

NISKIN SAMPLER SPECIFICATIONS

Description:

Plastic water sampler (NISKIN TYPE): Non-metallic, free-flushing water samplers recommended for general-purpose water sampling. Made of rigid PVC material for collecting water samples at desired depths. These samplers can be individually or serially attached on a hydro cable and activated by a one heavy duty messenger of aprx. 1.0 Kg. Wt , or placed on a 'Rosette System' and activated by remote command

The PVC-standard water sampler is made of grey PVC (RAL 7011), with a latex tubing spring closure system, clamp bolts for attachment on a cable and mounting blocks for 'Rosette System' attachment. Delivery is made with lanyards for loading on both cable and 'Rosette Systems'. All metal parts are manufactured from stainless steel material Delrin drain valves and Buna O-Rings prevent leakage from the sampler.

The PVC-standard water samplers are available in 1.7 L to 12 L capacities, and are capable of being mounted on cable of up to ¼" (6.4 mm) diameter. All samplers can be mounted on 'Rosette Systems'.

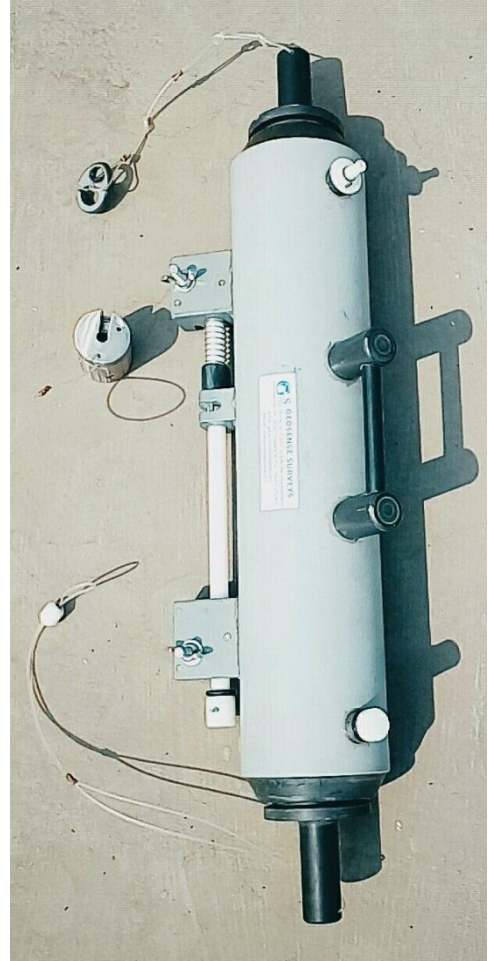
Specifications:

Mounting: Cable clamps are for cable diameters up to and including 6.4mm (1/4").

Material: Non-metallic construction of PVC tube section, end stoppers, handles and cable clamp blocks. Delrin stopcocks, air vent screws and push rod. Stainless steel cable clamps. End stopper closure band of latex tubing. Buna-N O-ring seals (other materials available). Nylon monofilament lanyards.

End Closure: Stopper with spherical section sealing surface held firmly against O-ring seal by internal latex tubing.

Drainage: Thumbscrew air vent at top. Stopcock at base: 4.7mm (.187") diameter.



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Operation:

The open bottle is lowered into the ocean on a wire from a survey vessel until it reaches a certain depth and then the bottle is closed by a weighted trigger (called a "messenger") that is sent down the cable from the surface. When this messenger hits the bottle support, it releases the two spring-loaded valves. Water is then trapped in the bottle and isolated from the water outside the bottle. Niskin bottles are often either set up in a series of individual bottles that trigger each other in turn as they close, or they are set up in a circular rosette of as many as 24 bottles attached around a CTD instrument. Either arrangement allows samples to be taken at different water depths in a way that seals off the sample and allows it to be brought to the surface without mixing with water from different depths. The water collected by Niskin Bottles is used for studying plankton or measuring many physical characteristics such as salinity, dissolved oxygen, nutrient concentrations (such as phosphate, nitrate and nitrite), and dissolved organic and inorganic carbon.

