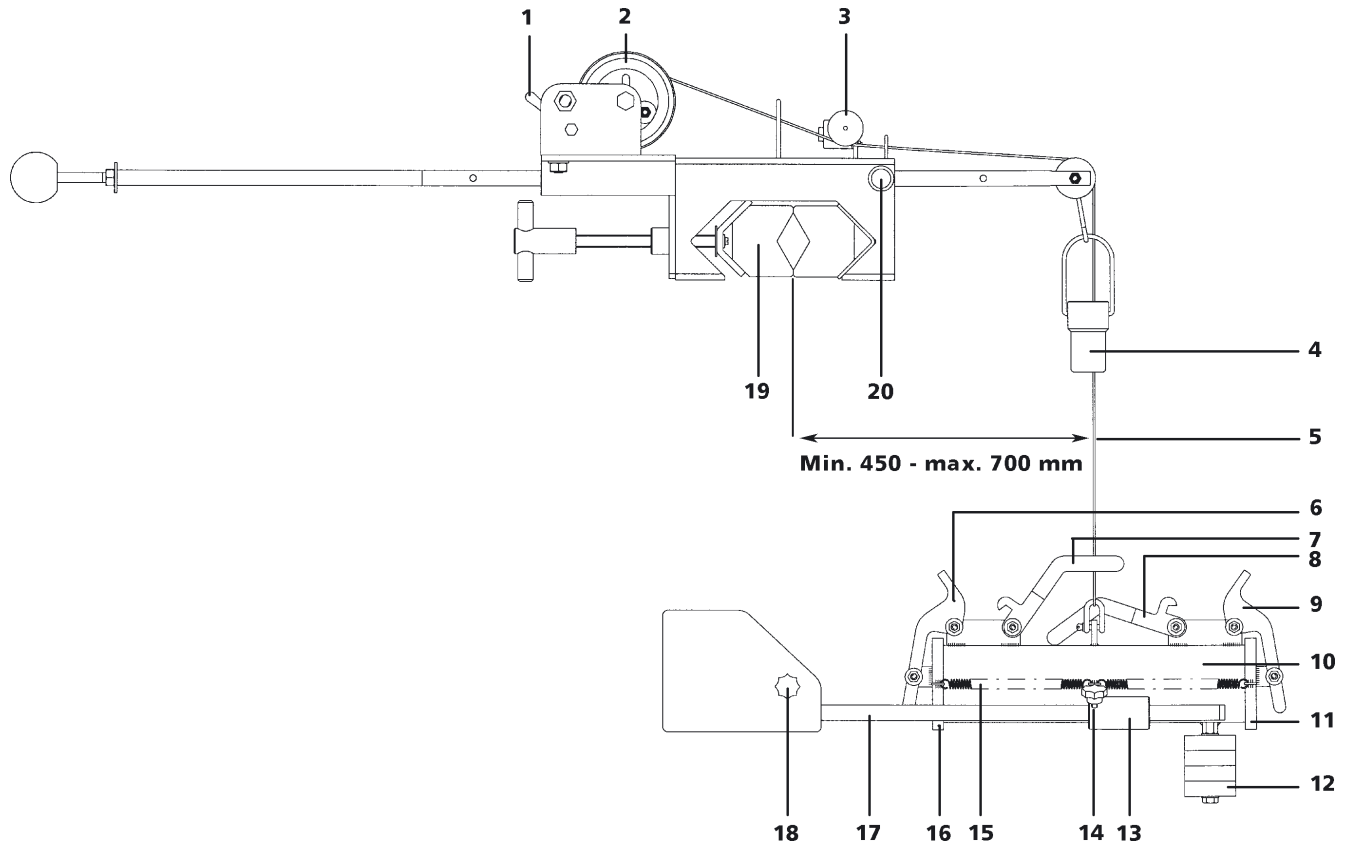


# OPERATING INSTRUCTIONS

## 12.02 WATERTRAP SAMPLER



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## On these operating instructions



If the text follows a mark (as shown on the left), this means that an important warning follows relating to danger to the user or damage to the apparatus. The user is always responsible for its own personal protection.

## 1 Description

The sampler body of the "watertrap" consists of a stainless steel cylinder (10). To this cylinder two guiding tubes (13) are attached in which the tail fin rods (17) slide. On the front of the "watertrap" a number of weights (12) is positioned. When closed, the spring (15) operated valves (11, 16) keep the water in the sampler body. Before sampling, the valves are kept in an open position by the falling clamps (6, 7, 8, 9). The steel wire (5) is attached to an eye on the body via a D-connection. The other end of the cable is connected to the hand winch with ratchet wheel (2). On top of the telescopic arm, the depth counter, activated by the measuring wheel (3), is situated. The actual sampling takes place by letting the falling weight (4) slide down along the cable, thus thrusting the long falling clamp (7) downwards, resulting in the closing of the downstream valve (16), only a moment later followed by the other clamps (8,9) and the upstream valve (11). Rubber rings take care of a watertight sealing.

## 2 Technical specifications

- Watertrap: contents 1250 cc. Tool kit and spare parts are included.
- Telescopic arm with fastening clip and depth counter.
- Hand-winch: diameter 100 mm with stop-handle.
- Steel cable: Ø2 mm, length 25 m.
- Transport case: 70 x 35 x 26 cm (outside), padlock included.

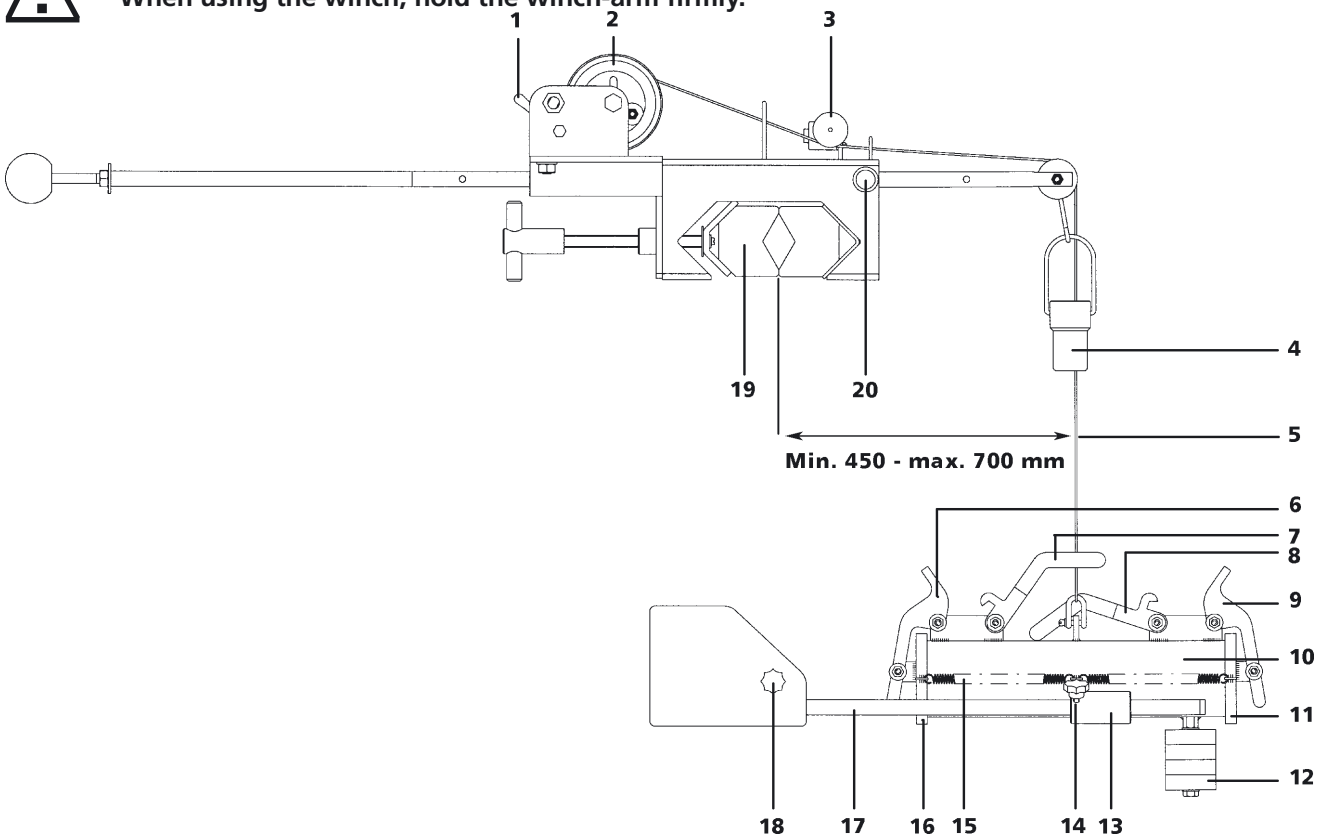
## 3 Safety



Keep fingers away from opened valves.



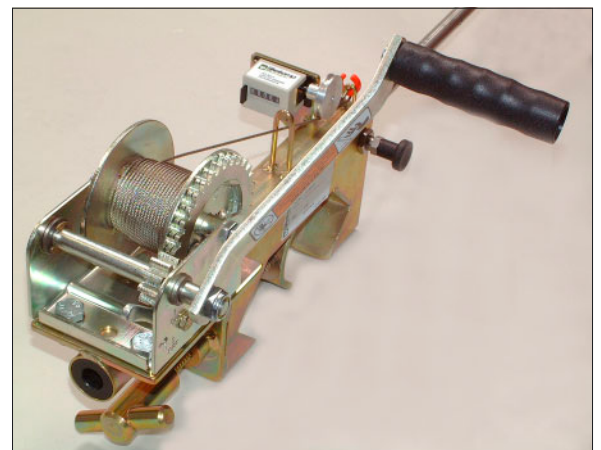
When using the winch, hold the winch-arm firmly.



## 4 Preparation

### 4.1 Installation

1. Connect the parts of the telescopic arm. (See figure right)
2. Fasten the telescopic arm to a parapet or ship's rail using the wooden blocks (19). Unscrew the securing knob (20), slide the arm to the desired length and secure the adjustment using the securing knob (20).
3. Install the winch-handle on the winch. Secure with included nut.
4. Set the ratchet-wheel in the downward position. To set the ratchet-wheel, move the pawl to the left while moving it downwards or upwards (see figures next page).
5. Guide the steel wire (5) beneath the measuring wheel (3) and through the falling weight (4).
6. Hang falling weight (4) on hook on top-end of winch arm.
7. Connect cable with D-connection to the "watertrap".
8. Set tail fin horizontal using the securing knob (18).
9. After unscrewing the guiding tube knob (14), alter the distance between the tail fin unit and the body.



### 4.2 Adjustment

1. Tension the downstream valve (16) using clamps 6 and 7 and the upstream valve (11) using clamps 8 and 9.



**Keep fingers away from tensioned valves.**

2. In the fastest streaming part of the river, let the "watertrap" down till just below the water-surface.
3. Carefully watch if the "watertrap" is balanced correctly. Balancing can be achieved by: (in order of preference)
  - 3.1 Altering the distance between the tail fin unit and the body.
  - 3.2 Changing the angle which the horizontal tail fin makes with the body's length axle.
  - 3.3 Changing the number of weights (12) at the front of the body. Use the included shorter bolts.

## 5 The use

1. If not already done: tension the downstream valve (16) using clamps 6 and 7 and the upstream valve (11) using clamps 8 and 9.



**Keep fingers away from tensioned valves.**

2. Gently let the “watertrap” down till just above the water surface and reset the depth counter to zero.
3. Gently let the “watertrap” sink until the desired depth is reached and lock the winch to prevent further lowering by setting the stop-handle (1) in the upward position.
4. Now, the falling weight (4) can be loosened, effecting the sampling.
5. The filled sampler can be taken up by means of the hand winch.
6. Empty the “watertrap”.
7. Necessity of decontamination depends on type of research. Normally, rinsing with drinking water will do.



## 6 Applications

- Chemical analysis.
- Biological- and bacteriological analysis.
- Thermal analysis (cooling water disposal).
- Mineralogical analysis. For instance to determine the amount of mud- and/or soil transport in the water at specific depths.

## 7 Maintenance

- Rinse all parts with drinking water after use.
- Before storing, dry cable and sampler completely in an opened position. Keep transport case opened until all parts are thoroughly dry.
- Keep the securing parts of the telescopic arm fatty.
- If necessary replace the springs. Use a pair of tongs.
- If necessary replace the rubber seals.

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