HydroMet

User Manual

BU07

KISTERS

Empowering decisions of tomorrow

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Table of Contents

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.

This document is public.

II Safety Instructions

- Read the user manual including all operating instructions prior to installing, connecting and powering up the KISTERS BU07. 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 BU07 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 BU07, 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 BU07 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 BU07 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 BU07 out of service, it must be disposed of in compliance with local waste and environmental regulations. The KISTERS BU07 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!

The KISTERS Standard Orifice is designed to work with the HS23SL, HS23DO and HS23DL Dry Bubble Units and the full range of KISTERS HS40 compressors.

2 Installation

This chapter contains the following subsections:

2.1 Orifice Fittings

The site and reference level for the orifice fittings should be resolved before installation proceeds. The length of tubing from the HS23 to the orifice should not exceed 150 metres. A suggested method for installation of the orifice fitting is shown below.

The site of the orifice should be positioned in quiet water out of the mainstream to provide protection. The area should be free of silting and aquatic growth.

The mounting for the orifice fitting should consist of a section of 50 nominal bore galvanised pipe threaded at one end and secured at the appropriate reference level.

The securing of the orifice mounting should be such that it can withstand the forces applied by the flowing stream and associated floating debris.

2.2 Preparation of Orifice Tubing

Do not open the carton or remove the strapping.

To prepare the roll of tubing for use, cut a 300 mm diameter hole in the centre of the cardboard carton, retrieve the end of the tubing from the middle of the coil, then cut the strapping retaining the coil.

This method will reduce the possibility of tangling the tubing.

Prevent the ingress of dirt etc. from entering the tubing, by taping up the ends. At no time should the open end of the tubing be permitted to contact the soil.

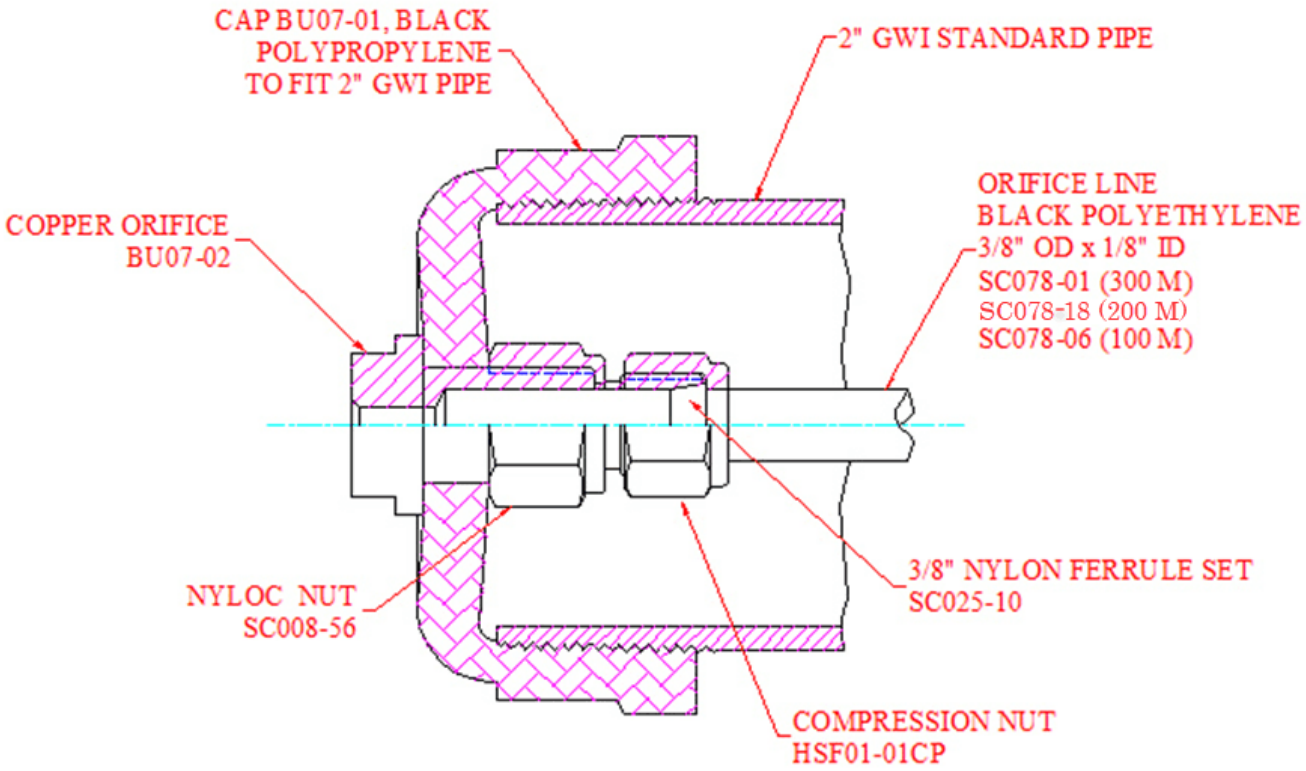
2.3 Orifice Tubing

It is recommended that a trench be dug (minimum 600 deep) between the equipment shelter and the proposed positions of the orifice.

The trenches should not have any low points in their length; they should have a continuous fall to the river.

- Pull the free end of the coiled tubing to the orifice position laying the tubing in the trench as you go. Refer to diagrams below.
- Remove the protective tape from the end of the tubing, and push the tubing through the 50 nominal bore pipe mounting. Insert the tubing into the tube fitting on the rear of the orifice fitting, ensuring that both ferrules are in place. Tighten the fitting nut a maximum of 1 1/4 turns from finger tight. (Refer to the following diagram for tightening procedure). Place the orifice fitting onto the mounting pipe and tighten.
- Cut the tube at the coil end (tape both ends), ensuring that there is sufficient length to make the joint at the HS23 within the shelter.
- Check the lay of the tubing in the trench to ensure that it is free of coils and kinks. Under no circumstances should the tube form hollows where moisture can be trapped within the tube.
- Lay the tubing into position in the equipment shelter as required.
- Remove the protective tape from the end of river line tube.
- Insert the end of the tube into the appropriate river line fitting on the HS23 or HS40 and tighten both fittings a maximum of 1 1/4 turns from finger tight. (Refer to diagram for tightening procedure).
- Open the valve to the orifice.

2.4 Standard Orifice



STANDARD ORIFICE FITTING MODEL BU07

NOTE:

Copper Orifice (BU07-02) must turn freely in Cap (BU07-01) after assembly.

3 Configuration

BU07 is a purely mechanical instrument. No specific configuration is required.

4 Technical Data

Material	▪ Cap: polyethylene ▪ Body: copper to reduce aquatic growth ▪ 2“ GWI female thread ▪ Plastic ferrule
Dimensions	Ø 80 × 55 mm
Weight	200 g

5 Obligations of the Operator and Disposal

This chapter contains the following subsections:

5.1 Obligations of the Operator

European Union

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.

Worldwide

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.

5.2 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.

Disposal

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.

EU WEEE Directive

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.

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