Detection of ammonia in drinking water applications

Thermo Scientific™ analyzers are designed to provide fast, accurate and reliable online ammonia detection – optimized for any application that does not require Free ammonia in the system.

Markets:
- Drinking water
- Surface water

Applications:
- Process control

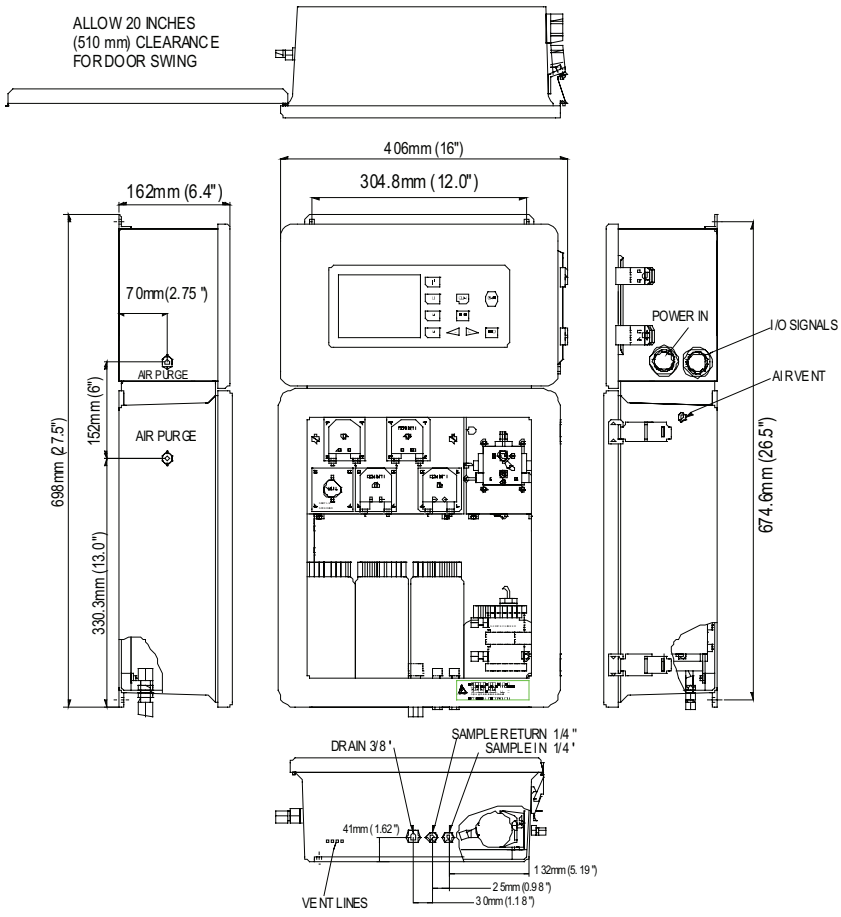
When system efficiency is paramount, ammonia monitoring is a critical measurement. High ammonia levels can coat internal process components, leading to decreased efficiency, diminished safety, damage and costly downtime.

Introducing our new Thermo Scientific™ Orion™ 2210AM Ammonia Analyzer, designed to provide continuous and online measurement of free ammonia to ensure process treatment optimization.

Advantages:
- Low reagent consumption due to a highly optimized, state of the art design
- Wide range of detection – 0.03 - 30 mg/L provides a complete picture of ammonia treatment process
- Large, easy-to-read display allows for easy viewing in all types of lighting conditions
- Simple menu navigation – an easy-to-read and understand menu structure
- Compact size capable of being panel- or wall-mounted
- Intelligent Sample Awareness – intelligent algorithm that senses the sample to keep the analyzer in a ready state, while offline, for up to 30 days

Engineering Specifications

1. The 2210AM analyzer measures ammonia concentrations using a salicylate colorimetric method.
2. Measurement is semi continuous and is <15 minutes.
3. The range of measurement is between 0.03 and 30 mg/L as N.
4. The detection limit is 0.03 mg/L, in the range of 0.03 - 30 mg/L as N for 5-40 °C.
5. Repeatability is <±2 % or ±.0.05 mg/L, whichever is greater, in the range of 0.03 - 30 mg/L as N.
6. Analyzer is capable of auto calibration.
7. Analyzer takes blank reading before every measurement and compares and corrects the measurement.
8. Analyzer provides two isolated 4 - 20 mA outputs and four programmable alarm relays. Relays are rated for 2 A @ 250 V AC.
9. Analyzer has an hourly and daily maintenance mode that will move solutions and purge lines to keep the analyzer ready while offline for up to 30 days.
10. Analyzer has a heated sample cell with sample presence detection.
11. Display is a digital graphics LCD with backlight.
12. Sample delivery requirement is between 50 and 100 mL/min.
13. Analyzer is capable of grab sample analysis.
14. Analyzer can be wall or panel mounted.
15. Analyzer fluidics cabinet is constructed to NEMA 4X/IP65. Enclosure is constructed of fiberglass with clear polycarbonate windows.
16. Power requirement is 100 – 240 V AC, 110 W, 50/60 Hz, auto-detection.
17. Analyzer has cTUVus approvals to meet UL61010-1 and CSA C22.2 No. 61010-1 certifications and FCC Class A requirement.
18. Analyzer shall meet EC Directives 2014/30/EU and 2014/35/EU.
19. Analyzer is aware of sample availably.



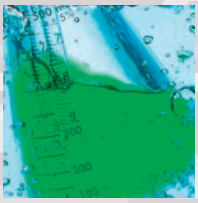
Product Specifications

Measurement Performance	Measuring Range:	0.03 - 30 mg/L ammonia as N user programmable
	Accuracy Error:	Less than 5 % of reading or ±0.03 mg/L, whichever is greater, from 0.03 - 30 mg/L for 5-40C
	Response Time:	Less than 15 minutes per analysis
	Repeatability Error:	Less than ±2 % of reading or ±0.05 mg/L, whichever is greater from 0.03 - 30 mg/L
	Limit of Detection:	0.03 mg/L
	Reagent Consumption:	1L of reagents every 2 months with 15 minute cycle time
	Method:	Salicylate colorimetric method
Environmental	Ambient Operating Temperature:	5 to 45 ºC (41 to 113 ºF)
	Maximum Humidity:	90 % at 40 °C (104 °F)
Sample Requirements	Sample Flow:	50 – 1000 mL/min
	Sample Pressure:	5 psig max
	Sample Supply:	Continuous
	Sample Temperature Range:	5 to 40 °C (41 to 104 °F)
	Suspended Solids:	Less than 60 microns
	Sample Inlet/Outlet Connections:	1/4 inch OD flexible tubing – Polypropylene or similar material
	Drain Tubing:	3/8 inch OD flexible tubing – Polypropylene or similar material
	Sample Streams:	One
Construction	Enclosure Integrity:	NEMA12 (Electronics cabinet), NEMA4X (Fluidics cabinet)
	Enclosure Dimensions:	27.5 inches x 16 inches x 6.4 inches (698 mm x 406 mm x 162 mm)
	Shipping Weight:	18 kg (40 lbs)
Electrical	Power Requirements:	100-240 V AC, 110 W, 50/60 Hz
Data and Control	Current Loops:	Two 0/4-20 mA – Direct or Reverse Acting (Isolated). Maximum 900 ohm load.
	Relays:	Four SPDT, 2 A @250 V – Programmable
	Digital Comms:	RS232 ASCII protocol for data reporting
Certifications	Safety:	CE: EN/IEC61010-1, cTUVus
	EMC:	CE: EN61326-1
	FCC:	Class A
Warranty	1 Year	

Orion 2210AM Ammonia Analyzer

Global support — with experience that comes from supporting our customers for over 50 years throughout the world, our water quality specialists and customer support teams offer a quick, thorough and professional response to any problem encountered.

Focus on you — we work closely with you to define your needs, and ensure you are using the analyzer in a way that improves your bottom line. For more information, contact your local water quality specialists, call 1-800-225-1480 or visit thermofisher.com/process



Ordering Information

Cat. No.	Description
2210AM	Model 2210AM Ammonia Analyzer
2210RE	Reagents 1, 2, and 3. Boxed separately, 1 liter each, 45 day supply
2210001	1mg/L calibration standard, 0.5 L
2210RE	Reagent water, 20 L
2210CL	Cleaning solution, 0.5 L
Maintenance and Service Items	
2210MK	Maintenance kit - sample tubing harness, and tubing lubricant
2230PA	3 ea. pump head tubing covers
2230PS	Power supply assembly
2230FS	Power fuses
2230PI	Air purge fittings
2210TK	Main tubing kit
2230BC	Empty auto cal bottle (Validation sample bottle)
2230SF	Fittings, sample in, sample out and drain
2230RC	Reagent bottle cap - includes fittings
2230SC	Cal bottle cap - includes fittings
2230SAC	Sample chamber

Find out more at **thermofisher.com/process**

Water and Lab Products

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Germany: (49) 6184-90-6321 **India:** (91) 22-6716-2261/2247 **Japan:** (81) 045-453-9175
North America: 1-978-232-6000 Toll Free: 1-800-225-1480 **Singapore:** (65) 6778-6876

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