Manual for Plankton Pump model 23.570

1) Before lowering into the sea you must check that all items are mounted safely and correctly. **When you mount the bottle use both hands at a time to avoid damage of the bottle. See Fig. 1**

Fig. 1 – Securing the bottle – using two hands at a time

2) Read the numbers on the flow meter, see fig. 2
3) Lower the plankton pump to the wanted depth
4) Start the plankton pump
5) When you have pulled the pump out of the sea dismount the sample bottle, see fig. 1. Your sample is now ready for examination

Fig. 2 – The counter of the flow meter

6) Read the numbers of the flow meter and subtract the numbers from pos. 2. Now you can calculate the quantity of water having passed the plankton net. See page 3.

Caution Do not use alcohol for cleaning acrylic parts

Determination of water volume

The pitch of the impeller is 0,3 m per revolution, i.e., the number of revolutions multiplied by 0.3 makes the towing distance.

For quantitative measurements the threshold flow velocity of the impeller should not be smaller than 0,5 m/sec. For comparison measurements flow velocities smaller than 0,5 m/sec are possible.

Example: The number of revolutions is 100; this means a towing distance of 30 metres.

The opening area of the plankton net must be known or has to be calculated. The water volume passed through the plankton net is determined as follows:

Indicated number of revolutions x 0,3 x net opening area (m^2) x 1000 = water volume.

Example:

The plankton pump measurement tube has an inside diameter of 8,4 cm, i.e., the opening area is 0,00554 m^2. If the number of revolutions associated with a tow is 200 (noted from the digital flow meter counter), the water volume passed through the plankton net is

200 x 0,3 x 0,00554 x 1000 = 332,4 litres.

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