

# Four Wheel Bridge Crane

WATER FLOW | SEDIMENT SAMPLING

## General Description

The Type A Four Wheel Bridge Crane 4WBC 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.

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 Type A Bridge Crane consists of two maneuverable wheels with manual brake and two fixed wheels that are 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 optional counter weights are used as a cantilever to provide stability when the crane is in contact with the handrail.

## Applications

The 4WBC 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 70 kg
- Light-weight (approximately 45 kg without the winch)



## Technical Specifications

<b>Load Capacity</b>	Fully open position up to 70 kg
<b>Material</b>	<ul style="list-style-type: none"> <li>■ Robust construction in aluminum, stainless steel and delrin materials</li> <li>■ Wheels: rubber tyred on cast aluminum</li> </ul>
<b>Counter Weight</b>	Optional, see below
<b>Mounting &amp; Folding</b>	<ul style="list-style-type: none"> <li>■ Scissor action folding for both winch support, angular position and fully open position</li> <li>■ Pivots around cross supports, which slide up and down vertical supports/rails</li> </ul>
<b>Wheels</b>	<p>4 rubber tyres on cast aluminium wheels:</p> <ul style="list-style-type: none"> <li>■ 2 wheels move in a lateral left or right position, parallel to the bridge rail with manual brake</li> <li>■ 2 wheels for support purposes</li> </ul>
<b>Operating Dimensions</b>	1800 mm long x 750 mm wide x 1800 mm arm depth (6' long x 2.5' wide x 6' arm depth)
<b>Storage Dimensions</b>	1800 mm long x 750 mm wide x 200 mm deep (6' long x 2.5' 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.



**Counter Weights:**

22 kg zinc plated steel counter-weight to suit 4 wheel bridge crane 4WBC



**Gauging Weights:**

(Columbus and Nose Mounted Ground Feeler models): Protects current meter against heavy debris damage, streamlined shape reduces resistance to flowing water.



**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.

**HyQuest Solutions Australia**

✉ sales@hyquestsolutions.com.au

🌐 www.hyquestsolutions.com

**HyQuest Solutions New Zealand**

✉ sales@hyquestsolutions.co.nz

🌐 www.hyquestsolutions.com

**HyQuest Solutions Europe**

✉ info@hyquestsolutions.eu

🌐 www.hyquestsolutions.eu

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