Hach premeasured, premixed reagents that are produced under the most stringent laboratory controls. In the long run, your instrument will last longer and you'll be confident in the accuracy of your results.

The compact and lightweight ICE-PIC™ is ideal for spot verification or calibration of 1720E Turbidimeters.

The Cal-Cube™ Assembly can verify calibration of the Accu4 and Steady Stream 4 Turbidimeters. Each patented glass calibration cube is factory certified to a known EPA approved formazin standard.

Prod. No. **Description**

1720E Low Range Turbidimeter

StablCal Calibration Standards
2660153 StablCal®, 20 NTU, 1 L
Formazin Calibration Standards
246149 Formazin Primary Standard, 4000 NTU, 500 mL
Calibration/Verification Modules
5225000 20 NTU ICE-PIC™
5221500 1 NTU ICE-PIC™

FilterTrak 660 sc Ultra Low Range Turbidimeter

Calibration Standards
1 point calibration
2788453 StablCal®, 800 mNTU, 1 L
2 point calibration
2723353 StablCal®, 100 mNTU, 1 L
2788453 StablCal®, 800 mNTU, 1 L
Verification Standards
2697953 StablCal®, 300 mNTU, 1 L
2698053 StablCal®, 500 mNTU, 1 L

Accu4 Low Range Turbidimeter

StablCal Calibration Standards
2746353 StablCal®, 40 NTU, 1 L
2746356 StablCal®, 40 NTU, 1 Gallon (3.78 L)
Formazin Calibration Standards
246149 Formazin Primary Standard, 4000 NTU, 500 mL
Calibration/Verification Modules
8220G1300 Cal-Cube™ Assembly

Prod. No. **Description**

Surface Scatter 7 sc, High Range Turbidimeter

Formazin Calibration Standards
246149 Formazin Primary Standard, 4000 NTU, 500 mL
7121649 StablCal®, 400 NTU, 500 mL
Calibration/Verification Modules
2351300 Standardization Plate Kit

SOLITAX sc Turbidity and Suspended Solids Analyzers

2660549 800 NTU StablCal®, 500 mL
(2 required for calibration)

Other Available Standards

2659600 StablCal® Set, contains four bottles of 20 NTU, and four bottles of <0.1 bottles
2659753 StablCal®, < 0.1 NTU, 1 L
2723356 StablCal®, 0.1 NTU, 1 Gallon (3.78 L)
2746356 StablCal®, 40 NTU, 1 Gallon (3.78 L)

Note: StablCal and Formazin standards are also available in 100, and 500 mL bottles and sealed vials for all of the bench top and portable instrumentation.

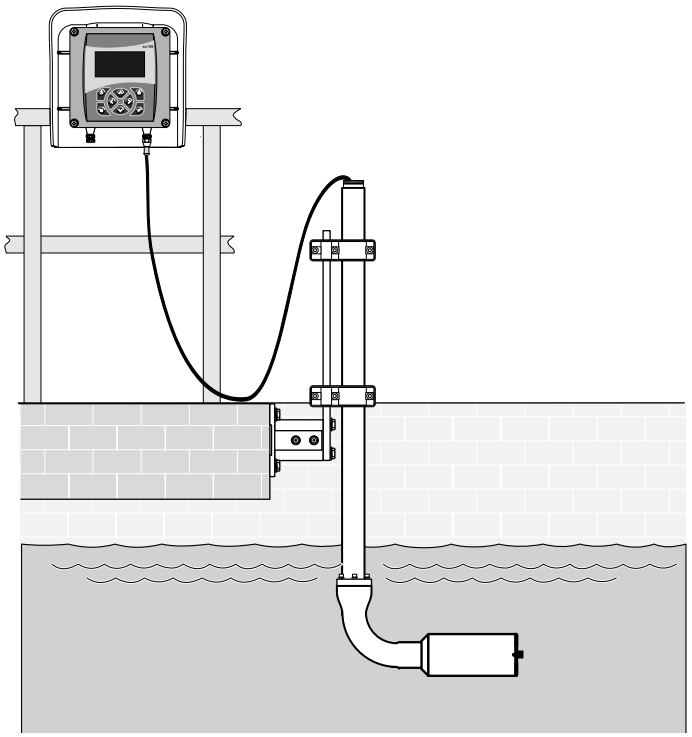
For more information, call to request Literature #1582, or visit www.hach.com

HACH® Be Right™

800-227-4224
Outside the United States, call 970-669-3050

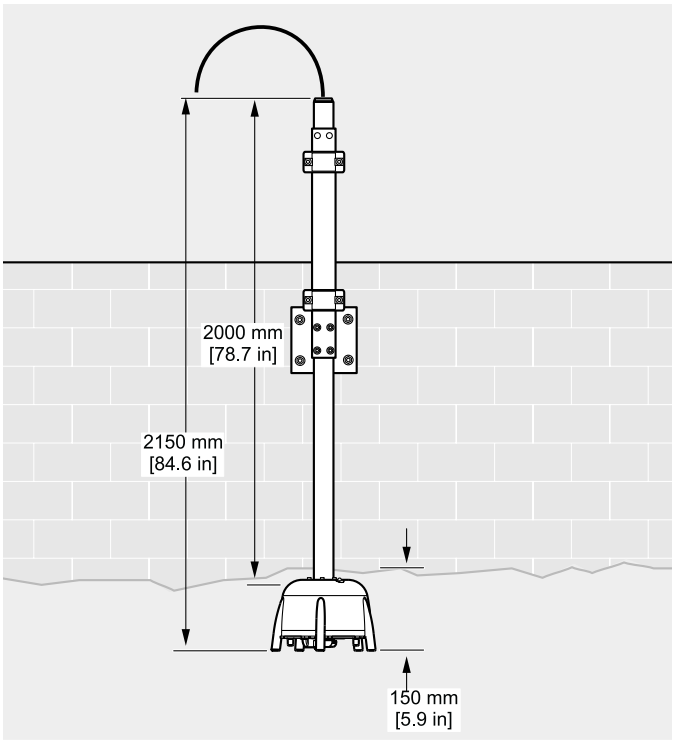
Fixed Point Mounting Kit

NITRATAX™ sc and SOLITAX® sc models t-line, ts-line, and hs-line sensors



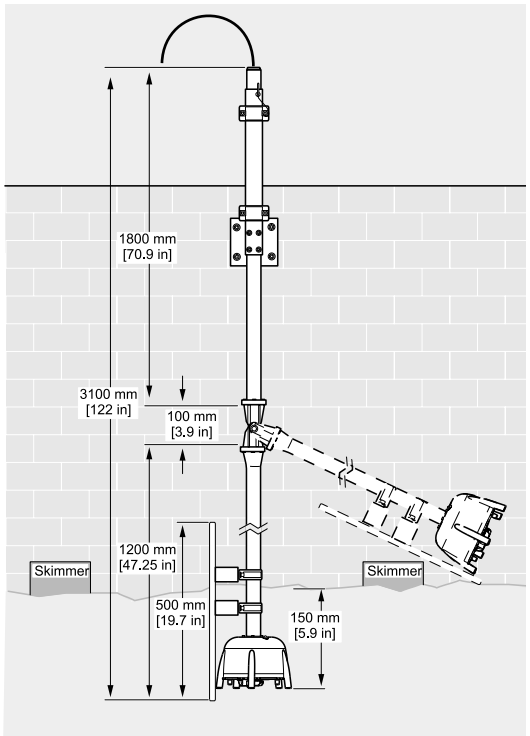
Fixed Point Mounting Kit

SONATAX™ sc sludge level probe (LZX414.00.70000)



Pivot Point Mounting Kit

SONATAX™ sc sludge level probe (LZX414.00.71000)



Prod. No.	Description
MOUNTING KITS	
LZX414.00.70000	Fixed Point Mount for SONATAX sc probe (for mounting probe at a fixed location)
LZX414.00.71000	Pivot Mount for SONATAX sc probe (for mounting probe on a pivot assembly for clarifers with skimmers)
LZX414.00.72000	Pivot Mount for SONATAX sc Probe with 0.35m extension pipe
LZX414.00.73000	Rail Mount kit for SONATAX sc probe (rail mount must be ordered with either LZX414.00.70000 or LZX414.71000)
LZX414.00.74000	Rail Mount kit for SONATAX sc probe with rectangular railing (rail mount must be ordered with either LZX414.00.70000 or LZX414.00.7100)
LZX414.00.10000	Fixed Point Installation Kit for NITRATAX sc sensors and SOLITAX sc models t-line, ts-line, and hs-line sensors for immersion in open tanks.
5738400	Insertion mounting kit for inline and highline insertion sensors (ball valve and extraction system)
CABLE ACCESSORIES	
(For the SOLITAX sc, NITRATAX sc, and UVAS sc Analyzers only)	
5867000	Junction Box (for extension cables*)
5796000	7.6 m (25 ft.) Extension Cable
5796100	15.2 m (50 ft.) Extension Cable
5796200	30.5 m (100 ft.) Extension Cable

**Maximum total length 100 m (328 ft.)*

Prepared Reagents

You can eliminate slight variations in reagent concentration and chemical purity when you choose Hach premeasured, premixed reagents that are produced under the most stringent laboratory controls. In the long run, your instrument will last longer and you'll be confident in the accuracy of your results.

Process Analyzer Reagents

APA 6000™ ALKALINITY ANALYZER

	Prod. No.
Sulfuric Acid Titrant, 0.08 M H_2SO_4, 1 L	**2826153**
Mixed Indicator; pH 4.5 & pH 8.3, 1 L	**2696653**
Alkalinity Standard 1, 0 mg/L, 1 L	**2696753**
Alkalinity Standard 2, 500 mg/L, 1 L	**2826253**
Alkalinity Wash Solution, 1 L	**2697053**
Alkalinity Reagent Set	**6001000**
Alkalinity Standards Set	**6001100**

APA 6000 AMMONIA / MONOCHLORAMINE

Reagent 1, Indicator, 1 L	**2776353**
Reagent 2, Buffer, 1 L	**2776453**
Reagent 3, 1 L	**2776553**
Standard 1, 0 mg/L NH_3, 1 L	**2776653**
Standard 2, 2.0 mg/L NH_3, 1 L	**2776753**
Wash Solution, 1 L	**2876453**
Ammonia/Monochloramine Reagent Set	**6001400**
Ammonia/Monochloramine Standards Set	**6001500**

AMTAX™sc AMMONIA ANALYZER

Cleaning Solution 250 mL	**2894246**
Electrolyte, 3 bottles and 3 membrane caps each	**6182500**
Reagent 2.5 L	**2894452**
Standard Solution, 1 mg/L 2 L	**2894154**
Standard Solution, 10 mg/L 2 L	**2894354**
Standard Solution, 50 mg/L 2 L	**2825854**
Standard Solution, 500 mg/L 2 L	**2825954**

CL17 CHLORINE ANALYZER

DPD Indicator Powder (free and total), 24 g	**2297255**
Total Chlorine Indicator Solution, 473 mL	**2263411**
Total Chlorine Buffer Solution, 473 mL	**2263511**
Total Chlorine Reagent Set	**2557000**
Free Chlorine Indicator Solution, 473 mL	**2314011**
Free Chlorine Buffer Solution, 473 mL	**2314111**
Free Chlorine Reagent Set	**2556900**
Calibration/Verification Kit	**5449000**
Calibration/Verification Kit Refill	**2835900**

APA 6000 COPPER (LOW AND HIGH RANGE)

	Prod. No.
Reagent 1, Indicator, 1 L	**2755953**
Reagent 2, Buffer, 1 L	**2756053**
Standard 1, 0 mg/L, 1 L	**2756253**
Standard 2, 1 mg/L (Low Range), 1 L	**2756353**
Standard 2, 10 mg/L (High Range), 1 L	**2756453**
Wash Solution, 1 L	**2876453**
Copper Reagent Set	**6001600**
Low Range Copper Standards Set	**6001700**
High Range Copper Standards Set	**6001800**

APA 6000 HARDNESS (HIGH RANGE)

Reagent 1, Masking Solution, 1 L	**2793553**
Reagent 2 Kit, 1 L	**2793600**
Reagent 3, Titrant Solution, 1 L	**2793753**
Standard 1, 0 mg/L, 1 L	**2793253**
Standard 2, 1000 mg/L, 1 L	**2793353**
Wash Solution, 1 L	**2876453**
High Range Hardness Reagent Set	**6002100**
High Range Hardness Standards Set	**6002200**

APA 6000 HARDNESS ANALYZER (LOW RANGE)

Calmagite Indicator, 1 L	**2695853**
Buffer Solution #2, 1 L	**2695753**
Low Range Hardness Standard 1, 0 mg/L, 1 L	**2696253**
Low Range Hardness Standard 2, 5 mg/L, 1 L	**2696353**
Wash Solution, 1 L	**2876453**
Low Range Hardness Reagent Set	**6001900**
Low Range Hardness Standards Set	**6002000**

SP510 HARDNESS MONITOR

Buffer Solution, 0.3, 1, 2, 5 mg/L, 500mL	**2768549**
Buffer Solution, 10 mg/L, 500mL	**2768649**
Buffer Solution, 20 mg/L, 500mL	**2768749**
Buffer Solution, 50 mg/L, 500mL	**2768849**
Buffer Solution, 100 mg/L, 500mL	**2768949**
Indicator Solution, 0.3 mg/L, 500mL	**2794649**
Indicator Solution, 1 mg/L, 500mL	**2769049**
Indicator Solution, 2 mg/L, 500mL	**2769149**
Indicator Solution, 5 to 100 mg/L, 500mL	**2769249**

MO42 MOLYBDATE ANALYZER

MO42 Reagent, 500 mL	**2890549**

	Prod. No.
NITRATAX™sc UV NITRATE SENSORS	
NITRATAX Standard Solution, 50 mg/L NO_3	**LCW825**
PHOSPHAX™sc PHOSPHATE ANALYZER	
PHOSPHAX Reagent, 2000 mL	**2825254**
PHOSPHAX Cleaning Solution, 1000 mL	**2825352**
SERIES 5000 PHOSPHATE ANALYZER (HIGH RANGE)	
Sulfuric Acid Solution, 5.25 N, 2.9 L	**244903**
Molybdovanadate Reagent, 2.9 L	**1420703**
Anionic Surfactant Solution, 2.9 L	**2375503**
Phosphate Standard Solution, 30 mg/L PO_4, 2.9 L	**1436703**
High Range Phosphate Reagent Set	**4563900**
SERIES 5000 PHOSPHATE ANALYZER (LOW RANGE)	
Anionic Surfactant Solution, 2.9 L	**2375503**
Ascorbic Acid Reagent Package, 2.9 L	**2600303**
Molybdate Reagent Solution, 2.9 L	**2599803**
Phosphate Standard Solution, 3 mg/L PO_4, 2.9 L	**2059703**
Water, Zero Standards, 2.9 L	**2600103**
Low Range Phosphate Reagent Set	**4563300**
High Range Phosphate Reagent Set	**4563900**
SERIES 5000 SILICA ANALYZER	
Molybdate 3 Reagent, 2.9 L	**199503**
Citric Acid/Surfactant Reagent, 2.9 L	**2347003**
Amino Acid F Reagent, 2.9 L	**2353103**
Silica Standard Solution, 500 µg/L SiO_2, 2.9 L	**2100803**
Silica Reagent Set	**4562700**
9073 SODIUM ANALYZER AND 9186 OXYGEN SCAVENGER ANALYZER	
Diisopropylamine, 99%, 1 L	**2834453**
Sodium Chloride as Sodium Standard 10 mg/L, 1 L	**2835153**
Sodium Chloride as Sodium Standard 100 mg/L, 1 L	**2834253**

	Prod. No.
9245 SODIUM ANALYZER	
Reference Electrolyte, KCl, 3 M, 500 mL	**363140,00500**
Di-isopropylamine (DIPA), 1 L	**2834453**
Sodium Standard, 10 ppm, 1 L	**2835153**
Sodium Standard, 100 ppm, 1 L	**2834253**
Sodium Nitrate, 0.5M, 500 mL	**2507149**
astroTOC™ ONLINE TOTAL ORGANIC CARBON ANALYZER	
Phosphoric Acid Solution, 0.1 Molar, 5 Gal	**5845800**
Phosphoric Acid Solution, 0.3 Molar, 5 Gal	**5845900**
Phosphoric Acid Solution, 0.6 Molar. 5 Gal	**5846000**
Phosphoric Acid Solution, 1.0 Molar, 5 Gal	**5846100**
Sodium Persulfate Solution, 0.2 Molar, 5 Gal	**5845100**
Sodium Persulfate Solution, 0.4 Molar, 5 Gal	**5845200**
Sodium Persulfate Solution, 0.6 Molar, 5 Gal	**5845300**
Sodium Persulfate Solution, 0.8 Molar, 5 Gal	**5845400**
Sodium Persulfate Solution, 1.0 Molar, 5 Gal	**5845500**
Sodium Persulfate Solution, 1.2 Molar, 5 Gal	**5845600**
Sodium Persulfate Solution, 1.5 Molar, 5 Gal	**5845700**
Zero Solution, <0.05 mg/L TOC, 4 L	**5847700**
TOC Standard Solution, 2.0 mg/L, 4 L	**5846200**
TOC Standard Solution, 5.0 mg/L, 4 L	**5847100**
TOC Standard Solution, 10.0 mg/L, 4 L	**5846700**
TOC Standard Solution, 25.0 mg/L, 4 L	**5846300**
TOC Standard Solution, 50.0 mg/L, 4 L	**5847200**
TOC Standard Solution, 100.0 mg/L, 4 L	**5846800**
TOC Standard Solution, 200.0 mg/L, 4 L	**5846400**
TOC Standard Solution, 500 mg/L, 4 L	**5847300**
TOC Standard Solution, 1000 mg/L, 4 L	**5846900**
TOC Standard Solution, 2000 mg/L, 4 L	**5846500**
TOC Standard Solution, 5000 mg/L, 4 L	**5847400**
TOC Standard Solution, 10000 mg/L, 4 L	**5847000**
TOC Standard Solution, 20000 mg/L, 4 L	**5846600**

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