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Operating Instruction for Micros Water Sampler Catalogue No. 436 160

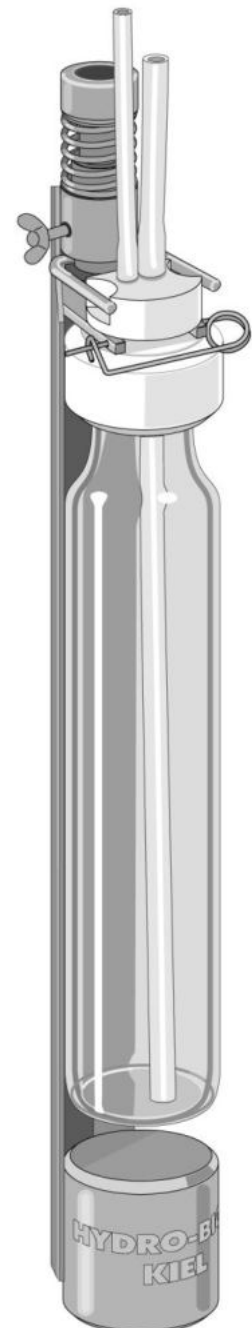
The MICROS WATER SAMPLER is an uncomplicated and approved instrument to take water samples from a water depth up to 100 metres. The slim shape allows sampling from tubes as small as 80 mm diameter.

The materials have been specifically selected to allow sterilization, so that water samples can be taken for microbiological investigations. The inlet tubing for the water samples reaches to the bottom inside the glass bottle allowing it to be filled from the bottom upwards so that the water entering is not enriched with oxygen from the air. This is essential when the oxygen content of the water sample is to be determined.

Contamination by water levels above the desired depth are eliminated as the water inlet tubing and the air outlet tubing are bent.

Sealing of the two tubings is only guaranteed when their approved lengths of 70 mm and 90 mm are not altered.

After the required water depth has been reached, the bent tubings are released by a messenger. The water can flow in, the air escapes through the thinner, longer tubing opening of the Sampling Tube



Scope of delivery

- 1 Support frame
- 1 Teflon head
- 1 Air outlet tubing, silicone, 4 x 8 x 90 mm
- 1 Water inlet tubing, silicone, 8 x 11 x 70 mm
- 1 ditto, 280 mm long
- 1 Silicone ring ARP 213
- 1 Glass bottle, capacity 500 ml
- 1 Red Sealing cap, sterilizable
- 1 Messenger 500 g, plastic-covered,
for rope diameters up to 6 mm, Catalogue No. 440 002

Spare parts list

(not included in scope of delivery)

- | | |
|--|-----------------------------|
| 1 Teflon head with silicone tubings | Catalogue No. 436 160 - 001 |
| 1 Package (5 sets) of Silicone tubings | 436 160 - 002 |
| 1 Package (5 pieces) Silicone rings ARP 213 | 436 160 - 003 |
| 1 Package (3 pieces) Red Sealing caps | 436 160 - 004 |
| 1 Package of glass bottles with red caps (3 pieces) | 436 160 - 005 |
| 1 Messenger 500 g, plastic-covered, for rope diameter up to 6 mm | 440 002 |

Technical Data

Materials

Support frame	stainless steel
Glass bottle	DURAN 50
Screw-in head	Teflon
Tubings	Silicone

Dimensions

Length	50 cm
Diameter	7,5 cm
Weight	2,5 kg
Volume	500 ml
Glass bottle thread	45 GL

Application

max. water depth	100 metres
Filling time	approx. 30 seconds
<u>Sterilisation</u>	max. 180° C

Preparations for use

Normal sampling

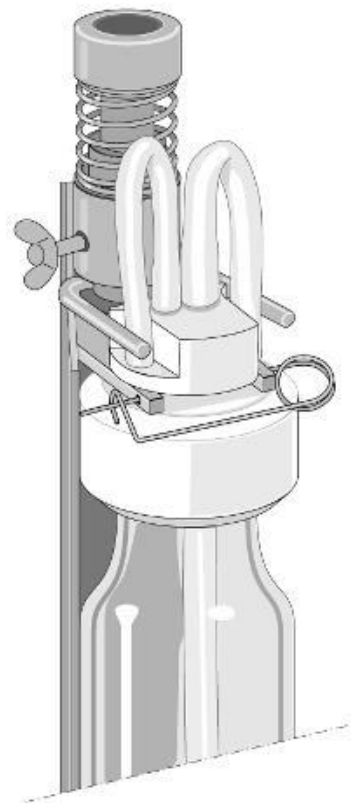
- 1.) Firmly screw the clean glass bottle into the Teflon head
- 2.) Put the bottle unit into the frame and secure it with the safety pin
- 3.) Bend both silicone tubings and push them between the Teflon head and the metal bars
- 4.) Use the wing screw to fasten a rope with its loop to the instrument

Particularly suitable:

Nylon rope, 5 mm \varnothing , 20 m long, with ring and loop
Cat. No. 440 200

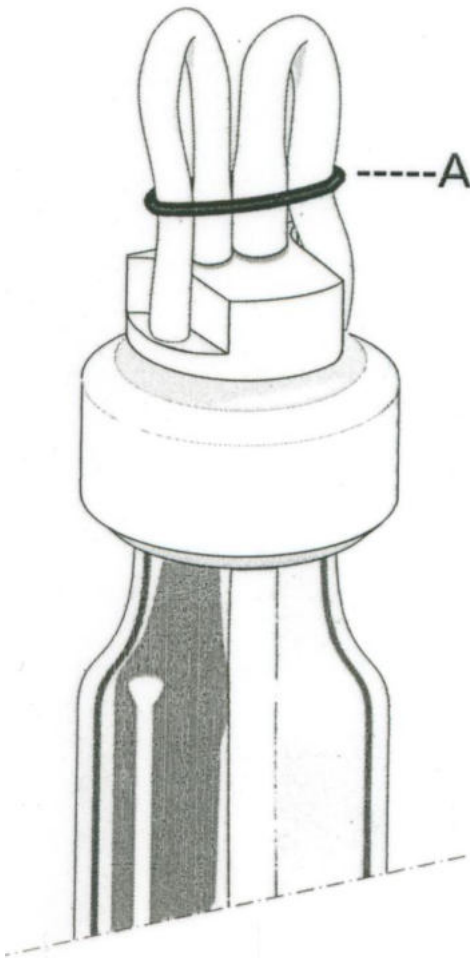
Stainless steel rope, 2.5 mm \varnothing
Cat. No. 440 065

Hand Winch
Cat. No. 440 060



Sterilisation

- 1.) Remove the glass bottle and the Teflon head from the support frame
- 2.) Bend the silicone tubings and secure them with the silicone ring (A)
- 3.) Loosen the glass bottle from the Teflon head by a 1/4 twist
- 4.) Sterilise the bottle unit up to max. 180°C
- 5.) Sterilise the red sealing cap and store it in a sterile place
- 6.) After cooling, screw the glass bottle firmly into the Teflon head
- 7.) Put the bottle unit into the support frame and secure it with the safety pin
- 8.) Bend both silicone tubings and push them between the Teflon head and the metal bars
- 9.) Remove the silicone ring and store it



Operation

- 1.) The MICROS Water Sampler is lowered by the rope up to the required water depth
- 2.) Upon reaching the desired water depth (max. 100 metres) the messenger is dropped down the rope. When the messenger hits the release tube of the support frame, the two silicone tubings spring up. The air escapes through the thinner tubing (this tubing has to be min. 20 mm longer than the other tubing) and the water flows through the other silicone tubing into the glass bottle, thus filling it from the bottom upwards. It will take approx. 30 seconds to fill the bottle.
- 3.) Afterwards the MICROS Water Sampler is brought up again
Only when using for non-sterile samples:
- 4.) The full glass bottle is screwed out of the Teflon head and sealed with the red sealing cap
- 5.) The protocol data are marked with a pencil on the label of the glass bottle
- 6.) When a new glass bottle has been screwed on, the MICROS Water Sampler can be used to take another sample
For sterile use:
- 7.) The full glass bottle is screwed out of the Teflon head and sealed with the sterile red sealing cap
- 8.) The Teflon head is sterilised with a new glass bottle
- 9.) It is advisable to keep an appropriate number of sterile bottles in stock for the microbiological samples to be taken

Determination of Oxygen

If the dissolved oxygen is to be determined according to Winkler, the required quantity of water has to be taken. Great care has to be taken when pouring the water into Winkler bottles or other bottles.

Insert the smallest possible funnel into the Winkler or other glass bottle. The outlet of the funnel must reach to the bottom of this glass bottle, if necessary extend the outlet with a rubber hose. We recommend leaving the Teflon head screwed on when transfusing, closing the thicker water inlet tubing with the finger and holding the bottle unit upside down.

The flow of water can be regulated very finely by opening the water inlet tubing a little. When pouring, the water is to be directed to the middle of the funnel and not to the conical part. The water sample must under no circumstances be allowed to spread over the cone of the funnel.

It is also possible to insert the thinner and longer air outlet tubing directly into the Winkler bottle. After sampling, and depending on the size of the Winkler bottle, the air outlet tubing must be lengthened with a glass, plastic or metal pipe so that it reaches to the bottom of the Winkler bottle.

Improper transfusing can lead to substantial errors especially when analysing water samples with a low oxygen content.