

## Hydrology, Meteorology, Hydro-Geology Measurement Instruments

### Sediment Samplers

Sediment measurement involves sampling the water-sediment mixture to determine the mean suspended sediment concentration, particle size distribution, specific gravity, temperature of the water sediment mixture, and other physical and chemical properties of the transported solids.

Suspended sediment concentration in a natural stream varies from the water surface to the streambed and laterally across the stream. Concentration generally increases from a minimum at the surface to a maximum at or near the streambed.

#### **Depth-Integrating Wading Type Sampler, SS-HS(US DH-48)**

This is a lightweight sampler for collection of suspended-sediment samples where wading rod sampler suspension is used. The sampler consists of a streamlined aluminum casting, 31cm long, which partially encloses a pint (0.47 liter) sample container (sold separately).

The sampler weights 3.75 kg including sample container. A standard 1/2 inch (1.27 cm) wading rod is threaded into the top of the sampler body for suspending the sampler. The wading rods come in 50 cm and 100 cm long sections and are sold separately.

The wading sampler is supplied with two 1/4 inch (0.635 cm) yellow color coded, calibrated, nylon nozzles. The sampler can be supplied with a special epoxy coating for chemical and trace metal sampling applications. In the sampling operation, the intake nozzle is orientated into the current and held in a horizontal position while the sample is lowered at a uniform rate from the water surface to the bottom of the stream, instantly reversed, and then raised again to the water surface at a uniform rate. The sampler continues to take its sample throughout the time of submergence



#### **Depth-Integrating Reel Type, SHSS-80-25 (US D-49) and SHSS-80-25-AL**

This is a 28 kg sampler for Suspension by cable, reel, and crane to take suspended-sediment samples in streams up to 18 feet (5.5 meters) in depth.

The sampler has a cast bronze streamlined body 64 cm long, in which a pint or quart (0.47 or 0.95-liter) sample container is enclosed.

These samplers also can be cast in aluminum instead of bronze. In this case, the sampler weighs 14 kg, and is designated as the SHSH-80-25-AL.

The sampling operation is identical to that of the SHSH-80-25. The instrument is suspended on a hanger bar attached to a stainless steel cable and is lowered and raised by means of a sounding reel mounted on a crane, cable car or boat. Each nozzle is calibrated

and supplied in 1/4 inch (0.64 cm), 3/16 inch (0.48 cm) and 1/8 inch (0.32 cm) green color coded nylon sizes. Shipment is made in a hinged, wooden box suitable for storing and transporting. The samplers can be supplied with a special epoxy coating.

