

Flow Sensor NAUTILUS C 2000



- For very slow velocities 0.000 m/sec. and shallow water as from 3 cm
- For the check and cyclical control of wastewater measuring devices (Venturi, MID, a.o.) independent of any parameters, such as temperature, sediment concentration, salinity, etc., ...
- Registration of flow-profile, e.g. in waste water channels, basins and reservoirs
- Extremely robust and impact proof sensor
- Averaging intervals programmable
- Direct velocity readout in m/sec. (0 ... 60 sec.).

● Application

Flow measurements in shallow water and minimum velocities - complicated by plant growth - such problems may be mastered by the NAUTILUS C 2000 Flow Sensor.

The ideal help for site conditions where the conventional current meter can no longer be used for:

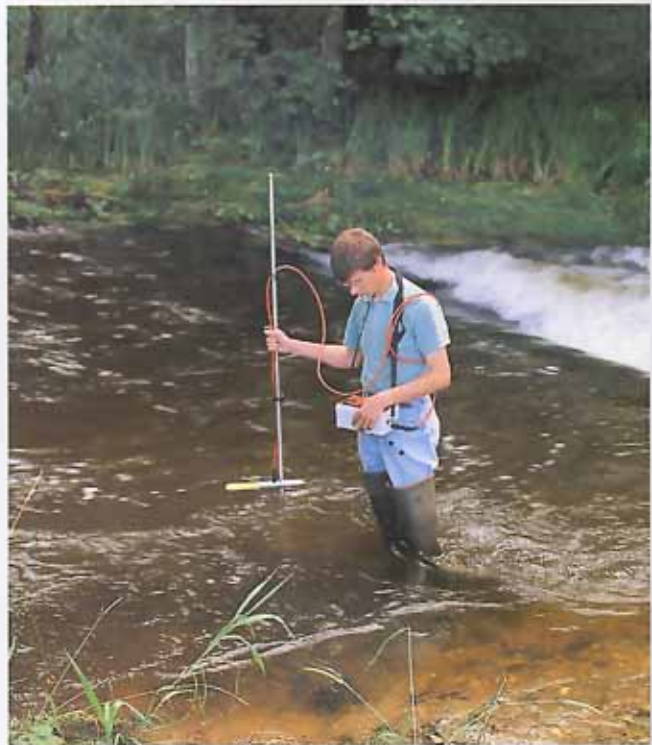
- plant-loaded water
- marginal zones of river and sea banks
- polluted water
- very slow velocities as from 0.000 m/sec.
- shallow water as from 3 cm

The degree of accuracy, viz 1 % of measured value, becomes especially effective in the lowest velocity range. Every sensor is calibrated individually in the new designed OTT rating tank for the velocity range 0.000 m/sec. to 1.500 m/sec. (standard) or 2.500 m/sec. (optional).

The measured value is directly indicated in metres/sec. on the clear display of the SENSE Z 300 Velocity Indicator.

The system is also designed for long-term measurements: e.g. by connection of a PC/Laptop (via RS 232 C interface) it is possible to record flow diagrams and by this, to represent flow behaviour.

Averaging intervals are selectable by steps between 0 and 60 seconds.



NAUTILUS velocity sensor, fixed on wading rod 20 mm dia. and HERES relocating device.

● Technical Features

- Measurement of lowest velocities as from 0.000 m/sec.
- no moving parts, thus weir-resistant and maintenance-free.
- extremely robust and impact-proof
- independent of any parameters, such as temperature, suspended sediment concentration, salinity, etc.

● Function

The magnetic induction principle according to Faraday offers the possibility to measure lowest velocities without any mechanically moved parts: if an electroconductive medium moves in a magnetic field, then a voltage is induced in this conductor.

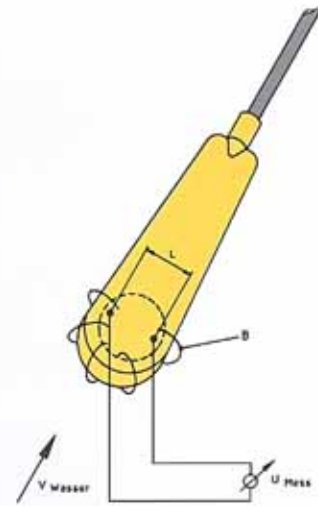
$$U = B \cdot L \cdot v$$

U = measuring voltage B = magnetic field
L = length of the conductor v = velocity



Thus the output voltage is linearly proportional to the velocity of the electric conductor (in this case: the water). This is obtained in the NAUTILUS Sensor by a constant distance of electrodes and by the defined magnetic field produced by a coil. The induced voltage is tapped-off from the two special electrodes, it is pre-amplified and is directly displayed in the physical unit (m/sec.) by the SENSE Z 300 Velocity Indicator.

Depending on the principle, the measurement in each case only covers the axial component of the flow velocity, that means by this you always get a 100 % component effect.



● Technical Details:

NAUTILUS C 2000 Sensor

Operating temperature: - 5 °C ... + 70 °C

Material of probe: impact-proof epoxyresin

Material of electrodes: Titanium (easy to clean)

Minimum conductivity of the measuring medium: 5 μ S
(exceeding fluctuations do not influence the measurement.)

Power supply: via SENSE Z 300 Velocity Indicator

Dimensions: approx. 18 cm x 5 cm x 2 cm

Weight: approx. 0,5 kg
(incl. 3 m connecting-cable)



● SENSE Z 300 Velocity Indicator

Polycarbonat-case incl. shoulderstrap, front panel with operating keyboard and LC-display, direct readout in m/sec.

Dimensions: 22,5 cm x 14 cm x 10,5 cm

Type of protection: IP 67

Operating temperature: - 5 °C ... + 40 °C

Power supply: 10 pcs. of Baby-cells of 1,5 V ea. sufficient for approx. 32 operating hours

Output: RS 232 C

Calibrated 0,000 ... 1,500 m/sec.
(standard)

Velocity range: 0,000 ... 2,500 m/sec. (option)

Averaging intervals: selectable without or 2, 5, 10, 15, 20, 30, 40, or 60 sec.

Accuracy: 1 % of measured value

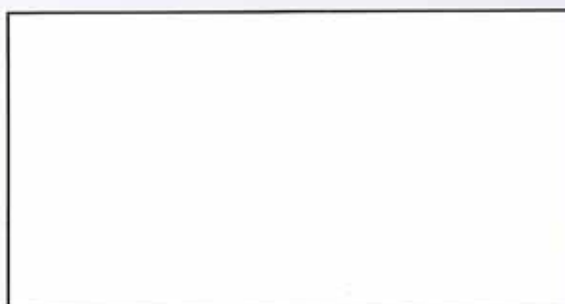
Zero stability: \pm 2 mm/sec.

Weight: approx. 1,8 kg (with batteries)

Specification of ordering

Item No.	Designation	Ident. No.
	Basic unit	
1	NAUTILUS C 2000 sensor incl. 3m cable, fixed installed, incl. plug to SENSE Z 300 velocity indicator, incl. tools - without batteries Other cable lengths (max. 20m) upon request	400.10 m
2	SENSE Z 300 Velocity Indicator incl. shoulder strap language version (language of the LC-display) English - French - Spanish - German	400.20
3	Adapter for mounting the sensor to a 20 mm dia. wading rod	
4	Calibration up to 1,500m/sec. incl. EPROM (Standard) in the OTT rating tank	400.25
4.1	Calibration up to 2,500m/sec. incl. EPROM (Option) in the OTT rating tank	400.30
5	Instrument case for the accomodation of the complete measuring device (without rod and HERES)	400.80
	Accessories	
6	Battery Baby cell 1,5 V (10 pcs. required)	400.60
7	Rod 20 mm dia., 3m long, 3-sections, dm-graduation, with base plate and point (other lengths and graduations - see our OTT-price list)	10.14
8	HERES relocating device for 20 mm dia. rod 2 m long, 2 seletions (other lengths and selections - see our OTT-price list)	10.30
9	Canvas bag for 20 mm dia. rod and the HERES relocating device	10.29
10	Data transmission cable for the direct readout from the SENSE Z 300 to a Laptop/PC, 3 m long incl. 9-pin plug incl. 25-pin plug	400.92 400.94

Small design details may be changed without notice



Delivery program e.g.:

Water Level Recorders
Current Meters, Winches
Pressure Probes
Shaft Encoders
Data Loggers, Smart Sens.
Data Transmission

Ask for our price list!

