

Three Wheel Bridge Crane

WATER FLOW | SEDIMENT SAMPLING

General Description

The three wheel bridge crane 3WBC is a collapsible unit intended for measuring discharge or for sediment sampling from bridges. The 3WBC can deploy Columbus weights and sediment samplers up to 45 kg.

The crane is made from structural aluminum and stainless steel material. It includes a winch mount to accommodate the WS250 and WS400 sounding winch (optional, see flipside) as well as the USGS type A reel. It is simple to put up and folds down into a compact sized package for transit.

The 3WBC consists of two maneuverable wheels with manual brake and one fixed wheel that is fitted to the base, as well as all the necessary supporting chassis components. When in use, the crane is set up in full open position and the crane rests against the bridge railing with the boom arm been extended 1 metre out over the river. The two in-line wheels provide stability when the crane in contact with the handrail.

Applications

The 3WBC is typically used to deploy current meters (see flipside), sediments samplers (see flipside) or ADCP from a bridge or dam.

- Discharge Measurement
- Sediment Sampling

Features

- Robust construction
- Easy to install and use
- Operates in a narrow space
- Collapsible crane for transport purposes
- Used with weights up to 45 kg
- Light-weight (approximately 25 kg without the winch)



Technical Specifications

Load Capacity	Fully open position up to 45 kg
Material	<ul style="list-style-type: none"> ■ Robust construction in aluminum, stainless steel and delrin materials ■ Wheels: rubber tyred on cast aluminum
Mounting & Folding	<ul style="list-style-type: none"> ■ Scissor action folding for both winch support and rear wheel extension ■ Pivots around cross supports, which slide up and down vertical supports/rails
Wheels	<p>3 rubber tyres on cast aluminium wheels:</p> <ul style="list-style-type: none"> ■ 2 wheels move in a lateral left or right position, parallel to the bridge rail ■ 1 wheel for support purposes
Operating Dimensions	1800 mm long x 950 mm wide x 1400 mm arm depth (6' long x 3' wide x 4.6' arm depth)
Storage Dimensions	1800 mm long x 950 mm wide x 200 mm deep (6' long x 3' wide x 0.7' deep)

Accessories



Winches (WS250, WS400): HyQuest Solutions' stream gauging winches are

hand-operated single drum winches capable of handling Columbus gauging weights up to 70 kg using the four wheel bridge crane 4WBC. The winches are designed for ease of operation and service ability in the field: compact, portable, light-weight, and handled easily and safely by one person.



Current Meter OSSB1:

The universal current meter OSS-B1 is used for point measurements of flow velocities on the water surface or in vertical profiles down to the riverbed at flow speeds of 0.025 to 10 m/s. Deployment: mounted on wading rod, from a bridge/boat using winches and bridge cranes, or on cableways.



Sediment sampler D49:

The easy-to-use sediment sampler D49 is used to take suspended-sediment samples in streams not greater than 10 m in depth. The instrument is mounted on a hanger bar and attached to the suspension cable on a gauging winch for lowering and raising.



Alternative Model - Bridge Crane 4WBC:

HyQuest Solutions' bridge crane 4WBC (with 4 wheels) is a collapsible unit intended for measuring discharge or for sediment sampling from bridges. The 4WBC can deploy Columbus weights and sediment samplers up to 70 kg.



Gauging Weights:

(Columbus and Nose Mounted Ground Feeler models): Protects current meter against heavy debris damage, streamlined shape reduces resistance to flowing water. For stability, a hanger bar (included) and a stabilising tail (available at HyQuest Solutions) is used.



Bed Load Sampler BLS:

HyQuest Solutions' bed load sampler models BLS30 and BLS48 are deployed by winches. They are designed to sample silt, gravel or rock debris carried by a stream on or immediately above its bed.

Please ask for details.

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