

Specifications:

Pub #223

Effective 3/17/14 Revised: July 10, 2015

Free Ammonia Monitoring ChemScan® mini FreeAm Technical Specification¹

GENERAL

Parameter	Free Ammonia 0.01 - 2.00 mg/l
Measurement Principle	Optical Absorbance
Detector	Photodiode
Wavelength	660 nm
Calibration	Factory calibrated
Number of Parameters	One – Free Ammonia (See UV- Series ChemScan Analyzers for multiple parameters)
Auto Zeroing	Sample Blank on Each Reading to Correct for Sample Color and Turbidity
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)

INPUTS

Auxiliary Inputs	5-30V AC/DC 10 mA nominal, opto-isolated, LED indicator lights
External Run	Analyzer disabled when signal is high (5 – 30 V AC/DC)
External Loss of Flow Switch	Analyzer disabled when external flow switch signal is high (5 – 30 AC/DC)

OUTPUTS

Data Communications	30V AC/DC 100 mA max. total, opto-isolated, fused, LED indicator lights
Data Log	Isolated 4-20 mA Analog (2 outputs available) Serial RS-232
Alarm # 1 SPDT Relay Contact	10,000 Values, Time / Date Stamped
Alarm # 2 SPDT Relay Contact	High OR Low Concentration - Programmable Programmable

PERFORMANCE SPECIFICATIONS²

Reading Interval	15 to 9999 minutes
Reaction Time	10 minutes minimum
Range	Free Ammonia 0.01 - 2.00 mg/l
Limit of Detection ¹	0.01 mg/L
Accuracy ²	5% of value or 2x detection limit (whichever is greater)
Precision ²	< 0.01 mg/L
Resolution	0.01 mg/L

SAMPLE PARAMETERS

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

MAINTENANCE

Reagent Replacement	As Required (12 weeks typical)
Cleaning Solution Refill	As Required (12 weeks typical)
Peristaltic Air Pump Head (Cassette)	Replace after six months of operation
Peristaltic Air Pump Full Assembly	Replace after twelve months of operation
Peristaltic Zeroing / Cleaning Pump Head	Requires no regular maintenance

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) - Polyester
Power	120-240 VAC ±10%, 50-60 Hz, 75 watts
Power Connection	120 VAC US cord / plug set (Standard) (conduit connection optional)
Power Condition	Dedicated 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
Reagent Containers

10 Liters (2.5 gallon)
Two 2 Liter Bottles wall-mounted (two epoxy-coated, wire racks provided)

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OPERATING ENVIRONMENT

Enclosure Rating

Upper: NEMA 4X Fiberglass Reinforced Plastic - Polyester with Acrylic window

Lower: NEMA 4X Fiberglass Reinforced 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:

Test in Accordance with US EPA 40 CFR APPENDIX B PART 136

Test in Accordance with US EPA SW-846

All performance specifications are based on analysis of water standards under factory conditions.

Technical Specifications are subject to change without notice.

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