

Stream Gauging Winches

WATER FLOW

General Description

HyQuest Solutions' stream gauging winches are **hand operated single drum winches** capable of deploying sediment samplers or mechanical current meters with Columbus gauging weights. They can be deployed using a winch board (e.g. SAN22SS) or alternatively a bridge crane (e.g. 3WBC, 4WBC)*.

The winches are designed for ease of operation and serviceability in the field: **robust, compact, portable, light-weight, handled easily and safely by one person.** They can be deployed from cable cars, boats or bridges.

Special attention is paid to **safety**: An automatic Weston Brake locks the drum if the handle is released. This holds the load in any position for **safe and smooth operation.** The unit is equipped with a breakaway kit rated @ 272 Kg for the safety of the user during operation. (Attention: Failure to use this device may cause severe injury or death.)

The winch drum is fitted with an amergraph cable. **The special construction of this cable offers these advantages:**

- Allows the suspension in the stream of the sensing device (e.g. current meter and large Columbus weight)
- Serves as a medium for transmission of current meter signals to a counting device attached to the winch

The winch **depth counter supplied (centimetre resolution)** is protected within the frame. An imperial version is available on request.

Use with current meter

Some elaborate features support current metering: A silver-plated slip ring conducts the signal from the sounding drum to the current meter counter. The counter can be connected to terminals provided on the winch itself. The single layer of the amergraph signal cable on the drum prevents damage of the internal conductor and premature replacement.

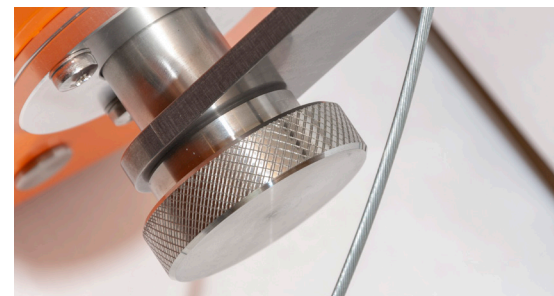
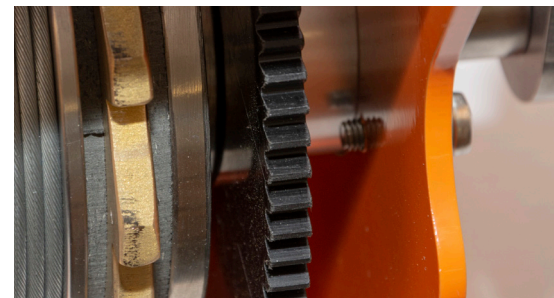
Applications

The WS250/WS400/WS500 winches are used for the deployment of mechanical current meters with gauging weights, sediment samplers and other suitable hydrometric equipment for

- Water Quality Analysis
- Sediment Sampling
- Stream Discharge Measurement

Features

- Type: single drum winches
- Safety: Weston Brake, break-away kit
- Adjustable manual drum handle
- Robust carry case (available as an option)
- Choice of drum capacity and cable diameter (see flip side)



* Please note: Deployment from a bridge crane is possible for models WS250 and WS400 only. Due to the width of its drum, the model WS500 is NOT suitable for use on a bridge crane.

Technical Specifications

Load Capacity

- 45 kg (99 lbs) when used stand alone on a SAN22SS winch board (all three models) or with the 3WBC bridge crane (models WS250 and WS400 only)
- 70 kg (154 lbs) when used with the 4WBC bridge crane (models WS250 and WS400 only)

Material

- Sounding drum: cast aluminum
- Slip ring: silver-plated
- Frame: robust stainless steel grade 304, powder coated
- Amergraph cable: insulated inner core of 6 copper and 6 stainless steel wires, outer strands of 15 galvanised wires

Counter

Five digit resettable, registering depth in centimeters, 1 cm resolution (1/10 of a foot)

Mounting

- 4 x M10 mounting holes for winch board with outrigger model SAN22SS
- 4 x M10 mounting holes to suit 'A Reel' type trolley

Drum Capacity (cable length)

Choice of 3 winch models and 2 cable diameters:

	WS250	WS400	WS500
2.5 mm diameter cable	25 m (84 ft)	40 m (131 ft)	50 m (164 ft)
3.2 mm diameter cable	20 m (65 ft)	30 m (99 ft)	40 m (131 ft)

Dimension & Weight

	WS250	WS400	WS500
L x W x H (mm)	461 x 280 x 270	580 x 280 x 270	660 x 280 x 270
L x W x H (")	18.1 x 11.0 x 10.6	23.0 x 11.0 x 10.6	26.0 x 11.0 x 10.6
Weight	25 kg (55 lb)	27 kg (60 lb)	33 kg (73 lb)

Accessories



Bridge Cranes 4WBC and 3WBC: HyQuest Solutions' bridge cranes (3 or 4 wheel models) are collapsible units for discharge measurement or for sediment sampling from bridges. They are made from structural aluminium and stainless steel. They are simple to put up and fold down into a compact sized package for transport



Winch Board SAN22SS: The SAN22SS winch board with outrigger assembly is used to deploy a winch from a cable car, boat or bridge.



Metal Carry Case: Ensures protection of the winch during transport.



Sediment Samplers: HyQuest Solutions offers a range of depth integrating or bedload type samplers and accessories.



Columbus Weights: Different sizes available, complete with hanger bar and retaining pin



Mechanical Current Meters (e.g. OSSB1, OSSPC1.): World recognised instruments for measuring the velocity of water in open and closed channels. Made of durable materials like high grade 316 stainless steel, they are suitable for the most extreme environments.



Current Meters Counters (e.g. CMC20A, PVD200): Features: waterproof enclosures, simple button controlled menus, embedded LCDs and beepers to make counts audible. Improved accuracy due to signal conditioning. Bluetooth interfaces for use with HydroTab Stream Gauging Computer available.



HydroTab Stream Gauging Computer: Assembly of HydroTab software and a tablet suitable for harsh and wet environments. Used for direct water velocity measurements, or collecting, calculating, displaying and emailing full river gauging data.

Please ask for details.