

10.031

BRIDGE OUTFIT

Approval Date: 07 April 1999

Reviewed on : 23 October 2007

Version: 2

Purpose

The bridge outfit is to suspend current meters and samplers from a bridge into a river or canal.

Conditions & Requirements

- The bridge outfit shall be of such a design that it operates reliably and safely under the prevailing environmental conditions.
- The bridge outfit shall be easy to operate and maintain.
- The bridge outfit shall be supplied with the accessories as needed for effective deployment.
- All materials on the bridge outfit exterior shall be non-corrosive.
- The bridge outfit shall have an expected technical lifetime of not less than 10 years.
- The equipment shall consist of a crane and a winch arrangement.
- The current meter shall be lowered by a hand driven winch.
- The bridge outfit shall be provided with a clamping facility to hold the cable at any desired position.
- While hoisting the current meter the cable shall be wound gradually guided from the one drum end to the other and vice versa, to lay the windings tidily next to each other.
- The winch system shall have a re-settable depth counter.
- The winch and its attachments such as crank, brake, ratchet/catch shall be assembled in a compact unit.
- This assembly shall be mounted on a moving crane.
- The crane trolley shall have 4 wheels with solid rubber tyres for easy movement.
- During operation of the current meter, the crane trolley shall stand on pedestals.
- A counter weight for the crane shall be included in the delivery. It should be sufficient to keep the crane from keeling over.
- The cable from which the current meter is suspended shall have an incorporated insulated electrical conductor. The conductor connects the flow sensor revolution sensor switch to the pulse counter. The electrical connection should pass through a slip-ring assembly on the winch.
- The suspension cable shall match the propeller type current meter from 10.009.
- If a propeller type flow meter is used then the suspension cable shall be torque free.
- The crane shall have a wire angle indicator.
- The equipment shall generally comply with IS 6064-1971.

Specifications

material	as per IS 6064-1971
mass of current meter	up to 100 kg
maximum load	2,500 Newtons
cable length	max. 50 m
cable torque	torque free suspension cable

The suspension cable should not exert any torque that may adversely affect the alignment of the flow sensor into the direction of flow. In particular in case a heavy suspension weight is used, there is a risk of cable induced torque.

flow velocity	max. 5 m/s
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For velocities exceeding 5 m/s, specifications may be changed suitably to meet the hydraulic conditions.

Dimensions

Boom length to be specified for suspended current meter to clear bridge under carriage projection, that may be present. Boom under side to be of sufficient height along with suspended current meter & fish weight, to clear parapet on bridge. Bridge outfit wheel base adequate to move on the foot-paths or berms available on the bridge (At least a range of dimensions based on bridges on which out-fit is planned to be used has to be indicated)

Note for purchaser Dimensions in respect of boom length and its height shall be given Italics to differentiate from the main specifications. Specify two configurations of height/boom length on an average basis since defining several combinations of boom length/height is not practicable in supply

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