

10.008

CURRENT METER, PYGMY-TYPE

Approval Date: 20 May 1998

Reviewed on : 23 October 2007

Version: 1

Purpose

The current meter will be used for flowing water velocity and thus discharge measurements in shallow rivers, streams and canals. It will be used for wading gauging only.

Conditions & Requirements

- The current meter shall be of such a design that it operates reliably and accurately under the prevailing flow and environmental conditions in shallow water.
- The current meter shall be easy to operate and maintain.
- The current meter shall be supplied with the accessories as needed for effective deployment.
- All materials of the current meter shall be non-corrosive.
- An operator's manual, related to the type and model of the current meter, shall be part of the delivery.
- The current meter shall come with the calibration data, i.e. actual calibration velocity versus actual revolutions per second as collected during the calibration process. Calibration data should uniquely identify the instrument body, the rotor, observer, rating tank, way of suspension, methodology and similar information.
- The current meter shall come with a rating table and a rating chart in m/s versus revolutions per second.
- The current meter shall have a provision to adjust its trimming.
- The design shall be sediment resistant and have an air-filled bearing chamber.
- The bearings should be field adjustable.
- The current meter shall come without a protection ring/yoke in front of the rotor; such a yoke would make the current meter sensitive to its alignment into the flow, which should be avoided.
- The bearing chamber shall be as slim as possible to avoid excessive drag.
- The electrical connections shall not protrude into the current, but backwards instead.
- The electrical connections shall be of a reliable and sturdy construction.
- The current meter and accessories shall be supplied in a sturdy carrying case.
- An appropriate tool-set shall be included in the delivery.
- The current meter shall generally comply with IS 3910-1992.

Specifications

1. Sensor

sensor type	6 cup wheel
contact	every one revolution
range	0.015 to 0.9 m/s (starting up to maximum operational velocity)
accuracy	for velocity up to 0.3 m/s: 1 % Full Scale for velocity >0.3 m/s: 0.5 % FS
contact chamber	magnetic or optic fibre

2. Suspension

wading rod	total length 3 m, graduation in cm
cables	wading application, from meter to counter, 10 m

Accessories

- standard instrument tools
- spare

bearings

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