

Three Wheel Bridge Crane

Water Flow | Sediment Sampling

General Description

KISTERS' bridge crane 3WBC is a collapsible unit intended for deployment of manual discharge measurement equipment (e.g. mechanical current meter or ADCP) or for deployment of sediment samplers from bridges. The 3WBC is a popular measuring outfit which is used for weights and sediment samplers up to 45 kg. It can be deployed at bridge railings of maximal 1.5 m height.

The crane is made from structural aluminum and stainless steel. 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 assemble and folds down into a compact sized package for easy transport.

The 3WBC consists of two maneuverable heavy duty (in-line) wheels fitted to the base assembly, a fixed third (roadside) wheel, and all the necessary supporting chassis components. When in use, the crane is tipped up and stands on the two in-line wheels while it rests against the bridge railing, with the boom arm been extended 1 metre out over the stream. The two in-line wheels provide stability when the crane is in contact with the handrail.

Applications

The 3WBC is suitable for deployment of columbus weights (up to 45 kg) with mechanical current meters (see flipside), Acoustic Doppler Current Profilers (ADCP) and sediment samplers (see flipside).

It is used for

- Discharge Measurement
- Sediment Sampling

Features

- Easy to install and use, no special tools required for set up
- Robust construction
- Low maintenance
- Easy transport: collapsible, light-weight (approximately 25 kg without the winch)
- Operates in a narrow space
- Suits third-party winches (e.g. USGS A reel)
- Used with weights up to 45 kg



Technical Specifications

Load Capacity	Fully open position up to 45 kg (99 lbs)
Height of Bridge Railing	min 1.2 m; max 1.5 m (min 3.9'; max 4.9')
Material	<ul style="list-style-type: none"> - Robust construction in aluminum, stainless steel and delrin materials - Wheels: rubber tyred on cast aluminum
Mounting and 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	3 rubber tyres on cast aluminum wheels: <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): KISTERS' 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. (NB: The WS500 single drum winch is not suitable for deployment on the 3WBC.)



Alternative Model - Bridge Crane 4WBC:

KISTERS' 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.



Current Meter OSSB1:

The universal current meter OSSB1 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.



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 KISTERS) is used.



Bed Load Sampler BLS:

KISTERS' 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.

Custom Solutions: KISTERS' engineering and fabrication workshop and experienced engineering staff can provide tailor-made, ready to deploy solutions for any of your requirements.

[Please ask for details.](#)

Reseller

KISTERS Australia | sales@kisters.com.au | kisters.com.au

KISTERS Europe | hydromet.sales@kisters.eu | kisters.eu

KISTERS New Zealand | sales@kisters.co.nz | kisters.co.nz

KISTERS North America | kna@kisters.net | kisters.net

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