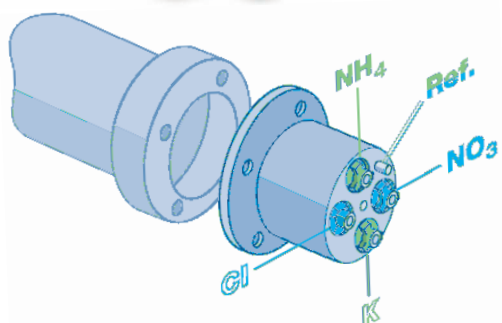




CARTRICAL plus cartridge for ammonium (NH_4) and nitrate (NO_3), with compensation of chloride (Cl) and potassium (K)



Applications

- Waste water treatment plants
- Simultaneous nitrification / denitrification processes
- Intermittent nitrification / denitrification processes
- Sequencing Batch Reactor (SBR) processes

AN-ISE sc: Combination sensor for ammonium and nitrate

Reliable results for ammonium and nitrate

Looking for new ways to stretch your budget and reduce consumable costs? We have the perfect solution for you! Our new combination sensor with ion-selective electrode (ISE) technology was developed to measure both NH_4 and NO_3 at the same spot. What is unique? The most significant interferences of K and Cl are simultaneously compensated by integrated ISE electrodes, ensuring accurate results 24h/7days.

Easy handling with CARTRICAL plus

The CARTRICAL plus cartridge contains four electrodes which are calibrated to each other before leaving the factory. Based on RFID* technology, the factory calibration is now automatically identified during replacement of the cartridge. The unique CARTRICAL plus design does away with tiresome handling and adjustment of individual electrodes: just unscrew the old cartridge, plug in the new one, and the sensor is immediately ready to measure.

Simple and intuitive operation

With a menu-guided operation and step-by-step guide with clear text, the combination AN-ISE sc sensor is very easy to use. It works directly with every SC controller without complicated wiring or set up procedures: just plug and play. The common SC controller platform allows intuitive usage not only for ammonium and nitrate but also for other parameters like pH, DO, etc.

Always under control

In combination with SC 1000 controller, alert messages from AN-ISE sc sensor can be transmitted to the control room or by SMS / e-mail to a mobile phone. You are always informed about the status of your processes, early enough to react quickly.

Rely on HACH LANGE's application know how

You can trust our ISE experience gathered in many waste water applications around the world. Based on this we have developed the next ISE generation to fulfil your requirements even better. Our application team is always close by.



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AN-ISE sc: Combination sensor for ammonium and nitrate

Technische Daten

Measurement method

Potentiometric ion-selective measurement

Measuring ranges

0 to 1000 mg/L NH₄-N

0 to 1000 mg/L NO₃-N

Measurement uncertainty

±5% +0.2 mg/L (with standard solution) NH₄-N

±5% +0.2 mg/L (standard oldattal) NO₃-N

Response times

<3 min

Sensor cartridge

With CARTRICAL plus technology: compact housing containing calibrated electrodes for ammonium, potassium, nitrate and chloride, reference system and temperature sensor, all calibrated to each other; typical lifetime 12 months

Calibration methods

With CARTRICAL plus technology: automatic import of factory calibration data from cartridge to probe by RFID*; 1 and 2 point matrix correction

Sample temperature

2 to 40 °C

Operating temperature

-20 to 45 °C

pH range

5 to 9

Flow

<4 m/s

Sensor immersion depth

0.3 m to 3.0 m

Power consumption

1 W

Material sensor

Stainless steel (1.4571), ASA + PC, silicon, PVC and PU

Material cartridge

Stainless steel (1.4571), PVC, POM, ABS, NBR

Material cleaning unit

TPE, PUR, stainless steel (1.4571)

Dimensions (D x L)

84.5 mm x 320 mm

Cable length sensor

10 m fixed cable at sensor, available up to 100 m

Controller compatibility

SC 100, SC 200, SC 1000

Process connection

1 inch thread

Protection class

IP 68

Sample pressure

0.3 bar maximum

Weight

2.4 kg

Order information and accessories

Probe – ready to use

LXV440.99.00001: AN-ISE sc probe with CARTRICAL plus sensor cartridge, incl. RFID* recognition

LXV440.99.00011: AN-ISE sc probe with CARTRICAL plus sensor cartridge, without RFID* recognition

Fixing devices

6184900.99.0000: Rail mount kit (PVC) for ISE sensors

LZX914.99.12400: Chain mount kit for ISE sensors (PVC)

LZX414.00.80000: Wall mount kit for ISE sensors (stainless steel)

Cartridge

LZY694: CARTRICAL sensor cartridge

Air cleaning systems (optional)

LZY706: Cleaning unit

6860003.99.0001: High Output Airblast System 115 V (compressor)

6860103.99.0001: High Output Airblast System 230 V (compressor)

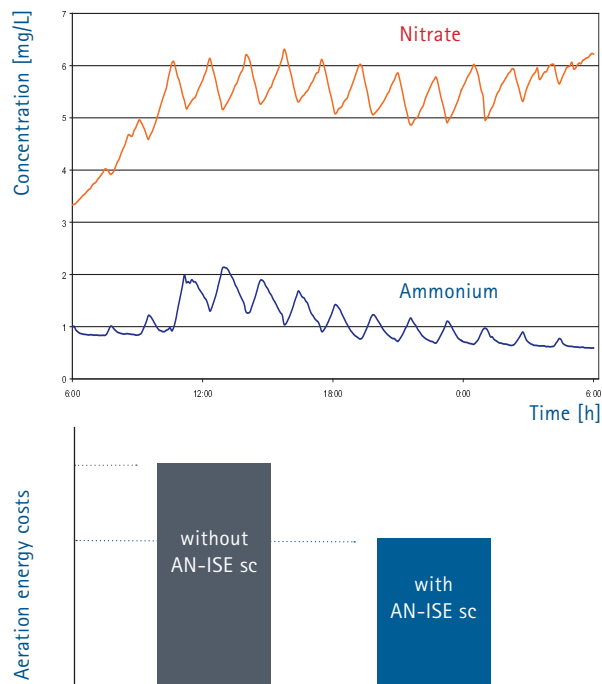
* RFID technology available in all European Member States plus Norway, Switzerland, Turkey and others.
For other countries please ask your local HACH LANGE contact person.

Subject to change without notice.

AN-ISE sc: Combination sensor for ammonium and nitrate

Applications

Example for intermittent control system

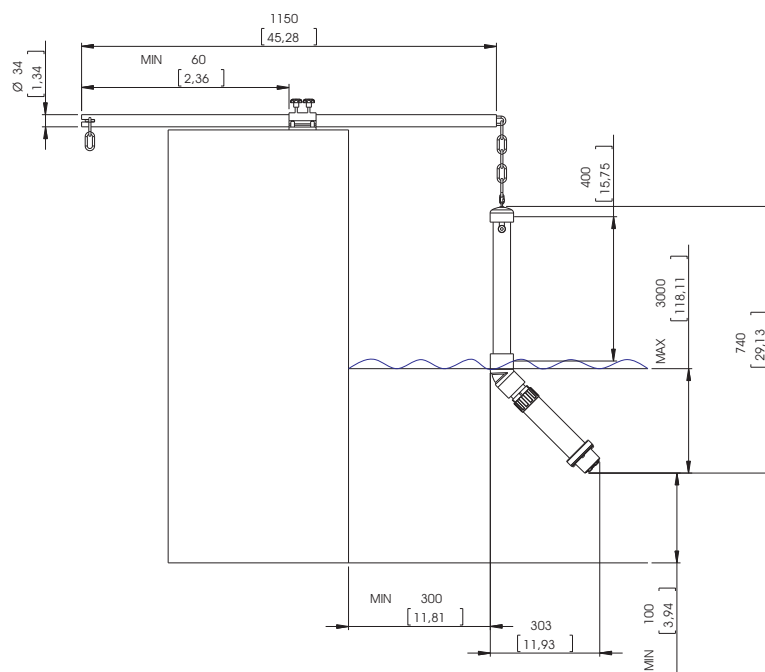


Optimising the N removal is the key for saving money!

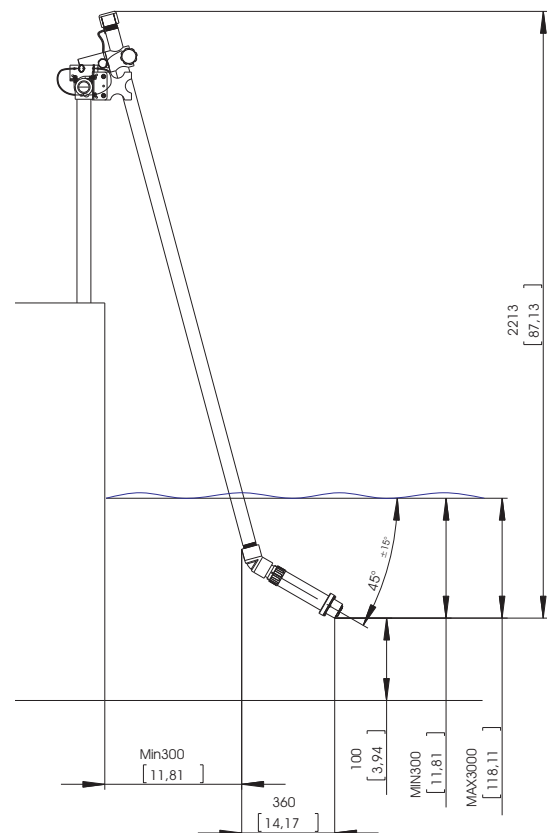
How to know where to focus for process improvements? The answer is simple. By understanding what is going on in the process itself! Transparency is the main precondition of your optimisation process. The progress of NH_4 and NO_3 concentration shows the pulse of your plant. A purely time based control system of the aerators is not sufficient to ensure consistently high degradation performance and economic energy consumption.

Our new combination sensor for ammonium and nitrate measurement opens up considerable opportunities for cutting costs. With this sensor the plant control system responds to the real-time situation online continuously. This allows a very efficient freight dependent control of the blowers resulting in reduced energy costs.

Fixing devices



Chain mount kit (PVC)



Rail mount kit (PVC)

AN-ISE sc: Combination sensor for ammonium and nitrate

Optimal control and monitoring of your processes



NITRATAX sc sensor family:

Precise reagent free UV measurement with automatic self-cleaning. Using advanced ultraviolet (UV) absorption technology these sensors can be configured for applications ranging from drinking water to activated sludge in wastewater treatment plants.



AISE sc und NISE sc sensors:

Cost effective and easy handling sensors using ionselective electrodes (ISE) with CARTRICAL plus cartridge. Designed to measure ammonium and nitrate respectively, they can be individually used for process control in different locations of your plant.



AMTAX sc analyser:

High precision process instrument designed for monitoring NH_4 concentration in the effluent of waste water treatment plants. Using gas sensitive electrode (GSE) technology this analyser guarantees wide measuring ranges. By automatic self-cleaning and self-calibration its high precision analysis remain unaffected by external interferences.



SC 1000 digital controller:

Up to eight out of 40 different sensors covering 14 parameters can be connected to one controller. The SC 1000 digital controller has a variety of control and calculation functions, supports field bus, Ethernet connection (MODBUS TCP/IP) and GPRS. It has an integrated web server for cost effective connection, even to the most poorly accessible locations.

For more information please visit our website!

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