

ChemScan® mini LoP

ORTHO-PHOSPHATE ANALYZER

For Ultra Low oP Analysis

The new single parameter in-line analyzer family from ASA Analytics utilizes years of ChemScan® experience and proven technology to provide reliable and accurate analysis of water and waste water. This device has been designed from the ground up to reduce maintenance requirements, includes large ID sample tubing to minimize plugging and only needs quarterly reagent refills.

FEATURES

- Automatic Analysis Utilizing ChemScan's New Asorbic Acid Method
- Low Maintenance
- Proven Sample Handling with Large I.D. Flow Paths
- Simple Field Adjustable Calibration
- Sample Blank to Eliminate Background Interference
- Automatic Cleaning

CAPABILITIES

- Automatic Analysis
- Continuous Output
- Multiple Data Communication Interface Options

APPLICATIONS

- Potable Water
- Wastewater Effluent

BENEFITS

- High Reliability
- Low Capital Cost
- High Accuracy
- Low Operating Cost
- EPA Recognized Analysis Method



SPECIFICATIONS

Range	(PO ₄) 0.01 - 3.0 mg/L (Method 1071) (PO ₄ -P) 0.003 - 1.00 mg/L (Method 1034)
Accuracy:	2% of value or 2x detection limit (whichever greater)
Cycle Interval:	5 minutes to 9999 minutes (field programmable)
Environment:	5 - 50 degrees C (method dependent)
Power:	100 - 240 VAC, 50 W
Enclosure:	NEMA 4X
Safety Approval:	CSA-US
Sample Requirements:	0.5 - 1 Liter/analysis, pressure 2 to 10 psi, <150 mg/L TSS, <60 NTU
Maintenance:	Reagent replacement every 3 months, pump kit yearly
Relay Contacts:	1 SPDT Concentration, 1 SPDT Programmable
Serial Interface:	RS-232 Maintenance Port
Analog Output:	Isolated 4-20 mA

ChemScan®
An  **In-Situ Brand**

"Monitoring a World of Water"

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ChemScan.com

Orthophosphate Monitoring

ChemScan® mini LoP - Ascorbic Acid Technical Specification¹

FUNCTIONS AND OUTPUTS

Parameter	Orthophosphate oPO ₄ or oPO ₄ -P
Measurement Principle	Optical Absorbance
Detector	Photodiode
Spectral Range	880 nm
Calibration Technique	Factory calibrated for – Ascorbic Acid
Number of Parameters	One – Phosphate (See UV- Series ChemScan Analyzers for multiple parameters)
Data Communications	Isolated 4-20 mA Analog (2 outputs available), RS-232
Data Log	10,000 Values Time / Date Stamped
Auto Zeroing	Yes (Standard)
Auto Cleaning	Yes (Standard)
Analyzer Sample Pump	No – Pressurized sample required – See below
Reagent Addition	Yes (Standard), Direct Reagent Injection
Number of Sample Lines	One (See UV- Series ChemScan Analyzers if multiple sample lines are required)

PERFORMANCE SPECIFICATIONS

Reading Interval	8 to 9999 minutes
Reaction Time	8 minutes minimum
Range – Method 1034	Phosphate 0.003-1.00 mg P/L
Range – Method 1071	Phosphate 0.02-3.0 mg PO ₄ /L
Limit of Detection ^{1,2}	0.0014 mg P/L
Accuracy ^{1,2}	2% of value or 2x detection limit (whichever is greater)
Precision ^{1,2}	Less than 0.5% of Range

SAMPLE PARAMETERS

Sample Pressure	Pressurized Sample Line Required Regulated to 15-70 kPa (2-10 psi), (Sample extraction accessory available – Pump and Sample Circulation Loop Assembly) 0.5 to 5.0 l/min. 1.5 L flush per sample (0.13 to 1.32 gpm – 0.4 gallon flush)
Sample Flow	None (For samples meeting turbidity and solids requirements)
Filtration Requirement	#20 Mesh - Openings of 0.7 mm (0.03 inches) provided
Strainer Requirement	1° - 60°C (34 – 140° F)
Sample Temperature	0 - 60 NTU (Standard)
Sample Turbidity	0 - 150 mg/l TSS
Sample Suspended Solids	

MAINTENANCE

Reagent Replacement	As Required (12 weeks typical)
Cleaning Solution Refill	As Required (4 weeks typical)
Peristaltic Mixing Pump Head	Replace after six months of operation
Peristaltic Mixing Pump Replacement	Replace after twelve months of operation
Peristaltic Zeroing/Cleaning Pump Head	Replace after two years of operation

INSTRUMENT SPECIFICATIONS

Size	66 cm tall x 24 cm wide x 18 cm deep (26" tall x 9.5" wide x 7" deep)
Weight	12.25 kg (27 lbs)
Mounting	Wall (Standard)
Finish Coating / Material	Fiberglass Reinforced Plastic (FRP)
Power	120-240 VAC ±10%, 50-60 Hz, 70 VA
Power Connection	120 VAC US cord / plug set (Standard) (conduit connection optional)
Power Condition	Dedicated Branch Circuit Free From: Surges/Dips > 10%, RF and Switching Noise
Operator Interface	2 x 20 LCD and 4 x 4 Keypad
Sample Cell Material	Polymer Body with Quartz Windows
Sample Connection	¼" FNPT Fitting
Waste Connection	6 foot length of 5/8" ID clear vinyl tube provided (route to open drain)
Cleaning Solution Container	10 Liters (2.5 gallon) Typical location is on the floor below the analyzer
Reagent Container	4 Liter (1 gallon) Wall-mounted, PVC rack (provided)

OPERATING ENVIRONMENT

Enclosure Ratings	Upper Enclosure: NEMA 4X (Fiberglass Reinforced Plastic) Polyester, Acrylic window Lower Enclosure NEMA 4X (Fiberglass Reinforce Plastic) Polyester
Ambient Temperature	5 - 35°C (41 – 95°F)
Relative Humidity	0 - 100% (Non-Condensing) For installation in an indoor or sheltered location

SAFETY APPROVAL

CSA - US

Notes:

- Technical Specifications are subject to change without notice.
- All performance specifications are based on analysis of water standards under factory conditions.
Test in Accordance with USA EPA 40 CFR APPENDIX B PART 136
Test in Accordance with USA EPA SW-846

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