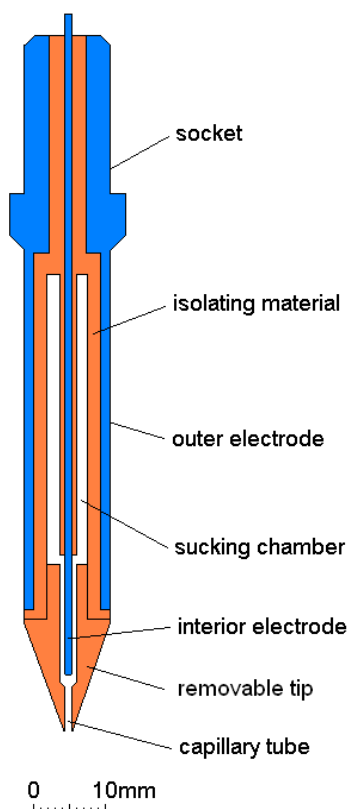


Microstructure conductivity sensor for the MSS Profiler

The microstructure conductivity sensor is a capillary type two electrode probe. This type of conductivity sensor is based on developments of the Atlantis Branch of the P.P. Shirshov Institute of Oceanography. Its principle is described in detail in *Paka, Nabatov, Lozovatski, Dillon: Oceanic Microstructure Measurements by BAKLAN and GRIF. JAOT Vol. 16,1519-1532, 1999*).

The inner electrode in the conic sensor tip is a wire with a diameter of 2.3mm. The outer electrode is the surface of the cylindrical sensor. Both electrodes are made from stainless steel. The contact surface between the inner electrode and the water is approx. one cm². This guaranties a low current density at the electrode surface and consequently, a low level of contact polarisation noise. According to *Gibson and Swartz: Detection of conductivity fluctuations in a turbulent flow field. J. Fluid Mech., Vol. 144, 357-364*, the spatial response of the sensor is approx. 5 times the capillary tube diameter.



The electrodes are driven by an alternating current at approx. 15 kHz frequency.

The tip with the capillary tube is screwed into the sucking chamber and can be removed to clean the inner electrode.

The standard sensor tip has a diameter of 2 mm. Sensor tips with different capillary diameters are available.

Schematic drawing of the C-microstructure sensor for the MSS Profiler. When soaked into water, the air in the sucking chamber is compressed by the hydrostatic pressure and the interior electrode has contact to the fluid. At depth greater approx. 1 m, the inner electrode is completely wet.

Technical specifications can be changed without notice!

Contact:
ISW Wassermesstechnik Dr. Hartmut Prandke
Gartenweg 1, D -17213 Petersdorf, Germany
Tel.: +49(0)39932/13189, Fax: +49(0)39932/13216
E-mail: prandke@t-online.de
Internet: <http://www.isw-wasser.com>

