

The sensor **S461/S** is used for the optical measurement of suspended solids in industrial water and process up to 30 g/l.

The probe uses the method of measuring light absorption.

## Applications

- Measure of Suspended solids in wastewater
- Measure of Sludge and Staff concentration, industrial water

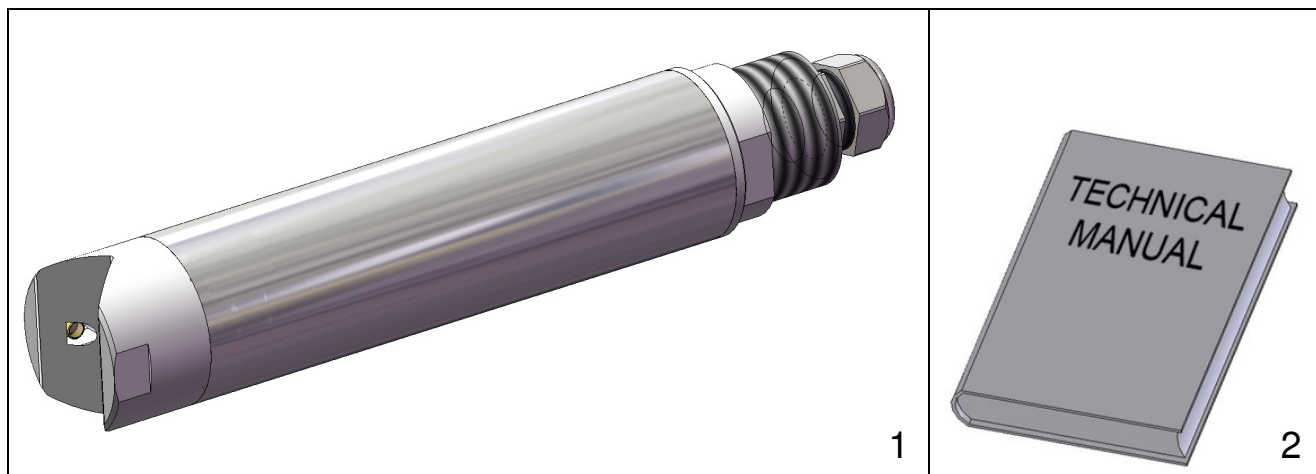
## Features and benefits

- Reliable concentration measurement using optical measuring process
- Infrared light pulsing beams scattering method
- Stainless Steel sensor body (PVC optional)
- No mechanically moving parts
- Measured value pre-processing in sensor resulting in low signal transmission sensitivity
- Immediate installation and easy maintenance

## Measurement of sludge concentration with the method of light absorption

Turbidity is a decrease of transparency of the water, due to the presence of suspended solids - that consist of very fine particles - unable to settle in a reasonably short time. The particles in suspension determine an absorption of the electromagnetic radiation depending on the number and size of the particles themselves. Comparing the absorption of the test sample with values derived from a well known calibration curve, it's possible to determine the value of the turbidity.

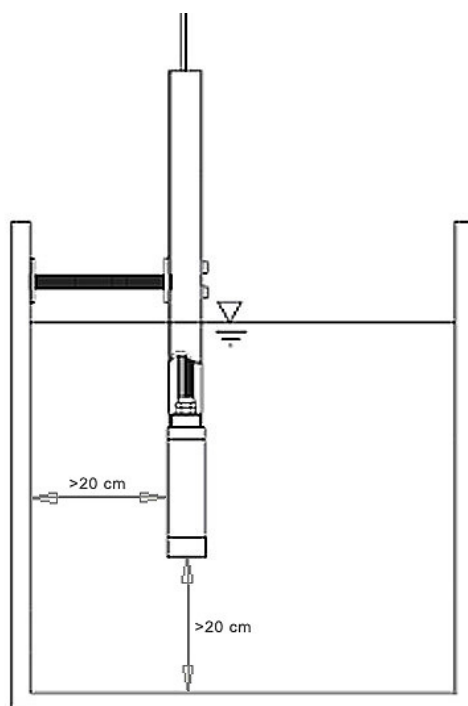
## Composition of the supply



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

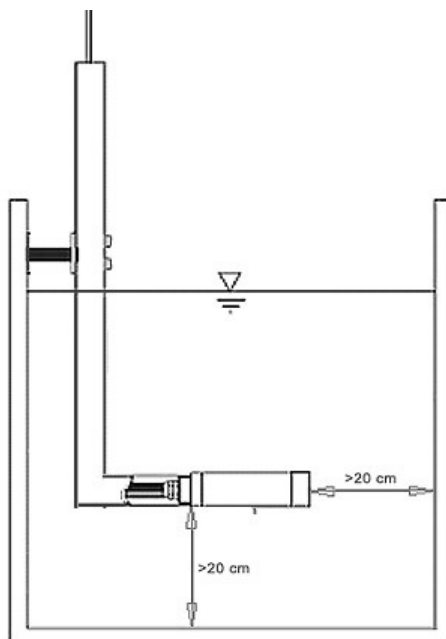
1. 1 S461/S Infrared Suspended Solids probe with 10m cable
2. 1 Technical manual for instruction

## Installation in tank



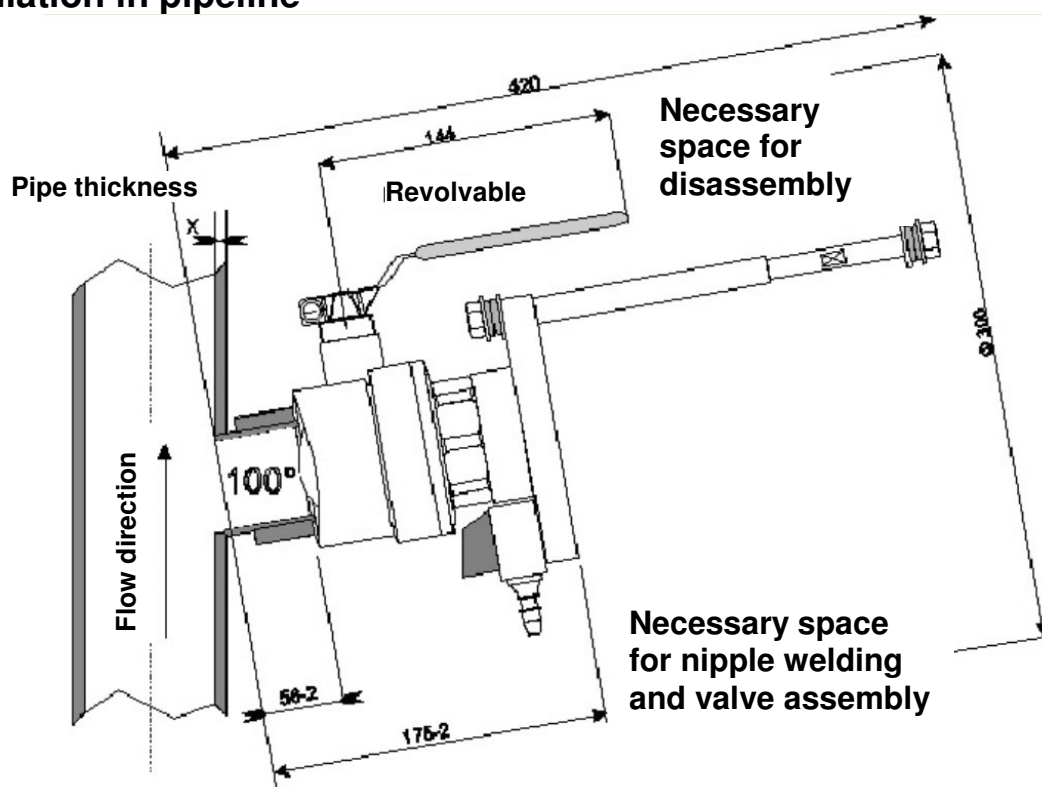
Install the probe in the tank so that it is immersed for at least 20 cm and the distance from the walls and the bottom of the tank is not less than 20 cm.

## Installation in channel



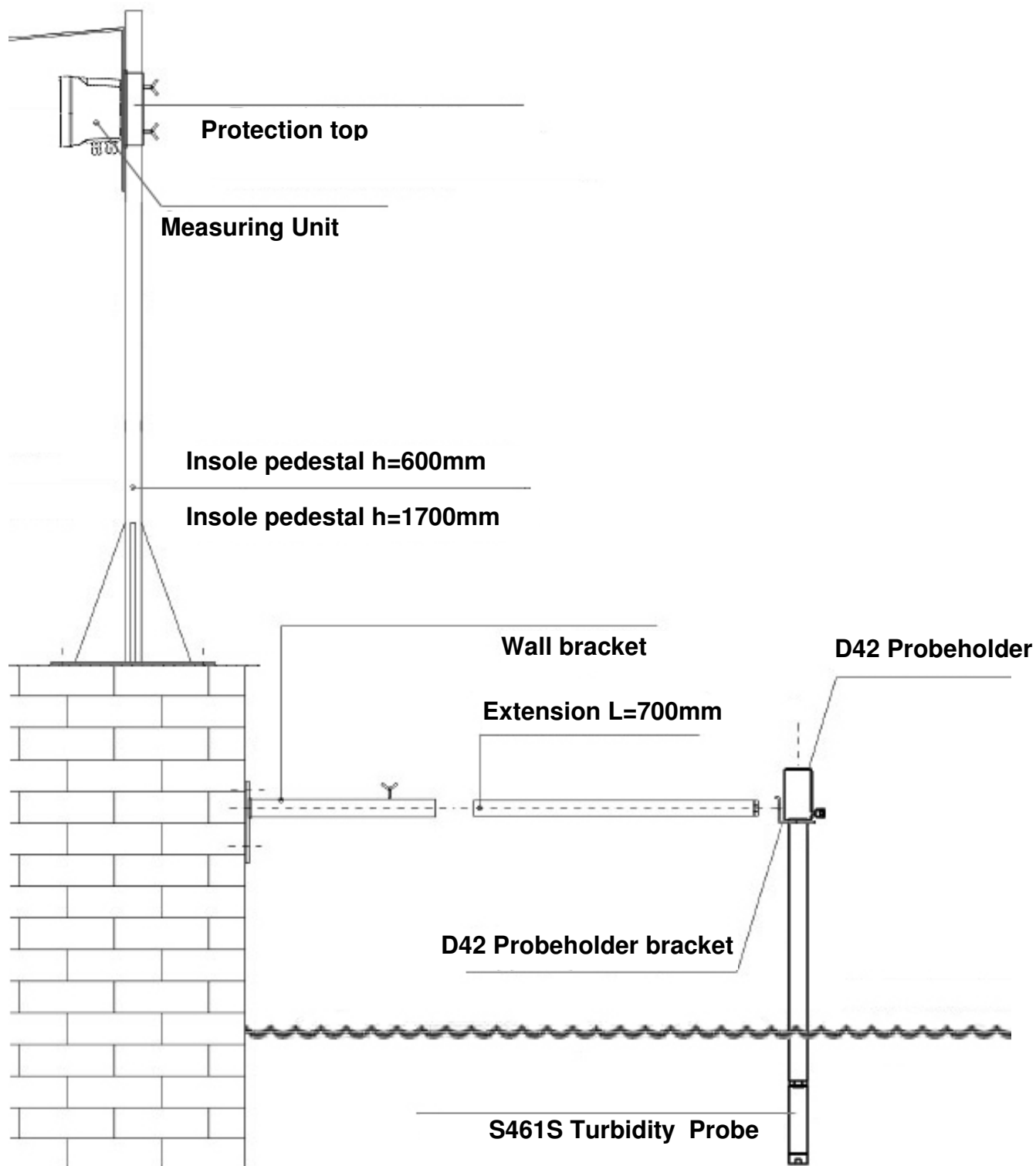
Install the probe in the channel so that it is immersed for at least 20 cm and the distance from walls and bottom of the channel is not less than 20 cm.

## Installation in pipeline



Attention: measures refer to the inside part of the pipe

## Anchoring to poolside devices



## Insertion in pipeline devices

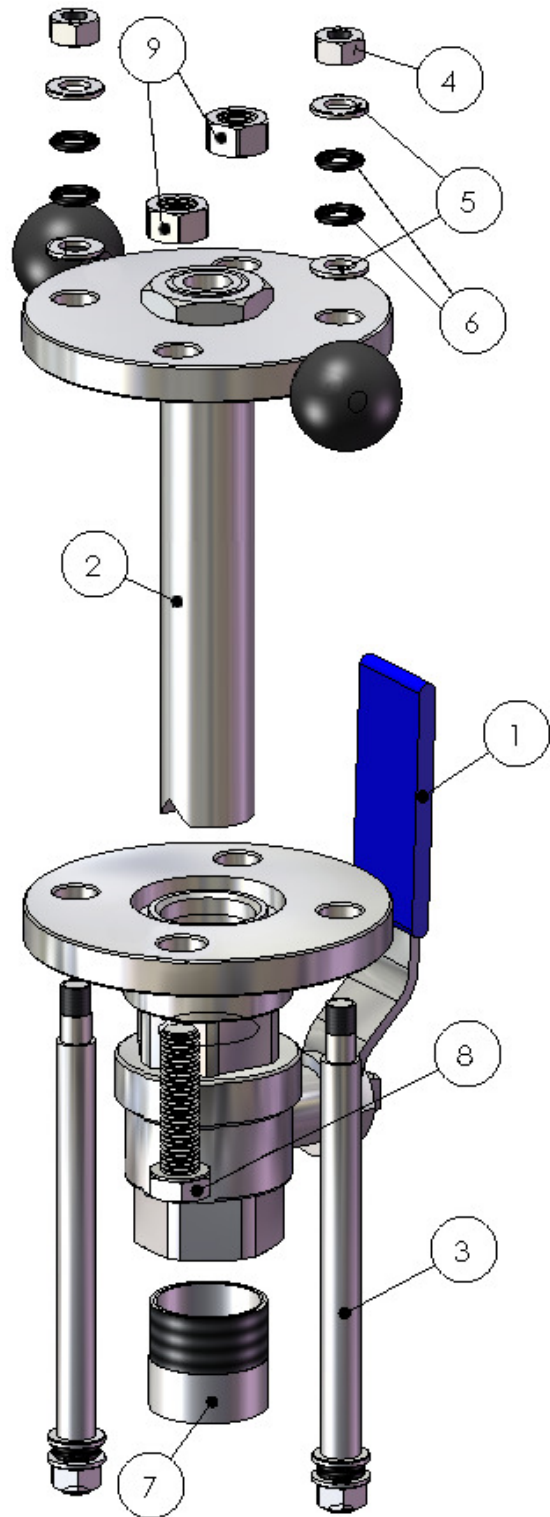
### Insertion probeholder Code 9700740060

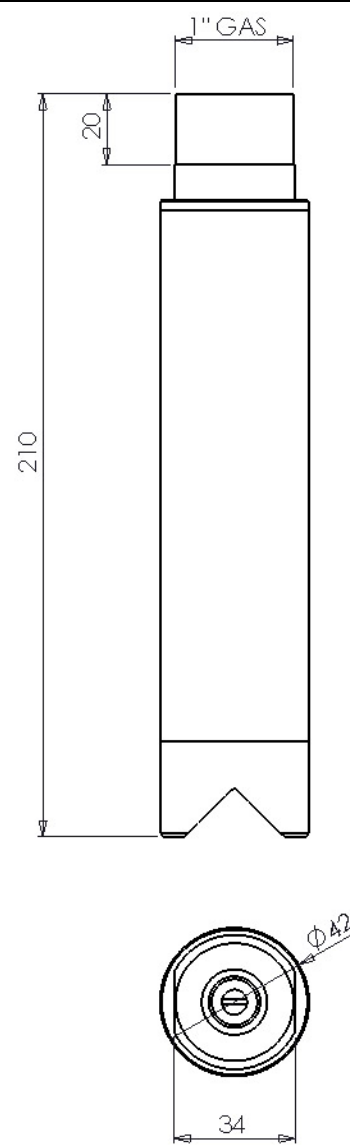
### Nomenclature of the parts included in the delivery:

1. Valve ensemble
2. Probe ensemble
3. Stop Pole (2)
4. M12 Nut (4)
5. 12 Washer (8)
6. O-ring 4050 (8)
7. AISI 316 weld socket
8. M16x60 Bolt (2)
9. M16 Nut (2)

### Instructions for a proper assembly:

Unscrew the socket (7) from the valve ensemble (1) and weld it on the pipe. Unscrew the two M16x60 bolts (8) from their respective nuts (9). Unscrew the two superior M12 nuts (4) from the stop poles (3) and remove the superior washers (5) and O-rings (6). Then insert the probe ensemble (2) into the valve unit (1) until aligning the two flanges and the corresponding holes of the two blocks. Let the stop poles (3) pass through the holes of the probe ensemble and then reinsert superior washers (5) and O-rings (6), then screw the M12 superior bolts (4) to the stop poles (3). Repeat this procedure with the M16x60 bolts (8), then tighten the corresponding M16 Nuts (9).



TECHNICAL DATA	DIMENSIONS											
<b>Materials :</b> <ul style="list-style-type: none"> <li>— Stainless Steel 1.4401 (316) body (PVC optional)</li> <li>— Special Epoxy windows</li> <li>— Viton O-ring</li> </ul>												
<b>Thread:</b> 1" GAS												
<b>Measuring range:</b> 0-30 g/l												
<b>Measuring method:</b> Light absorption												
<b>Resolution:</b> 0.1 g/l												
<b>Accuracy:</b> $\pm 0,3$ g/l												
<b>Repeatability:</b> $\pm 0,5$ g/L												
<b>Calibration:</b> by steps												
<b>Responding time:</b> $T_{90} < 60s$												
<b>Working temperature:</b> 0÷50 °C												
<b>Max Working pressure:</b> 4 bar												
<b>Maximum absorption:</b> 3W												
<b>Mechanical Protection:</b> IP68 – cable included												
<b>Cable:</b> 10m integral												
<b>Power supply:</b> 12...24Vdc												
<b>Outputs:</b> RS485 ( 4-20mA optional)												
<b>Cable color codes</b> <table> <tr> <td>RED</td><td>+24Vdc</td></tr> <tr> <td>BLACK</td><td>GROUND</td></tr> <tr> <td>YELLOW</td><td>A+ RS485</td></tr> <tr> <td>GREEN</td><td>B- RS 485</td></tr> <tr> <td>WHITE</td><td>+ 4-20 mA</td></tr> <tr> <td>BROWN</td><td>- 4-20 mA</td></tr> </table>		RED	+24Vdc	BLACK	GROUND	YELLOW	A+ RS485	GREEN	B- RS 485	WHITE	+ 4-20 mA	BROWN
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## Order codes

<b>9700620063</b>	S461S Suspended solids infrared probe 10m cable 0-30g/l 4-20mA
<b>9710620063</b>	S461S Suspended Solids sensor. Immersion style 10m cable with socket
<b>9720620063</b>	S461S/INS Susp. Solids sensor Insertion style 10m cable+socket
<b>9730620063</b>	S461S Suspended Solids probe 0-4000mg/l 4-20mA 12VDC 10m cable
<b>9740620063</b>	S461S/PVC Sonda ad infrarossi per solidi sospesi in PVC