

Sterile Bag Sampler

Model 10301.5

Sterile Bag Sampler

Features

- Collects 1.5 liter sample from any depth.
- Sample collected in inexpensive, disposable, sterile bags.
- Designed for applications requiring penetration of contamination layers.
- Upstream fill tube minimizes contamination from wire or sampler.
- Bag is opened and closed at sampling depth.

General Description

The G.O. Environmental 10301.5 Sterile Bag Sampler is a bellows type sampler which collects a 1.5 liter sample in a pre-sterilized, heavy duty plastic bag. The inexpensive, disposable bag is completely sealed against biological or metallic ion contamination until it is opened in situ to take the sample. The model 1030 is an ideal sampler for applications requiring penetration of oil slicks or other surface layers. The bag fill tube is covered by a plastic sheathe which is cut from the bag upon opening to prevent contamination by oil or other substances which may "wet" the sampler's exposed surfaces. It can be used for collection of samples from any depth.

Model 1030 Sterile Bag Sampler and Model S10301.5OB Opaque Bag



The sampler can be fitted with a reversing thermometer assembly that is operated by a linkage which reverses the thermometer rack at the instant the fill tube is closed; operation of the assembly at this point provides confirmation of the opening depth of the sampler, as well as the temperature data itself. The sampler is designed for actuation on wire by messenger. It may be used either singly or in series with additional messengers strung below each unit.

Functional Description

The Sterile Bag Sampler is constructed of two cast aluminum plates which are hinged together on a torsion spring shaft. The bellows are held closed by a messenger actuated release assembly on the side of the sampler. This assembly incorporates a guillotine knife and clamp mechanism for opening and subsequent closure of the plastic bag. The bag is mounted within the bellows with three broad tynes on each side piece inserted into pockets external to the bag. The surgical rubber fill tube and its protective sheathe are threaded through the open closure clamp and the guillotine knife aperture.

The fin-like constriction of the model 1030 causes it to align the fill tube upstream into the current while the sampler is being lowered, thus further minimizing possible contamination from the wire or sampler itself. When the guillotine knife cuts away the sheathe over the fill tube, the tube springs forward away from the sampler and into the stream. The bellows are forced open by the torsion shaft to draw water into the bag. When the bag has filled, the closure clamp trips and seals off the fill tube for return of the sampler to the surface. While the clamp is closing, the reversing thermometer linkage releases for operation of the thermometer rack. The bag fill tube may be held closed with a standard laboratory spring clip and the bag removed from the sampler upon arrival back at the surface. The heavy polyethylene bag can be used for laboratory handling or freezer storage.

The G.O. Environmental Model M1000-3 Reversing Thermometer Assembly is available as an additional component which can be easily installed on the Model 10301.5 Sterile Bag Sampler. The complete reversing thermometer assembly is comprised of these components: a removable (and interchangeable) thermometer rack, the reversing pulley and mount saddle subassembly, and a small "anchor block" for attachment of the latex drive band. The standard thermometer rack will accommodate three thermometers (not supplied).

The disposable polyethylene bags are loaded onto the sampler by placement between the two cast aluminum plates; three broad tynes on each plate are inserted into external pockets on each side of the bag. The fill tube and its sealed protective sheathe are threaded through the closure clamp (A). The sheathe is twisted and drawn through the guillotine knife aperture to bring the end of the tube tightly against the aperture plate (B). The end of the sheathe is held by a thumb screw clamp (C). When the sampler is struck by the messenger, the sheathe is cut away to allow the fill tube to spring forward into the stream for minimal contamination from the wire.

Usage

The Sterile Bag Sampler can be used in rivers, lakes, out-fall sites, harbors or offshore applications for collecting water samples at any depth. When used with the reversing Thermometer Assembly, a correlation of temperature and depth can be made with the sample collected.

With the Sterile Bag Sampler, a large number of samples can be gathered under sterile conditions

without the encumbrances of sterilization equipment.

The bags have been sterilized to U.S.P. Standard by high voltage radiation and may be stored indefinitely without significant deterioration of their internal purity. The bags can be easily marked for identification.

Specifications

Model 10301.5

Weight: 2.7 kgs. (6 lbs.); bag, 77 gms. (2.7 oz).

Materials: Hard coat anodized aluminum bellows plates, wire clamp blocks and other minor components; stainless steel shaft, torsion springs, wire clamp bolts, and hardware; polyethylene bags with surgical rubber fill tubes.

Dimensions: Approx. 25.4 cm. (10 in.) wide by 28 cm. (11 in.) long; the trapezoidal shaped bags are approx. 36.5 cm. (14 in) by 50.8 cm (20 in.) by 24.5 cm. (9-5/8 in.) wide.

Depth rating: unlimited.

Sampling Bags: Heavy duty polyethylene; available in transparent (Model S1030-TB) or opaque (Model S1030-OB) .

Sterilization: U.S.P. Standard XV (high voltage radiation).

Actuation: Messenger drop from surface; single unit or serial operation with additional messengers strung below each sampler.

Mounting: Wire clamps for mid-wire attachment to cables with diameters of 0.63 cm. (1/4 in.) or smaller.



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