

**S470/N**

**MULTIPARAMETER ISE PROBE**



The **Multiparameter ISE Sensor** is used for the measures of various parameters in pure and process waters.

The principle of measurement is based on the contact between the process liquid and the sensitive membranes, formed by a polymeric matrix, of the measuring electrodes.

Exchangeable modules for this series are supplied separately.

## Applications

- Measure of ammonia
- Measure of potassium
- Measure of nitrates
- Measure of chlorides
- Measure of temperature

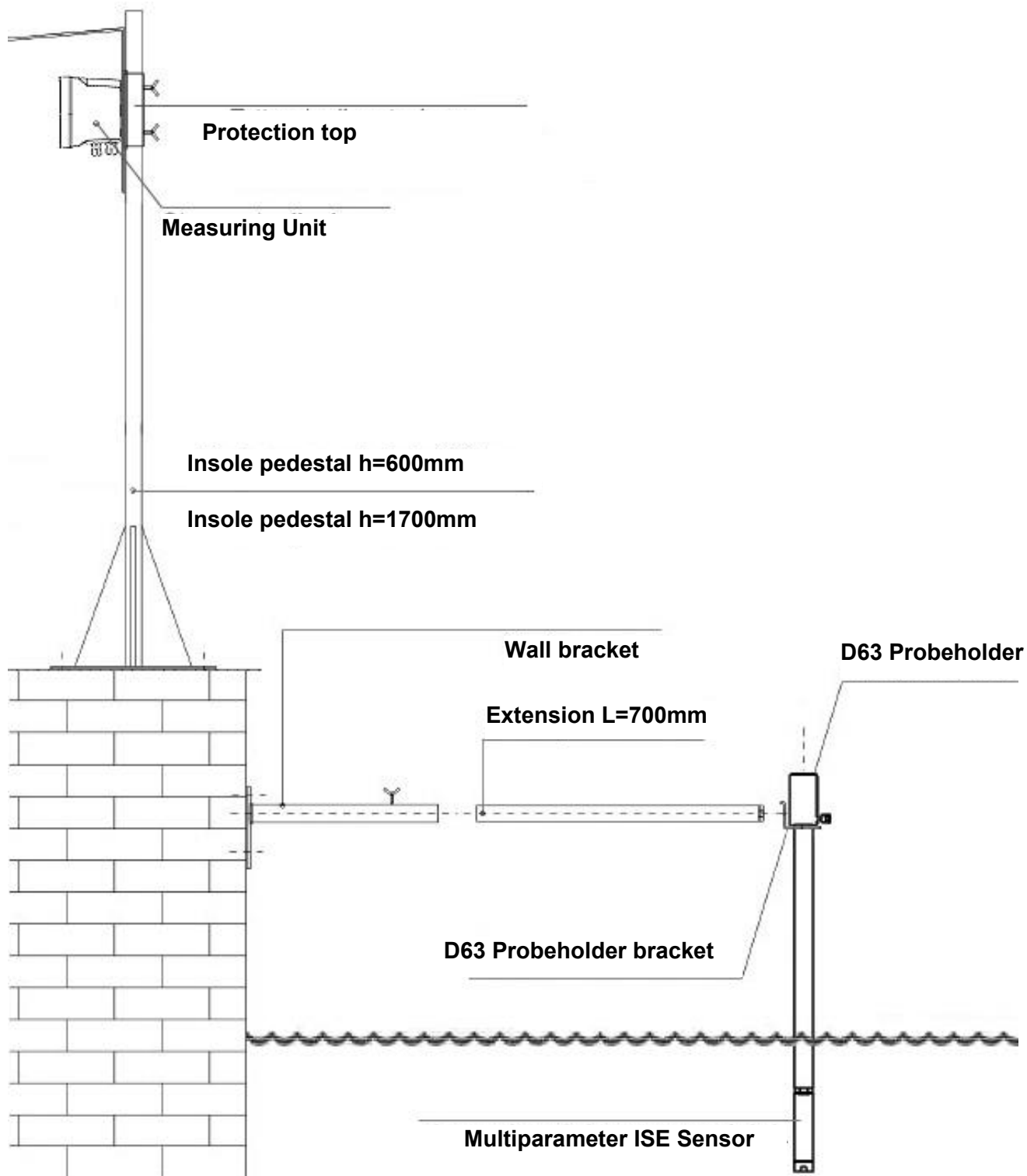
## Features and benefits

- Real time measure of all the parameters
- Measuring method with sensitive membranes
- AISI 316 and Black rigid PVC sensor body
- PVC protection to avoid incidental hurts of the electrodes
- No mechanically moving parts
- Immediate installation and easy maintenance
- Quick connections for electrodes' washing
- Interchangeable electrodes. Replacement is easy and safe
- High measurement stability, with drift 25 days
- Possibility of calibration and use in sea water

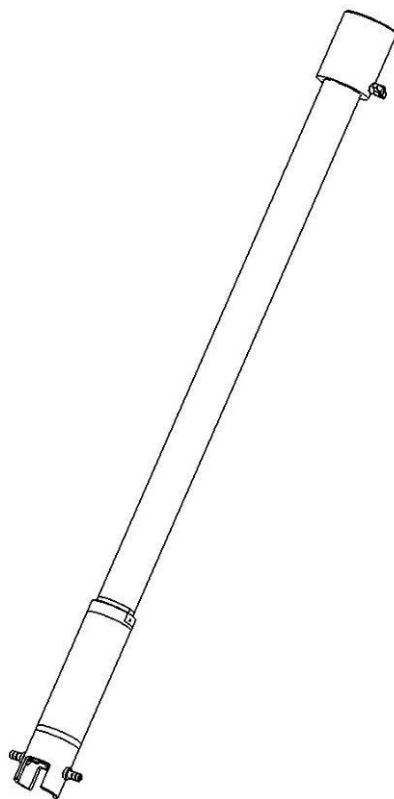
## Measure of ammonia, potassium, nitrates, chlorides, temperature

The electrode consists of an inert polymer body on the end of which is mounted the sensitive membrane. All connections in the electrode are solid-state contacts, there being no liquids of any type inside the body. The high state of surface finish of the membrane is an essential feature for maximum sensitivity and performance.

The potassium electrode is necessary for the compensation of the measure of ammonia while the chlorides one is necessary for compensation of the reading of nitrates.

**Anchoring to poolside devices**

## S315 Probeholder, diameter 63



Probeholder is available in various tube length, starting from 500mm to 2000mm

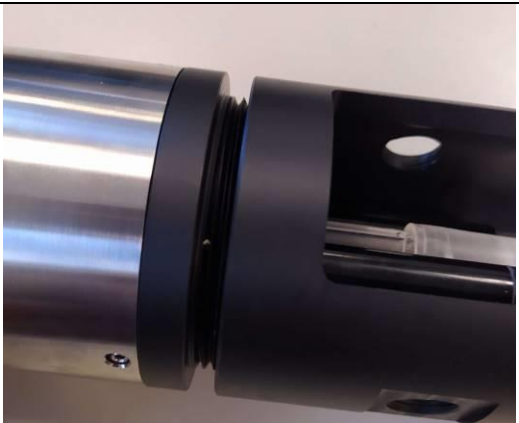

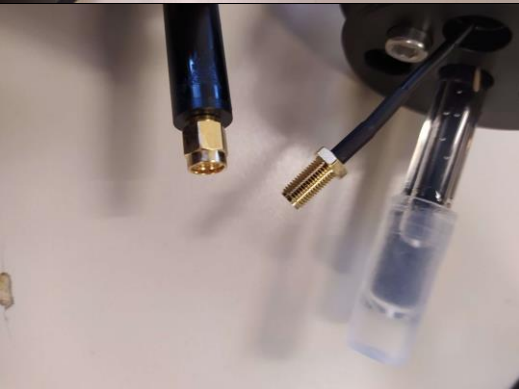

## Composition of the supply



The supply consists of a single package containing the following parts:

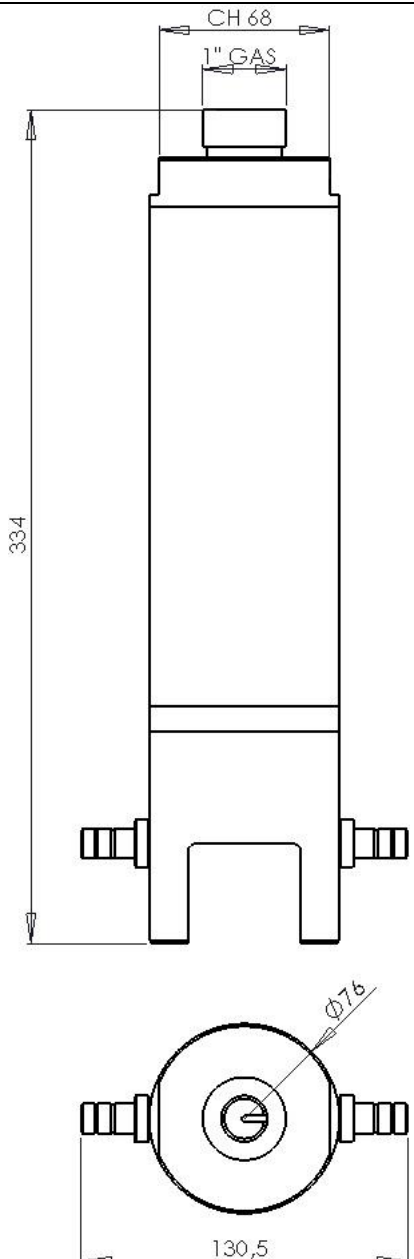
1. 1 S470/N Multiparameter ISE Probe with a 10 m cable
2. 1 Technical Manual for instructions

## ISE electrode replacement procedure

	<p>Remove the electrode protector</p>
	<p>Carefully remove the electrode to be replaced (including the reference electrode), after drying with a soft cloth. The electrodes are recognized both by the position on the body (numbered punching) and by the <b>grooves</b> on the electrode:</p> <ul style="list-style-type: none"> <li>- Ammonium: zero grooves, NR 1</li> <li>- Potassium: a groove, NR 3</li> <li>- Nitrates: two grooves, NR 2</li> <li>- Chlorides: three grooves, NR 4</li> <li>- Reference: transparent, central</li> </ul>
	<p>Unscrew the electrode from the cable and connect the new one</p>
	<p>Push the electrode into the hole of the fitting, initially accompanying the cable, until you feel the arrival at the stop. Then screw on the electrode protector</p>

## Troubleshooting

PROBLEM	POSSIBLE CAUSE(S)	SOLUTION
Wildly erratic readings	Air bubbles trapped on outside Surface of membrane	Check outside o membrane and tap electrode to release bubble
	Poor connections inside electrode plug	remove the electrode and check the connection
	Excessively violent stirring	Reduce stirrer speed
Steady continuous drift in on direction	Excessive leakage from reference electrode junction	Replace reference electrode
	Temperature drift	Thermostat all solutions or allow to come to room temp before measurement
Over range reading	Reference not work correctly	Replace reference electrode

TECHNICAL DATA	DIMENSIONS
<b>Materials:</b> <ul style="list-style-type: none"><li>– AISI 316 Body</li><li>– Black PVC protection, electrodes' housing and cap</li><li>– NBR O-Rings</li></ul>	
<b>Thread:</b> 1" BSP	
<b>Measuring ranges:</b> <ul style="list-style-type: none"><li>– NH<sub>4</sub>: 0-100 ppm</li><li>– K<sup>+</sup>: 0-1000ppm</li><li>– NO<sub>3</sub>: 0-100 ppm</li><li>– Cl<sup>-</sup>: 0-1000ppm</li></ul>	
<b>Measuring method:</b> Via sensitive membranes	
<b>Resolution:</b> 0.1 mg/L	
<b>Accuracy:</b> ± 5% of the measured value	
<b>Repeatability:</b> ± 3 % of the measured value	
<b>Response:</b> T <sub>90</sub> <60s	
<b>Maximum refreshing time:</b> < 1 second	
<b>WorkingTemperature:</b> 5-40°C	
<b>Max Working Pressure:</b> 1 bar	
<b>Maximum absorption:</b> 3W	
<b>Working pH range :</b> 2-9 pH	
<b>Mechanical Protection:</b> IP68 Sensor+cable	
<b>Cable:</b> 10m submersible	
<b>Power supply:</b> 12...24Vdc	
<b>Signal interface:</b> Modbus RTU Standard Protocol	
<b>Temperature sensor:</b> PT100 included	
<b>Working life of the measuring electrodes :</b> up to 14 months	
<b>Working life of the reference electrode:</b> 12 month	
<b>Calibration:</b> The electrodes are all factory calibrated according to a calibration curve. This can be changed simply by changing a calibration factor k, or performing a new calibration table with two or more reference standards up to 6; this process can be made for all available measures. Factory-calibration tables remain available in the probe memory. ISE sensor must be recalibrated once every 15/20 days.	

## Order codes

9701050067	S470/N immersion probe ISE NH <sub>4</sub> , K <sup>+</sup> , NO <sub>3</sub> , Cl <sup>-</sup> 10m cable
9701051067	S470/N/NH <sub>4</sub> immersion probe for Ammonium ion 10m cable
9701052067	S470/N/NO <sub>3</sub> immersion probe for Nitrate ion 10m cable
9711051067	S470 / N / NH <sub>4</sub> Immersion probe for 0-20ppm ammonium ion c. 10m
9731051067	S470 / N / NH <sub>4</sub> Ammonium ion probe 0-20ppm sea water c. 10m
9741051067	S470 / N / NH <sub>4</sub> Ammonium ion immersion probe sea water c. 10m