

PROCESS ISE PROBE FOR AMMONIA, POTASSIUM, NITRATES, CHLORIDES AND TEMPERATURE MEASURING

Controllers

Sensors

Analysers

Samplers

Flow

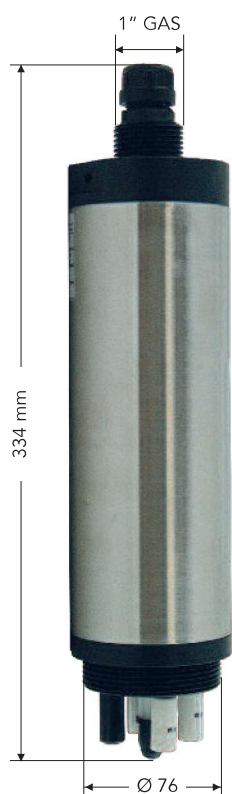
Level

Pressure

Web remote control

Data logging

Accessories



S470 is a complete family of ion-selective (**ISE: Ion-selective electrodes**) probes suitable for monitoring the performance of the ammonium ion (as NH_4^+ or $\text{NH}_4\text{-N}$) and nitrate ion (as NO_3^- or $\text{NO}_3\text{-N}$) into a liquid matrix.



Particular attention has been paid to identify a set of sensors stable and at the same time sensitive. For this purpose, it has also been introduced a reference electrode with a particularly high performance and a high capacity of compensation of the pollutants.

The used sensors allow a correct reading of the above analytes in the following applications:

- surface waters
- wastewater
- zootechnical and industrial process water

The S470 family consists of 3 elements:

S470 NH_4^+ Sensor for ammonium ion (0...100ppm) with compensation of the potassium ion (0...1000ppm)

S470 NO_3^- Sensor for nitrate ion (0...100ppm) with compensation of the chloride ion (0...5000ppm)

S470 Combined Sensor for ammonium (0...100ppm) and nitrate (0...100ppm) ions with compensation of the potassium (0...1000ppm) and chloride (0...5000ppm) ions

All the specific electrodes are individually replaceable.

The main ISE (ammonium and nitrate) are placed alongside the secondary sensors (potassium and chloride ISE) that have the task of monitoring the most important interferers and allow the instrument to have a correct compensation of the data.

Installation and commissioning are extremely easy to perform, as well as the routine maintenance and the replacement of the finished sensors.

In the protection ring nut of the probe holder there are integrated cleaning nozzles, which can be connected to a line compressed air or water. The cleaning system is controlled directly from the control unit.

The configuration and calibration operations of the sensors on the **50 SERIES** control unit have been simplified to the maximum in order to ensure an extreme ease of use to all the operators.



The sensor is composed by 3 or 5 (depending on the configuration) ion-selective electrodes housed in an SS316 / PVC sensor body, realized in order to offer the maximum chemical compatibility with the project environments.

These sensors are individually replaceable and have been constructed in such a way to ensure maximum efficiency and response speed.

Nozzles for automatic cleaning (managed by the control unit) are integrated into the probe.

Communication with the controller is made via digital RS485 Modbus protocol. In this way, the field interferences are virtually void and the sensor can be installed even at considerable distances from the control unit.

Calibration

The probe is factory pre-calibrated using standard solutions. The curve stored in this way can be customized by entering the analysis values of the customer (the correction of the field allows to take into consideration any peculiarities of the matrix).

It's possible to enter a table of custom values (6 points) and let the probe work on a custom curve. The factory calibration curve, however, remains always available and could be set again as default.

Technical specifications

Measuring range	NH ₄ ⁺ K ⁺ NO ₃ ⁻ Cl ⁻ Temperature
	0...100 ppm ^(*) 0...1000ppm 0...100 ppm ^(*) 0...1000 ppm 0...50 °C
Measuring method	Ion-selective sensors
Accuracy	± 5 mg/l
Response	T ₉₀ < 60s
Refresh time	maximum < 1 second
Operating pH range	4...10 pH
Temp. compensation	with internal PT 100 probe
Operating temperature	5...40 °C
Maximum pressure	1 bar
Body material	SS316
O-ring	NBR
Protection, electrodes' housing and superior cap	Black PVC
Mechanical protection	IP68 Sensor+cable
Power supply	12...24Vdc
Cable	10m submersible
Signal interface	Modbus RTU Standard Protocol

^(*) on request 0...20ppm