

# Orion 8010cX Ammonia Analyzer specifications comparison

The table below shows a comparison between the new Thermo Scientific™ Orion™ 8010cX and the existing product, the Thermo Scientific™ Orion™ 2210AM Ammonia Analyzer.

Product specifications	Orion 8010cX analyzer	Orion 2210AM analyzer
Interface	7 inch color touchscreen	Monochrome screen, keypad entry
Measuring range	0.02–500 mg/L	0.03–30 mg/L ammonia as N user programmable
Accuracy error	3% ± 0.04 mg/L of reading for whichever is greater, from 0.02–2 mg/L for 5–40° C	Less than 5% of reading or ± 0.03 mg/L, whichever is greater, from 0.03–30 mg/L for 5–40° C
Response time	≤28 min (two consecutive readings)	Less than 15 minutes per analysis
Repeatability error	3% ± 0.02 mg/L of reading for whichever is greater, from 0.02–2 mg/L for 5–40° C	Less than ± 2% of reading or ± 0.05 mg/L, whichever is greater from 0.03–30 mg/L
Limit of detection	0.02 mg/L	0.03 mg/L
Reagent consumption	Reagents every 100 days with 2 hour cycle time	1 L of reagents every 60 days with 15 minute cycle time
Method	Salicylate colorimetric method	Salicylate colorimetric method
Ambient operating temperature	5–40° C (41–104° F)	5–45° C (41–113° F)
Maximum humidity	95% RH noncondensing	90% at 40° C (104° F)
Sample flow	50–1000 mL/min	50–1000 mL/min
Sample pressure	3–73.5 psi (0.2–5 bar, for flow-cell)	5 psig max
Sample supply	Continuous, interval (configurable start time)	Continuous
Sample temperature	0–50° C (32–122° F) with no ice	5–40° C (41–104° F)
Total dissolved solids	< 600 mg/L	-
Suspended solids	< 30 mg/L after filtration by pre-filter	< 60 microns
Sample inlet/outlet connections	Metric fittings: G1/2 external thread to 10 mm outer diameter, stainless steel tubing G1/2 external thread to 19.5 mm pagoda-shape joint, PVC (over flow)	1/4 inch OD flexible tubing—polypropylene or similar material
Drain tubing	1/8 inch OD flexible tubing	3/8 inch OD flexible tubing—polypropylene or similar material
Sample streams	One	One

Product specifications	8010cX	2210AM
Enclosure integrity	IP65	NEMA12 (Electronics cabinet), NEMA4X (Fluidics cabinet)
Enclosure dimensions	450 mm x 737 mm x 322 mm (17.7 inches x 29 inches x 12.7 inches)	27.5 inches x 16 inches x 6.4 inches (698 mm x 406 mm x 162 mm)
Shipping weight	40 kg (88 lbs)	18 kg (40 lbs)
Electrical power requirements	100–240 VAC, 100 W, 50/60 Hz	100–240 VAC, 110 W, 50/60 Hz
Current loops	Two 0/4–20 mA—Direct or Reverse Acting (Isolated). Maximum 900 Ω load	Two 0/4–20 mA—Direct or Reverse Acting (Isolated). Maximum 900 Ω load
Relays	Two relays, 2 A @ 250 VAC	Four SPDT, 2 A @ 250 VAC—Programmable
Digital comms	RS485, MODBUS (standard), PROFIBUS (optional)	RS232 ASCII protocol for data reporting
Safety	cTUVus, CE: EN/IEC 61010-1	CE: EN/IEC 61010-1, cTUVus
EMC	FCC (Class A), ICES, CE: EN/IEC 61326-1, RCM, KC	FCC (Class A), CE: EN/IEC 61326-1
Environmental safety	CE-RoHS, REACH, China RoHS, Prop65	-
Certification	CPA (China)	N/A
Warranty	1 year	1 year
Sample handling	Intelligent sample awareness; automatic on schedule or manual	Intelligent sample awareness
Autovalidation function	Yes	No

For more details, please visit [thermofisher.com/orion8000](https://thermofisher.com/orion8000)

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