

Detection of ammonia in drinking water applications

Our extensive portfolio of process analytical systems and equipment help to detect low levels of ammonia in water treatment processes where it is considered a contaminant, resulting in improved water quality and safe drinking water for communities.

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

Features

- State of the art design is optimized to allow for low reagent consumption
- Wide range of detection from 0.03 - 30 mg/L provides a complete picture of ammonia treatment process
- Large, easy-to-read display allows for viewing in all types of lighting conditions
- Simple and intuitive menu navigation
- Compact size and capable of being panel- or wall-mounted
- Intelligent sample awareness senses the sample to keep the analyzer in a ready state, while offline, for up to 30 days



Markets

- Drinking water
- Surface water

Applications

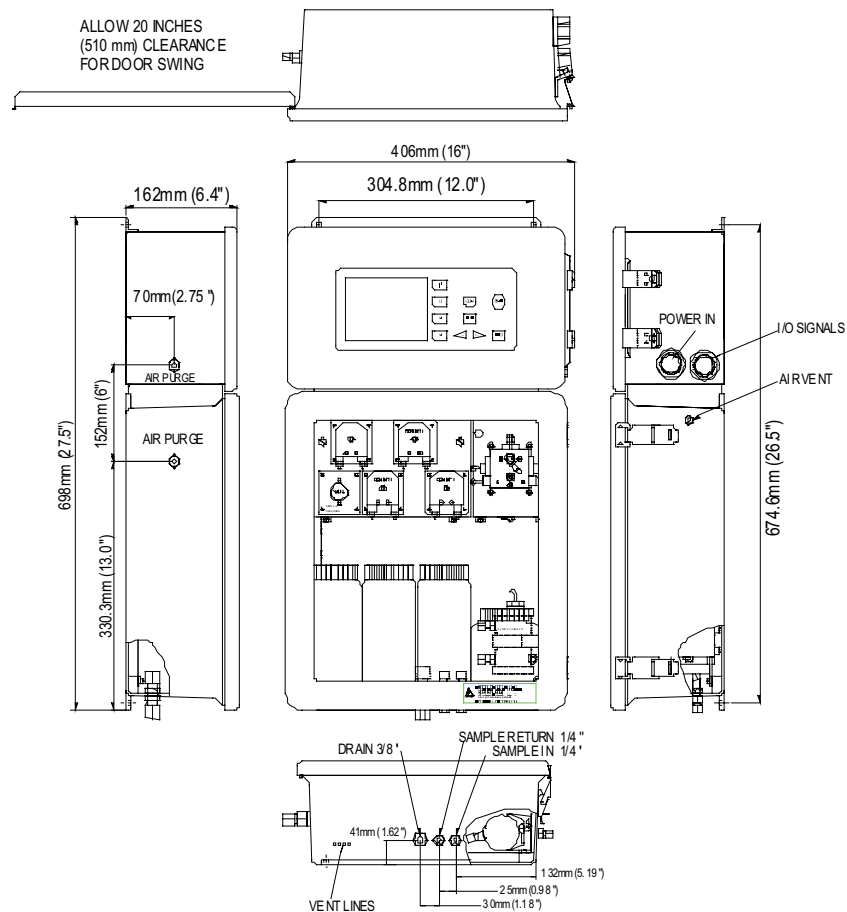
- Process control



Orion 2210AM Ammonia Analyzer

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 $\pm 2\%$ 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 availability.



Orion 2210AM Ammonia Analyzer installation dimensions shown without optional protective enclosure.

Product Specifications

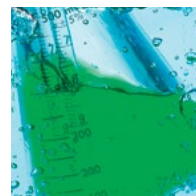
Specification	Description
Measurement performance	
Measuring range	0.2-50 ppm auto-ranging
Accuracy error	Less than 5% of reading or ± 0.5 ppm, whichever is greater from 0.2-50 ppm
Response time	Less than 10 minutes per analysis
Repeatability error	Less than $\pm 2\%$ of reading or ± 0.05 mg/L, whichever 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°C (41 to 113°F)
Maximum Humidity	90% at 40°C (104°F)
Sample requirements	
Sample flow	50-1000 mL/min
Sample pressure	5 psi 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 communications	RS232 ASCII protocol for data reporting
Safety	CE: EN/IEC61010-1, cTUVus
EMC	CE: EN61326-1
FCC	Class A
Warranty	1 Year

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 user benefits

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.



Ordering information

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

Find out more at thermofisher.com/processwater

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