



Applications

- Wastewater
- Drinking Water

NT3100sc UV Nitrate Sensor



Proven nitrate measurements made more accessible

Improve your experience in nitrate measurement with Hach's new NT3100sc sensor. Backed by a legacy of reagent-free UV absorbance technology expertise, Hach's NT3100sc UV Nitrate Sensor is equipped to meet your unique application needs. Whether measuring nitrate in municipal sewage treatment plants, surface water, untreated water or treated drinking water, you'll have the choice of 3 different path lengths to fit your measurement ranges and turbidity compensation needs.

No time for downtime

Make your best process decisions to ensure water quality when you have reliable and real-time data. The Hach® NT3100sc uses internal smart sensors to proactively alert you of potential measurement issues so you have confidence in your process health. We'll help you reduce time spent on troubleshooting, validations, and avoid unplanned equipment downtime.

Optimize your process with smart decisions

The NT3100sc UV nitrate sensor features improved accuracy and low-level detection to help you optimize your plant performance and ensure regulatory compliance now and into the future. Hach's proven wiper technology keeps your system clean and our enhanced one-step, tool-free, wiper replacement reduces user maintenance and improves your experience.

Hach service and support - there when you need us

For nearly a century, Hach has been a leader in water quality analysis. Backed by a legacy of UV absorbance technology expertise, our Technical Support, Field Service, and Central Service Teams work together to help you maximize instrument uptime, ensure data integrity, maintain operational stability, and reduce compliance risk.

Technical Data*

Model	NT3100sc UV Nitrate Sensor		
Path length	1 mm	2 mm	5 mm
Measuring range ¹	0.1 - 90 mg/L NO ₃ -N	0.05 - 50 mg/L NO ₃ -N	0.02 - 25 mg/L NO ₃ -N
Detection limit	0.1 mg/L NO ₃ -N	0.05 mg/L NO ₃ -N	0.02 mg/L NO ₃ -N
Accuracy ²	± 5% of reading ± 0.1 mg/L NO ₃ -N	± 4% of reading ± 0.1 mg/L NO ₃ -N from 0.05 - 22 mg/L, ± 5% of reading ± 0.1 mg/L NO ₃ -N from 22 - 50 mg/L	± 3% of reading ± 0.1 mg/L NO ₃ -N from 0.02 - 13 mg/L, ± 5% of reading ± 0.1 mg/L NO ₃ -N from 13 - 25 mg/L

1) Not expressed for mixed NO_x concentration. Measured with NO₃-N for NT3100sc standard solutions.

2) Measured in lab conditions.

Measuring principle	UV absorption measurement, reagent-free
Resolution	0.01 - 999.9
Sludge Compensation	Yes
Measuring interval	15, 30 seconds, 1, 5, 10, 30 minutes
Response time	T100: 1 minute
Cable length	10 m (33 ft) Extension cables are available: 5, 10, 15, 20, 30 and 50 m. The maximum cable length is 60 m (190 ft).
IP Rating	IP68
Pressure range	Sensor pressure limit: 0.5 bar
Ambient temperature	2 - 40 °C (36 - 100 °F), 95% relative humidity, non-condensing
Sample temperature	2 - 40 °C (36 - 100 °F)
Dimensions	70 x 402 mm (3 x 15.8 inches) approximately
Weight	4.8 kg (10.58 lb) with 10 m cable
Material	Sensor enclosure: Stainless steel Enclosure seals: Silicone Wiper axle, arm (5 mm) and wiper blade carrier (1 mm and 2 mm): Stainless steel Wiper blade: Silicone Measuring window: Quartz glass Sensor cable: Polyurethane (PUR) Cable gland: Stainless steel Seal cable gland: Silicone HT
Process connection	Immersion directly in media Bypass with Flow Through Unit Sedimenter
Certifications	CE, CMIM, UKCA, FCC, and ISED approved
Signal average time	1 to 12 measurements
Power consumption	9 W
Controller compatibility	SC200, SC1000, SC4500

*Subject to change without notice.

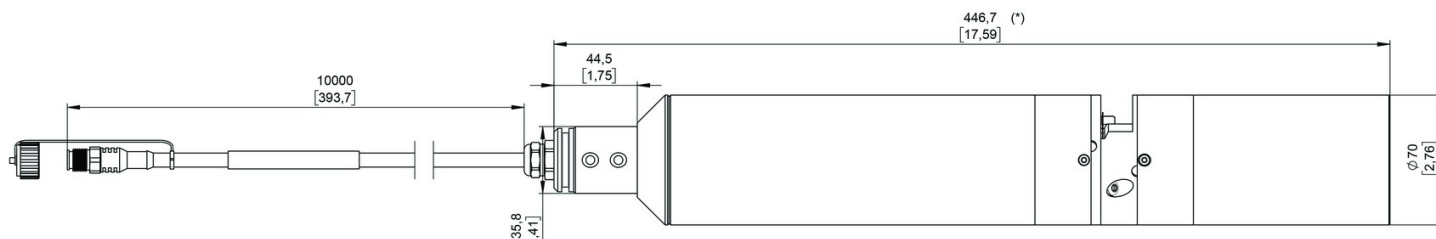
Principle of Operation

Nitrate dissolved in water absorbs UV light with wavelengths below 250 nm. The nitrate absorption of UV light makes it possible to photometrically determine the nitrate dissolved without reagents. The sensor is put directly in the medium. The color of the medium does not have an effect on the measurement because the measuring principle is based on the analysis of invisible UV light.

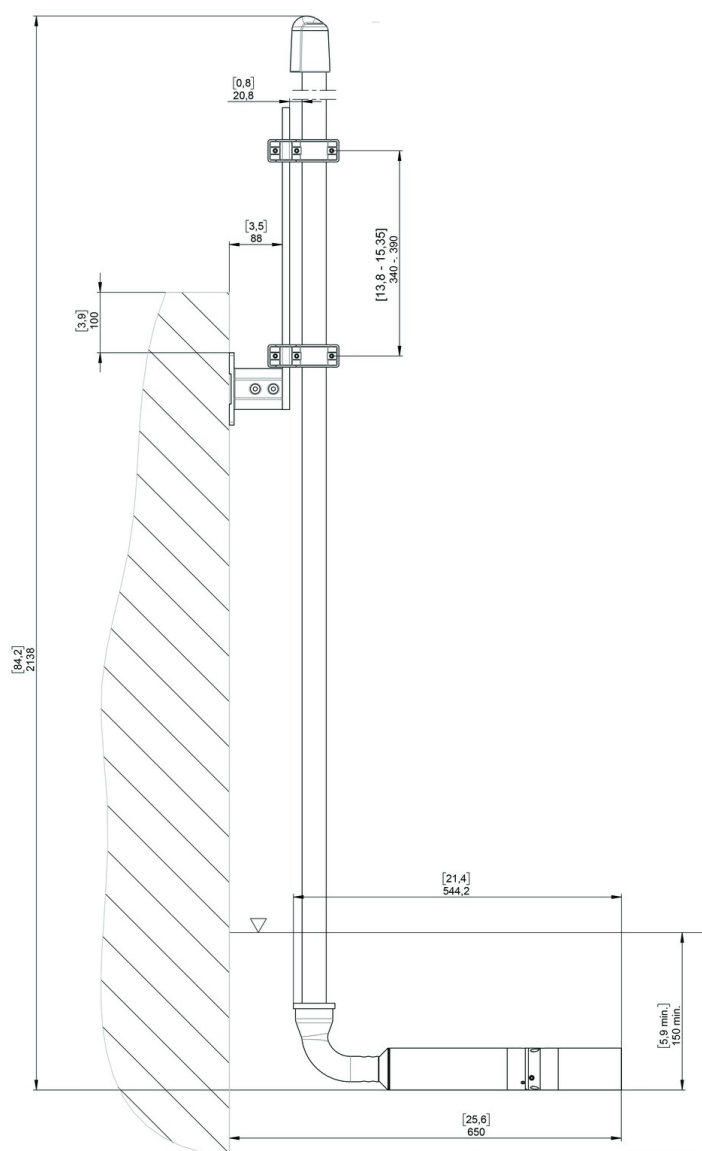
Dimensions

[mm]

Sensor



Sensor mounting



Applications

NT3100sc: General recommendation. Each application needs to be assessed for NO_x concentrations and turbidity.

Model: NT3100sc UV Nitrate Sensor

Path length	1 mm	2 mm	5 mm
Wastewater Application			
Influent monitoring	✓	✓	
Process monitoring - Nitrification/Denitrification	✓	✓	
Process monitoring - Nitrification/Denitrification with sludge concentration >5000 mg SS/L	✓		
Effluent		✓	✓
Drinking Water Application			
Raw drinking water		✓	✓
Finished water/Distribution			✓

✓ Suitable application

Order Information

Sensors

LXV448.99.11001	NT3100sc UV Nitrate Sensor, 1 mm path length
LXV448.99.21001	NT3100sc UV Nitrate Sensor, 2 mm path length
LXV448.99.51001	NT3100sc UV Nitrate Sensor, 5 mm path length

A Hach SC controller is required to operate the NT3100sc sensor, controller must be purchased separately.

Accessories and Consumables

LZY714.99.53220	Mounting hardware system with brackets, 90° adapter, stainless steel
LZX869	Flow through unit, 2 mm
LZX867	Flow through unit, 5 mm
LXZ448.99.00002	Wiper blade, 1 mm, pk/5
LXZ448.99.00003	Wiper blade, 2 mm, pk/5
LXZ448.99.00033	Wiper blade, 5 mm, pk/5
LCW943	Nitrate standard, 40 mg/L NO ₃ (9.04 mg/L NO ₃ -N), 500 mL
LCW825	Nitrate standard, 50 mg/L NO ₃ (11.3 mg/L NO ₃ -N), 500 mL
LCW944	Nitrate standard, 75 mg/L NO ₃ (16.9 mg/L NO ₃ -N), 500 mL
LCW945	Nitrate standard, 150 mg/L NO ₃ (33.9 mg/L NO ₃ -N), 500 mL

Additional Accessories and Consumables are available. Please contact Hach for more information.

Enable the Benefits of Smart Monitoring

This instrument connects to Claros, Hach's innovative Water Intelligence System. Claros allows you to seamlessly connect and manage instruments, data, and process – anywhere, anytime. The result is greater confidence in your data and improved efficiencies in your operations. To unlock the full potential of Claros, insist on Claros Enabled instruments.

Hach Service Protects Your Investment

With Hach Service, you have a global partner who understands your needs and cares about delivering timely, high-quality service you can trust. Our Service Team brings unique expertise to help you maximise instrument uptime, ensure data integrity, maintain operational stability, and reduce compliance risk.

