

S470

Process ISE Sensor



AMMONIA (NH_4^+)

NITRATES (NO_3^-)

POTASSIUM (K^+)

CHLORIDE (Cl^-)

**Real time measurement
ON THE SPOT**

**Immediate installation
and easy maintenance**

**Quick coupling
for electrode cleaning
and/or replacement**

S470

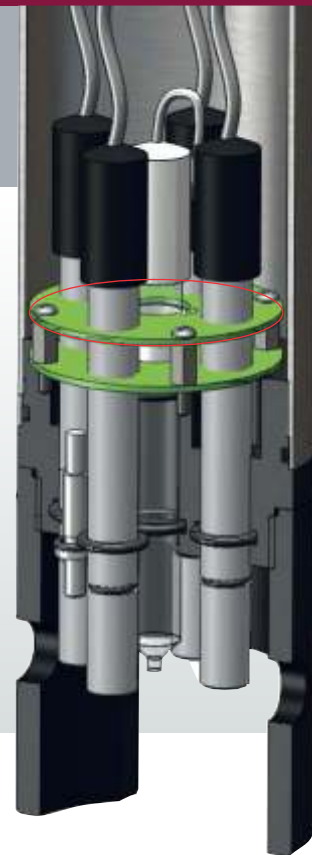
Process ISE sensor

The **Chemitec S470 ISE sensor** uses a combination of ion-selective electrodes (ISE) to control the performance of the ammonium ion (as NH_4^+ or $\text{NH}_4\text{-N}$) and the nitrate ion (as NO_3^- or $\text{NO}_3\text{-N}$) in a liquid matrix.

Particular attention was paid to identifying a set of sensors that is both stable and sensitive. To achieve accurate measurements, the S470 also includes a high performance reference electrode to compensate for pollutants.

These highly sensitive electrode combinations enable accurate measurement of potassium-compensated ammonium and chloride-compensated nitrates in the following applications:

- surface water
- wastewater
- industrial and aquacultural process water



The S470 family is composed by 3 elements:

- ▶ **S470/ NH_4^+ Sensor** for ammonium ion (0 to 100ppm) with compensation for potassium ion (0 to 1000ppm)
- ▶ **S470/ NO_3^- Sensor** for nitrate ion (0 to 100ppm) with compensation for chloride ion (0 to 5000ppm)
- ▶ **S470 Combined Sensor** for ammonium (0 to 100ppm) and nitrate (0 to 100ppm) ions with compensation of the potassium (0 to 1000ppm) and chloride (0 to 5000ppm) ions

All specific electrodes are individually replaceable.

The main ISEs (ammonium and nitrate) are placed alongside the secondary ISEs (potassium and chloride). The secondary ISEs have the important task of monitoring for interferences, enabling the instrument to provide correct, compensated data.

Installation and commissioning is performed easily, as is routine maintenance and replacement of the electrodes.

In the protected inner ring of the probe holder are integrated cleaning nozzles. The nozzles can be connected to either water or compressed air. Cleaning cycles can be scheduled and actuated directly by the series-50 control unit.

Configuration and calibration operations for the sensors are performed through the series-50 Controller, and have been streamlined in order to ensure extreme ease of use for all operators.

MEASURE AMMONIA, POTASSIUM, NITRATES, CHLORIDES, TEMPERATURE

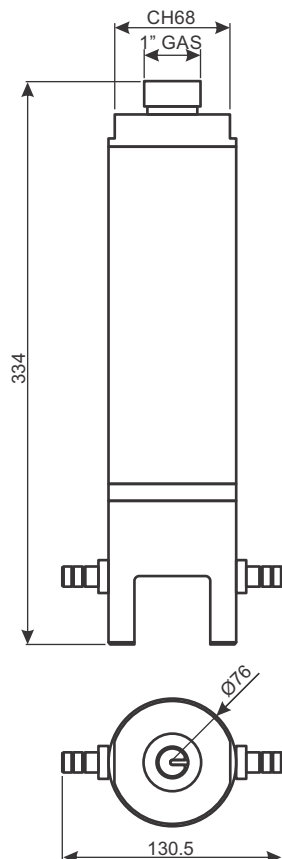
The sensor is composed of 3 or 5 (depending on the configuration) ion selective electrodes, housed in an AISI 316/PVC sensor body, and manufactured to provide the maximum chemical compatibility with project environments.

The electrodes are individually replaceable and are constructed in such a way as to ensure the maximum efficiency and speed of response.

Nozzles for automatic cleaning (managed by the control unit) are integrated in the body of the probe housing.

Communication with the controller is made via digital RS485 Modbus protocol.

Field interferences are virtually eliminated and the sensor can be installed at considerable distances from the control unit.



TECHNICAL DATA

Materials	AISI 316 Body
	Black PVC Protection, electrode housing and superior cap
	NBR O-Rings
Threaded connection	1" BSP
Measuring ranges	NH ₄ ⁺ : 0 to 100 ppm
	K ⁺ : 0 to 1000ppm
	NO ₃ ⁻ : 0 to 100ppm
	Cl ⁻ : 0 to 5000ppm
	Temperature : 0 to 50°C
Measuring method	Ion-selective sensors
Accuracy	±1mg/L or ±1 %
Repeatability	90% of the value in less than 60 seconds
Max refreshing time	< 1 second
Working Temperature	0 to 50°C
Max working pressure	1 bar
Working pH Range	4 to 10 pH
Mechanical protection	IP68 Sensor and cable
Cable	10m submersible
Power supply	12 to 24VDC
Signal interface	Modbus RTU Standard Protocol
Temperature sensor	PT100 included
Calibration	<p>The sensor is factory pre-calibrated using standard solutions.</p> <p>The stored curve can be modified entering the end-user's analyzed values (corrections in the field enable consideration of any application-specific peculiarities of the matrix).</p> <p>It is also possible to enter six points in a custom table which enables the system to determine a custom curve.</p> <p>The default factory calibration curve is permanently available and can be restored at any time.</p>



ISO 9001

Quality System Certification



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