



All Ruttner samplers comes with a drop messenger (not shown)

# Ruttner Water Sampler Model 11.002/003/004

## Manual

**KC** Denmark A/S

Research Equipment  
Limnology • Oceanography • Hydrobiology

# Ruttner Water Sampler – 1,7 – 3 and 5 L



Caution

**KC Denmark A/S is not, and cannot be held, responsible for any damage(s) made to equipment or to operators who ignore safety precautions or because of misuse or wrong operation.**

**Do not use alcohol for cleaning acrylic parts.**




**Max. depth: 70 m.**

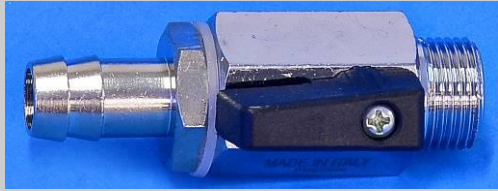
**A larger depth is possible, if you remove the thermometer.**

## Application:


The water sampler is based on the Ruttner design; it is suitable for taking samples in lakes, water borings, wells, etc. It is equipped with an internal thermometer for registration of the in situ temperature. Thermometer range: -10 °C to 60 °C. For the 1,7 L version the range is limited to: -10 °C to 50 °C.

Item	Preparation	
1	 <p>Caution</p> <p>Pull the line through the tube on top of the water sampler and tie up a tight knot, (A). If the knot fails during deployment, you may lose the water sampler on the seabed.</p> <p>Before deployment, you must check carefully, that the line has no wear and tear. Close the tap at the bottom of the sampler.</p> <p>Recommended line for deployment: Ø5 mm.</p>	
2	<p>To prepare the water sampler press down the bracket, lift the sample cylinder, pull the handle with the eye screw, and guide it over the pin, which is now in the lower position.</p>	


3	<p>Release the bracket and the water sampler is now ready for use.</p>	
4	<p>Lower the sampler into the water to the decided depth, and release the drop messenger so the sampler will close.</p> <p>If you expect a significantly lower water temperature at the desired depth, you can advantageously wait a little while before releasing the drop messenger. In this way, you get a more accurate snapshot of the current water temperature.</p> <p>After releasing the drop messenger, the sample is now ready for raising and examination.</p>	
5	<p>The internal thermometer shows the water's temperature. In order to get a correct read-out, hold the water sampler for a short time before releasing and raising the sampler to the surface.</p> <p>For a sample depth below 70 m, dismount the thermometer and close the mounting holes with 2 screws or sanitary silicone.</p>	

6	Once the sample is finished, open the tap to empty the water sampler.	
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**Maintenance**

7	 <p><b>Caution</b>  <b>Do not use alcohol for cleaning acrylic parts. After emptying, rinse the water sampler thoroughly using fresh water. Store in open position, so the inner parts will become dry.</b></p> <p><b>Do not use alcohol for cleaning acrylic parts.</b></p> <p><b>Items, like PP/PVC/acrylic tubes, rubber seals, motor houses with or without Fluorinert, etc., and a long exposure to direct sunlight or lack of clean up for salt water might affect the durability and stability of the products and will remain uncovered by the warranty.</b></p>	
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**Troubleshooting**

7	<p><b>Leaking sampler:</b></p> <p>Loosen the screw "A" in the middle of the bottom plate, and ensure the sample tube will fit exactly on this plate by a slight sideways adjustment of the tube.</p> <p>Tighten the screw again, by <u>lifting the top plate and fasten the screw, down through the sample tube.</u> Secure the screw well.</p> <p>Do the adjustment very carefully; it might be necessary doing more attempts to ensure the sampler is tight.</p>	
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**How to glue the rubber seal (11.006):**

Use a type called CASCO contact glue; however, the name of the brand is not important, you can pick this type of glue up in any normal store.

Remove the rubber seal, and then clean it off in some methylated spirit or alcohol for cleaning purpose. If you have PVC Cleaner you can use that, but also any type of normal alcohol can be used as well.

After the cleaning, you apply a good layer of glue to the bottom of the sampler (the black PVC part). Then you put the O-ring down on top of it, slowly move the O-ring around as you apply more and more pressure on it, until you feel, it is down at the very bottom, by moving the O-ring around, you ensure that the glue comes in to all corners.

Let the PVC part dry for at least 24 hours before using the water sampler.



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**Lack of triggering**

If the water picker overturns or hits the side of the boat, there may be a risk that the adjustment of the vertical steel bars fails, thus preventing a proper release.

To solve the problem, the Ruttner must be in released position. Stand on the sampler's bottom ring ensuring a stable position.



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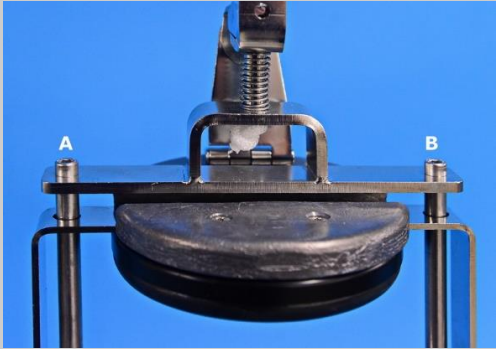
Using both hands at a time, hit the vertical bars; afterwards you can test if the sampler runs smoothly up and down on the steel bars. It may be necessary repeating the procedure more times, optionally from the opposite side, see next item.





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Adjusting from the opposite way.



12	<p>Alternatively, you may loosen the two bolts, A and B, slightly adjust the steel parts and secure the bolts. Test if the sampler runs smoothly, otherwise repeat the procedure.</p>	
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**Metal Free Interior of the Ruttner**

13	<p>For certain samples, it is mandatory having a metal free interior of the sampler. A standard Ruttner sampler can easily be modified by adding a few components:</p> <ol style="list-style-type: none"> <li>1. A plastic tap (11.009), see photo.</li> <li>2. A plastic bolt with nut.</li> <li>3. Sanitary silicone.</li> </ol>	
14	<p>The upper lid has 6 holes (holding the screws for the lead weights at the opposite side). Fill the holes with sanitary silicone.</p>	

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Replace the steel bolt with a plastic bolt "A" and mount the plastic valve "B".

It may be necessary adjusting the bottom plate as per item 7.



### Safety Regulations

KC Denmark A/S is not, and cannot be held, responsible for any damage(s) made to equipment or to operators who ignore safety precautions or because of misuse or wrong operation.

An expert maintenance technician fully familiar with the attendant hazards must only do all maintenance, inspection and repairs.

When working with the unit in areas, which are difficult to access or hazardous, ensure to take adequate safety precautions for the operator and others in compliance with the provisions of law on health and safety at work.

Replace worn component with original spare parts.

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