

### Operating Instructions

1. Before using, make sure the unit is decontaminated. (Refer to the Decontamination section)
2. Measure and mark the tubing at the desired sampling depth.
3. Connect the 1/4" tubing from the reel to the compression fitting at the top of the Discrete Interval Sampler. To ensure proper connection, insert the tubing as far as it will go, then tighten the compression fitting nut to 1 1/4 turns past finger tight.
4. Turn the upper and lower shut off valves completely counter-clockwise so that the notches on the valve knobs line up with the sampler body.
5. Connect the high pressure hand pump to the pressure inlet on the tubing reel. Set the Pressure/Vent Valve on the reel to the Pressure position and pressurize the sampler. The required pressure is determined using the following formula:

Setting the Operating Pressure	
Feet	Metres
sampler depth below grade(ft) - static water level below grade (ft) x 0.43 + 20psi	sampler depth below grade(m) - static water level (m) x 9.8 + 140kPa
<b>Example:</b>	
Sampling Depth is 100 ft. - Static Water Level at 30 ft. x 0.43 + 20 psi = 50 psi	
Therefore the Discrete Interval Sampler should be pressurized to 50 psi for proper operation.	

**Note:** If desired, attach a safety wireline to the Lowering Bracket when lowering the sampler.

6. While under pressure, lower the sampler to the desired sampling depth.
7. Once at the desired sampling level, set the Pressure/Vent Valve to the Vent position until the pressure is completely released. Wait for 1 - 3. minutes. This will allow the sampler to fill completely with water.
8. Repressurize the sampler by repeating step #5.
9. Raise the sampler to the surface.
10. Once the sampler has been retrieved, turn both the upper and lower shut-off valves completely clockwise so that the notches on the valve knobs are perpendicular to the sampler body.
11. Once the Discrete Interval Sampler Transportable Vessel has been sealed off, the tubing still needs to be depressurized and vented. Make sure to have an effluent container on hand for this procedure.
12. To release the pressure in the tubing, set the Pressure/Vent Valve to the Vent position. Disconnect the pressure line tubing safety cable if used from the top of the sampler and drain the effluent into the effluent container. To ensure all effluent has been removed from the tubing, set the Pressure/Vent Valve on the reel to the Pressure position and blow out the rest of the tubing using the High Pressure hand pump.

13. The Discrete Interval Sampler is now ready for transportation.
14. To remove the sample from the Discrete Interval Sampler:
  - i) Ensure that the external valves are closed, and the tubing has been disconnected.
  - ii) Hold the Discrete Interval Sampler upside down (arrows on the Upper and Lower Shut Off valves should be pointing toward the ground).
  - iii) With the sampling inlet at this stage appearing to be at the top of the pump, turn the Upper Shut Off Valve counter-clockwise to open the valve.
  - iv) Direct the lower end of the sampler into a sample bottle.
  - v) Slowly turn the Lower Shut Off Valve counter-clockwise to start the flow of water from the sampler. The sample flow can be regulated by slightly turning the Lower Shut Off valve knob one way or the other.

### DIS Assembly

1. Insert the Teflon Check Ball into the male threaded end of the Bottom Platen.
2. Insert the Check Ball Retainer into the male threaded end of the Bottom Platen, sealing the Teflon Check Ball into place.
3. Thread one of the 1/4" NPT Adaptors into the female end of the Bottom Platen until finger tight.

**Note:** The Lower Shut Off Valve has a Sample Inlet, and the Upper Shut Off Valve has a Compression Fitting.

4. Thread the Lower Shut Off Valve into the 1/4" NPT Adaptor, which is connected to the Bottom Platen.
5. Now that the DIS Bottom Platen Assembly has been put together, thread this into the Sampler Body until finger tight.
6. Thread the other 1/4" NPT Adaptor into the female end of the Top Platen until finger tight.
7. Thread the Upper Shut Off Valve into the 1/4" NPT Adaptor, which is connected to the Top Platen.
8. Thread the DIS Top Platen Assembly into the top of the Sampler Body until finger tight.
9. Place the Lowering Bracket (Optional) over the threaded portion of the Compression Fitting.
10. Slide the Nut of the Compression fitting down the tube and thread onto the Upper Shut Off Valve until finger tight. Then take a 9/16" wrench and tighten the Compression fitting another 1 1/4 turns.
11. Take the nut of the Compression fitting and slide onto the tubing. Slide the Hat shaped Ferrule over the tubing and then the Cone shaped Ferrule until you have about 2 inches of tubing exposed.
12. Butt the tubing into the Compression Fitting.

13. Slide the Ferrules down until they are butted together at the top of the Compression Fitting.

### Decontamination

1. Completely disassemble the Discrete Interval Sampler.
2. Wash all DIS components with non-phosphate soap or mild solvent.

**Note:** Do not use acetone on the o-rings.

3. Rinse all components thoroughly with deionized water.
4. Lubricate all o-rings.
5. Reassemble the pump following the Discrete Interval Sampler Assembly instructions.

### Compression Fitting Assembly

