

Instrument

OPCON

The OPCON is an instrument specifically for measurement of suspended particle concentration in the field of hydraulic sediment transport investigations. Together with the OPCON control-unit it enables detailed non-sampling measurements with negligible process disturbances. Depending on the characteristics of the particles the OPCON can also supply data about the size of the particles.

Applications

Specific applications include

- hydraulic research
- engineering studies
- industrial processes
- environmental and hydrological measurements

General description

The measuring method is based on the extinction of near infrared radiation by suspended particles. The OPCON-system consists of:

- the concentration probe with an optical sensor, a light source reference circuit and a pre-amplifier
- an UCC instrument housing, providing the systems power supplies and housing for the OPCON control-unit with logarithmic amplifier, LCD-display unit and analogue output.

Features

- high spatial resolution
- high rangeability
- near-infrared eliminates influence of ambient light
- integrated pre-amplifier
- wide dynamic partial range
- output available on LCD-display as well as output connectors
- sensor can be optimized for specific applications
- the control-unit fits in the standard Deltares UCC and BP-UCC (battery powered) universal carrying cases



Technical specifications

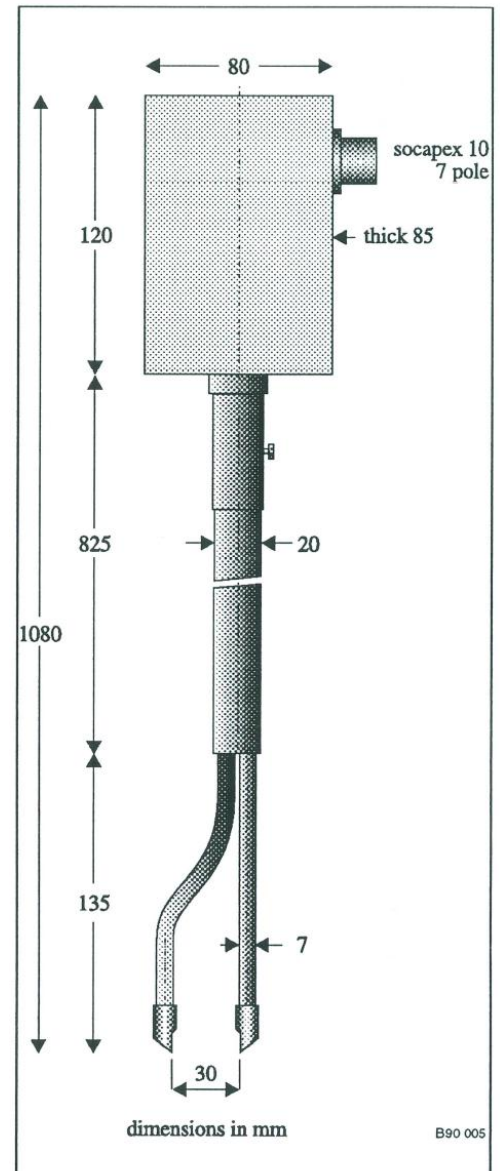
Range	<ul style="list-style-type: none"> China clay ~3 g/l sand $D_{50}=200 \mu\text{m}$ ~50 g/l
Scale	to obtain reliable measurements an accurate calibration is of decisive importance. The calibration medium, liquid and particles, has to be a representative sample of the medium under investigation.
Particle size	10-1000 μm
Repeatability	5% of calibration 5 ppm
Dynamic response	0-1 kHz

Probe specifications

Dimensions	see diagram
Sensing volume	2.6 x 2.5 x 30 mm
Radiation power	12 mW
Interconnection cable	10 m standard supplied

Control-unit specifications

OPCON control	unit installed in UCC housing
Controls	<ul style="list-style-type: none"> zero-adjustment display selector
Display	LCD display (3.5 digits)
Outputs	analogue voltage 0-10 VDC
Connectors	<ul style="list-style-type: none"> BNC (2x) 64-pole male DIN 41612 type for UCC
Power	<ul style="list-style-type: none"> standard supplied by UCC-cabinet total consumption 2 VA max.
Dimensions	106 x 129 x 187(205) mm (w x h x d)
Weight	0.9 kg



More information:
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