

The logo for HydroMet, featuring a white diagonal slash followed by the word "HydroMet" in a bold, white, sans-serif font.

**/ HydroMet**

User Manual

# **BLS30 & BLS48**

The KISTERS logo, consisting of a white stylized 'K' symbol followed by the word "KISTERS" in a bold, white, sans-serif font. Below the logo is the tagline "Empowering decisions of tomorrow" in a smaller, white, sans-serif font.

**KISTERS**  
Empowering decisions of tomorrow

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# I Disclaimer

The information provided in this manual was deemed accurate as of the publication date. However, updates to this information may have occurred.

This manual does not include all of the details of design, production, or variation of the equipment nor does it cover every possible situation which may arise during installation, operation or maintenance. KISTERS shall not be liable for any incidental, indirect, special or consequential damages whatsoever arising out of or related to this documentation and the information contained in it, even if KISTERS has been advised of the possibility of such damages.

Any errors found in any KISTERS product should be reported to KISTERS where every effort will be made to quickly resolve the problem.

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## II Scope of Delivery

- Sampler
- Sample bag (two supplied)
- Packing crate

# III Safety Instructions

- Read the user manual including all operating instructions prior to installing, connecting and powering up the KISTERS BLS30 & BLS48. The manual provides information on how to operate the product. The manual is intended to be used by qualified personnel, i.e. personnel that have been adequately trained, are sufficiently familiar with installation, mounting, wiring, powering up and operation of the product.
- Keep the user manual on hand for later reference!
- If you encounter problems understanding the information in the manual (or part thereof), please consult the manufacturer or its appointed reseller for further support.
- KISTERS BLS30 & BLS48 is intended to be used in hydrometeorological or environmental monitoring applications.
- Before starting to work, you have to check the functioning and integrity of the system.
  - Check for visible defects on the BLS30 & BLS48, this may or may not include any or all of the following mounting facilities, connectors and connections, mechanical parts, internal or external communication devices, power supplies or power supply lines, etc.
  - If defects are found that jeopardize the operational safety, work must be stopped. This is true for defects found before starting to work as well as for defects found while working.
- Do not use the KISTERS BLS30 & BLS48 in areas where there is a danger of explosion.
- The present user manual specifies environmental/climatic operating conditions as well as mechanical and electrical conditions. Installation, wiring, powering up and operating the KISTERS BLS30 & BLS48 must strictly comply with these specifications.
- Perform maintenance only when tools or machinery are not in operation.
- If guards are removed to perform maintenance, replace them immediately after servicing.
- Never make any electrical or mechanical diagnostics, inspections or repairs under any circumstances. Return the product to the manufacturer's named repair centre. You can find information on how to return items for repair in the relevant section of the KISTERS website.



Disposal instructions: After taking the KISTERS BLS30 & BLS48 out of service, it must be disposed of in compliance with local waste and environmental regulations. The KISTERS BLS30 & BLS48 is never to be disposed in household waste!



Inputs and outputs of the device are protected against electric discharges and surges (so-called ESD). Do not touch any part of the electronic components! If you need to touch any part, please discharge yourself, i.e. by touching grounded metal parts.

# 1 Introduction

Thank you for choosing our product. We hope you will enjoy using the device.

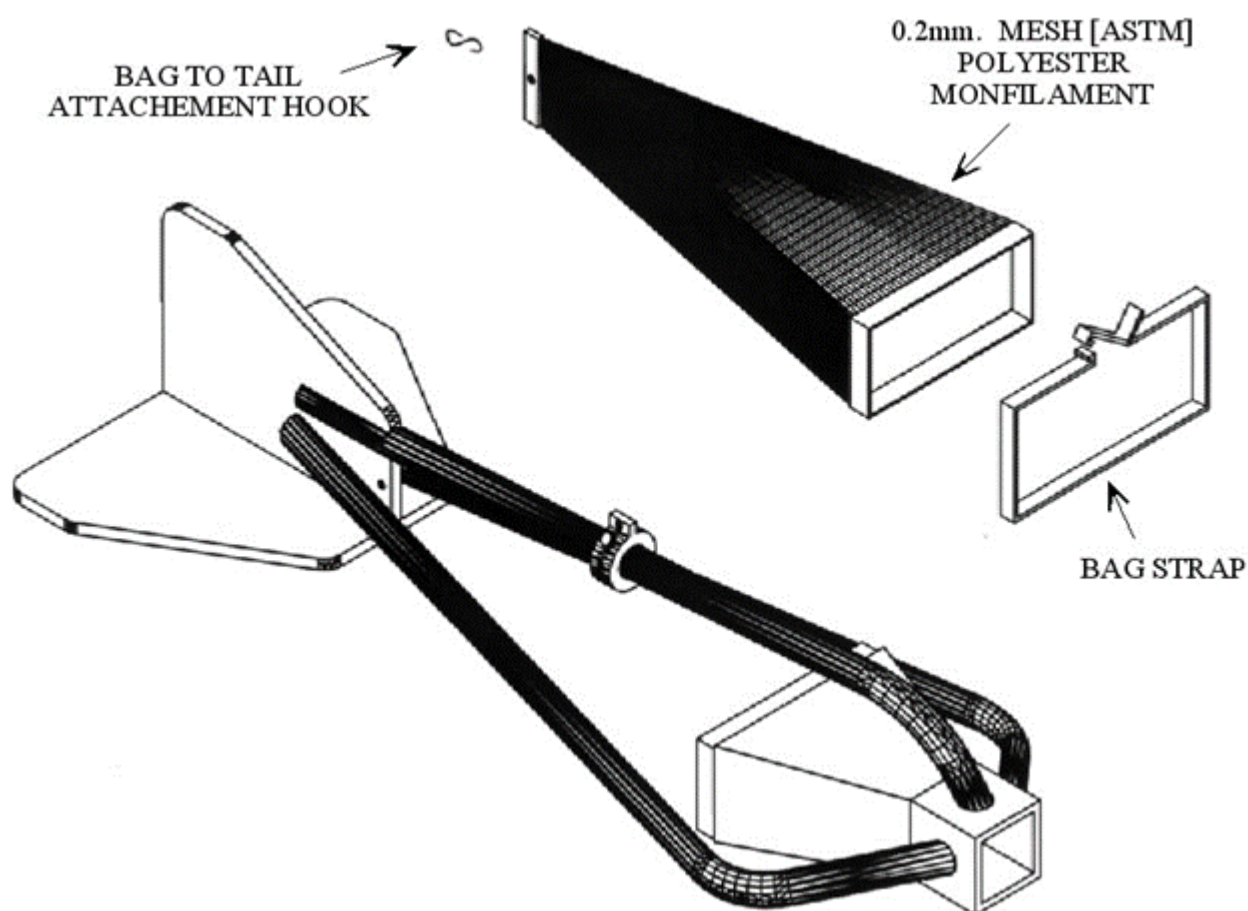
KISTERS manufactures, sells, installs and operates quality instrumentation, data loggers and communication technology. Products are designed with passion for environmental monitoring and with a deep understanding of the quality, accuracy and robustness needed to fulfil the requirements of measurement practitioners in the field.

The present User Manual will help you understand, install and deploy the device. If, however, you feel that a particular information is missing, incomplete or confusing, please do not hesitate to contact us for further support!

KISTERS' bed load samplers are designed to sample sand, silt, gravel or rock debris carried by a stream on or immediately above its bed. The BLS30 and BLS48 cable-suspended bed load samplers are used in natural streams or estuaries.

## 2 Assembly

- Remove the bed load sampler from the packing crate. Suspend sampler in water and adjust the suspension bracket so the sampler is 'tail heavy' at an angle of approximately 25°. To achieve this, release locking screws and move the sliding collar until this is achieved. Lock screws ensuring suspension bracket is vertical.
- Place sample bag (SB-01), with seam uppermost, to rear of nozzle.
- Place elastic band of sample bag in location groove around nozzle.
- Secure the bag with the bag strap
- Connect hook to eye in the rear of the sample bag.
- Connect CI Connector on winch to the sliding collar.



### 3 Configuration

BLS30-48 is a purely mechanical instrument. No specific configuration is required.

## 4 Operation

This chapter contains the following subsections:

- [Sampling Procedure](#)
- [Dismantling Procedure](#)

### 4.1 Sampling Procedure

(Reference: USGS Field Methods for Measurement of Fluvial Sediment Chapter 2 (Edwards & Glysson 1970))

- Locate sampling points at the centroid of equal discharge panels in the stream (by current meter measurement).
- Place BLS30/BLS48 on the stream bed (being careful not to dig the nozzle into the bed).
- Collect a sample over a timed period using a stop watch or similar, ensuring the sample bag is not filled more than 40 % record time and location (using the Reference document listed above).
- Remove the SB-01 sample bag and wet weigh the sample.
- Empty sample into a container and wash out SB-01 sample bag.
- Continue the sampling operation. Normally, one sample on each vertical is collected at 20 evenly spaced verticals (no greater than 15 metres apart) across the stream with the sample time even at each vertical (Single Equal Width Increment Method). Other methods are described in the Reference material mentioned earlier.

The following data must be recorded on a field sheet:

- Station Name
- Station Number
- Date
- Start and Finish Times
- Staff Gauge Reading at Start and Finish of sampling
- Cross-section width
- Distance between verticals
- Number of verticals sampled
- Duration of each sample (time BLS was on the stream bed)
- Sampler type
- Sampling Team Member Name

Each sample container should be labelled as follows:

- Station Name
- Station Number
- Date
- Designated cross-section (e.g Section A or B etc)
- Number of containers for each cross-section (e.g 1 of 1 or 1 of 2 etc)
- Duration of time the BLS was on the stream bed
- Sample Start and Finish Times
- Field Sampling Team Member Name

### 4.2 Dismantling Procedure

- Remove the SB-01 sample bag from the sampler nozzle and clean it before storing it away.
- If the sampler has been used in saltwater, rinse it with fresh water.
- Put the sampler and the sample bag back in the packing crate, then secure the lid for safe transport.

## 5 Maintenance

Make sure that the sample bags are in good condition and do not show any signs of excessive wear.

## 6 Troubleshooting

Refer to the [Operation](#)  section for details.

## 7 Repair

KISTERS precision instruments and data loggers are produced in quality-controlled processes. All KISTERS production and assembly sites in Australia, New Zealand and Europe are ISO 9001 certified. All equipment is factory tested and/or factory calibrated before it is shipped to the client. This ensures that KISTERS products perform to their fullest capacity when delivered.

Despite KISTERS most rigorous quality assurance (QA), malfunction may occur within or outside of the warranty period. In rare cases, a product may not be delivered in accordance with your order.

In such cases KISTERS' return and repair policy applies. For you as a customer, this means the following:

- Contact KISTERS using the Repair Request Form and the Declaration of Contamination made available online:

Region (Language)	Download Link
Asia-Pacific (English)	<a href="#">Repair Request Form (APAC)</a> <a href="#">Declaration of Contamination (APAC)</a>
Europe, the Middle East and Africa (English)	<a href="#">Repair Request Form (EMEA)</a> <a href="#">Declaration of Contamination (EMEA)</a>
Germany (German)	<a href="#">Repair Request Form (DE)</a> <a href="#">Declaration of Contamination (DE)</a>

In response you will receive a reference number that must be referenced on all further correspondence and on the freight documents accompanying your return shipment.

- Please provide as much information and/or clear instructions within the return paperwork. This will assist our test engineers with their diagnosis.
- Please do not ship the goods prior to obtaining the reference number. KISTERS will not reject any equipment that arrives without reference number; however, it may take us longer to process.

Custom requirements for items sent to KISTERS for warranty or non-warranty repairs: Check with your national customs/tax authorities for details, processes and paperwork regarding tax exempt return of products. Typically, special custom tariff codes are available (such as HS Code = 9802.00) that verify the item is being returned for repair and has no commercial value. Please note that the customs invoice / dispatch documents should also clearly state: "Goods being returned to manufacturer for repair - No Commercial value". It is mandatory to have any returned goods accompanied by a commercial invoice on headed paper. KISTERS reserves the right to charge the customer for time spent rectifying incorrect customs documents.

**Note:** Please ensure that your goods are packed carefully and securely. Damage that occurs during transit is not covered by our warranty and may be chargeable.

## 8 Technical Data

Type	Pressure-difference, cable-suspended bed load sampler
Weight	<ul style="list-style-type: none"><li>▪ Model BLS30: 30 kg (65 lb)</li><li>▪ Model BLS48: 48 kg (106 lb)</li></ul>
Orifice Size	<ul style="list-style-type: none"><li>▪ 76 × 76 mm (3" × 3")</li><li>▪ 1.4 Expansion</li></ul>

## 9 Obligations of the Operator and Disposal

This chapter contains the following subsections:

- [Obligations of the Operator](#) <sup>14</sup>
- [Dismantling / Disposal](#) <sup>14</sup>

### 9.1 Obligations of the Operator

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#### *European Union*

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In the Single European Market it is the responsibility of the operator to ensure that the following legal regulations are observed and complied with: national implementation of the framework directive (89/391/EEC) and the associated individual directives, in particular 2009/104/EC, on minimum safety and health requirements for the use of work equipment by employees at work.

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#### *Worldwide*

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Regulations: If and where required, operating licences must be obtained by the operator. In addition, national or regional environmental protection requirements must be complied with, regardless of local legal provisions regarding the following topics:

- Occupational safety
- Product disposal

Connections: Local regulations for electrical installation and connections must be observed.

### 9.2 Dismantling / Disposal

When disposing of the units and their accessories, the applicable local regulations regarding environment, disposal and occupational safety must be observed.

#### **Before dismantling**

- Electrical Devices:
  - Switch off the units.
  - Disconnect electrical appliances from the power supply, regardless of whether the appliances are connected to the mains or to another power source.
- Mechanical devices:
  - Fix all loose components. Prevent the device from moving independently or unintentionally.
  - Loosen mechanical fastenings: Please note that appliances can be heavy and that loosening the fastenings may cause them to become mechanically unstable.

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#### *Disposal*

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Operators of old appliances must recycle them separately from unsorted municipal waste. This applies in particular to electrical waste and old electronic equipment.

Electrical waste and electronic equipment must not be disposed of as household waste!

Instead, these old appliances must be collected separately and disposed of via the local collection and return systems.

Integrated or provided batteries and accumulators must be separated from the appliances and disposed of at the designated

collection point. At the end of its service life, the lithium-ion battery must be disposed of according to legal provisions.

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*EU WEEE Directive*

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As players in the environmental market, KISTERS AG is committed to supporting efforts to avoid and recycle waste. Please consider:

- Avoidance before recycling!
- Recycling before disposal!



This symbol  indicates that the scrapping of the unit must be carried out in accordance with Directive 2012/19/EU. Please observe the local implementation of the directive and any accompanying or supplementary laws and regulations.

# Contact Data

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		 <a href="http://www.kisters.es">www.kisters.es</a>

