

KC Multi-corer, 4 x Ø100 mm  
Model 71.500

# Manual

**KC** Denmark

Research Equipment

Limnology • Oceanography • Hydrobiology

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**Manual for  
Multi corer, 4 x Ø100 mm**

**Model no.  
71.500**



**Caution**

**This multi corer is very dangerous in unskilled hands and serious precautions must be taken to avoid accidents.**

**The safety clamps must always be in the secured position and must be released only, when the multi corer is outside the rail of the boat. Except for item #5 (water filling of hydraulic damper).**

**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.**

**Never walk under the multi corer, when lifted up by the winch.**



## Preparation

1



Attach both safety clamps at the top of the corer, ensuring both handles are locked properly at "1" and "2"


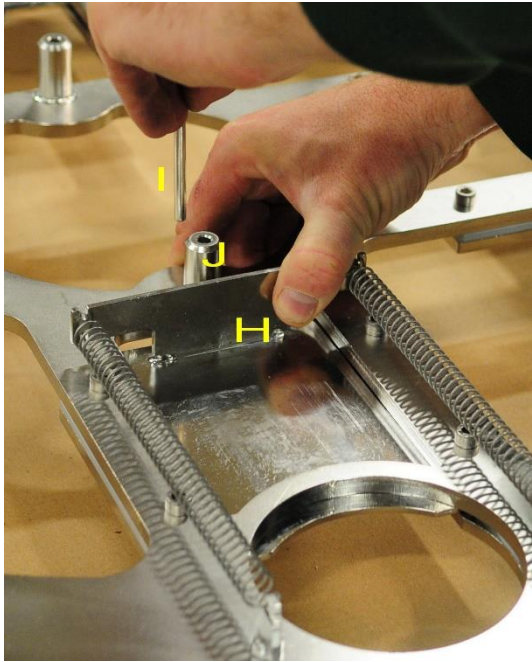
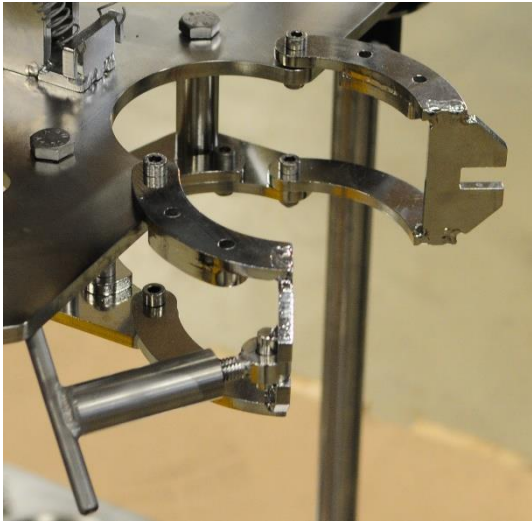
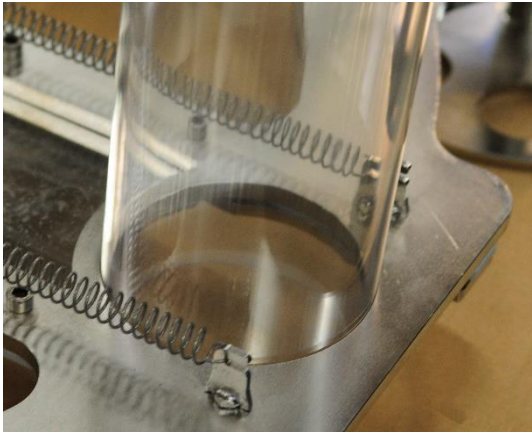






2




The handle behind the lid secures the steel wire from top of sampler to the bottom release system.


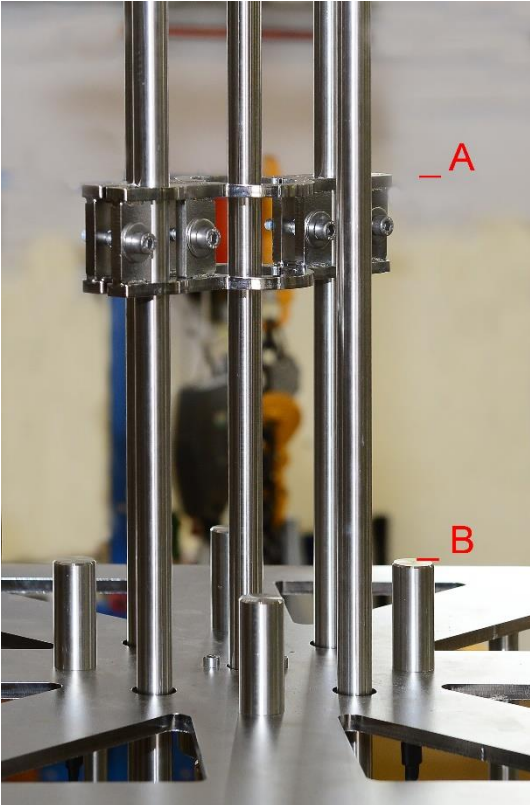
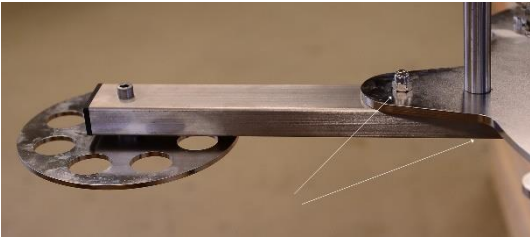
Press down the handle, ensure the wire is taut and release the handle.






<p>3</p>	<p>Press the spring-loaded bottom lid "H" toward the centre of the sampler.</p> <p>The security pin "I" at the end of the steel wire is inserted into "J", so the bottom lid is locked in open position.</p>  <p><b>Caution</b> When loaded you must avoid an unattended release as the mechanism may cause injury to people.</p>	
<p>4</p>	<p>Open the quick release bracket for the tube.</p>	
<p>5</p>	<p>Tilt the sample tube to the side, so you can insert it into the hole, lower the tube for 1 cm, approx. Align the tube to vertical position.</p>	




6	<p>The sample tube has a reinforcement at the top.</p>	
7	<p>The reinforcement of the tube is aligned at the quick release.</p> <p>Check, if the lower end of the tube is inserted correct (item 8).</p>	
8	<p>Tighten the handle to secure the tube.</p> <p> <b>Caution</b> Do not over tighten the handle, as you may damage the tube.</p>	

9	<p>After attaching the required numbers of lead weight, you must tighten all locks for the lead weights.</p>	
<p><b>Adjustable penetration depth</b></p>		
10	<p>Attach the bracket for adjustable penetration depth (optional) to the vertical bars at top of the multi corer.</p>	
11	<p>The bracket is attached to the bars. For full penetration, leave the bracket as shown. Fasten the 4 bolts firmly to keep the bracket in place.</p>	

12	For a shorter penetration move the bracket upwards in vertical position and fasten by means of the 4 bolts. See next item.	
13		
	<b>Extending the corers footprint</b>	
14	Four extension legs (optional) can be added for better stability in strong currents or for larger depths.	



The hydraulic damper		
15	<p>The multi corer has an automatic, hydraulic damper located at the centre.</p> <p>Upon lowering to the sea, the damper is filled up with water through the inlet "K"</p> <p>When the multi corer hits the seabed, the water is forced through the outlet "L", causing a delay before the tubes penetrate the sediment.</p>	
<b>Deployment</b>		
16	<p> <b>Caution</b></p> <p>The multi corer is now ready for deployment. When the rack is outside the bulwarks, you can remove both safety clamps, "1" and "2"</p> <p>If you must remove the security clamps while the sampler is on deck, you must avoid an unattended release to protect against injury.</p>	
17	<p>The sampler can now be deployed to the seabed, and the hydraulic damper will ensure a smooth sample taking to avoid a shock wave during penetration.</p> <p>When hoisting the sampler the sediment tubes will be withdrawn from the sediment, and the lids will close to protect the samples from exit.</p>	

	<h2 style="text-align: center;">Securing the multi corer</h2>	
<p style="text-align: center;">18</p>	<div style="text-align: center;">  <p><b>Caution</b></p> </div> <p>After the sample has been taken and you hoist the multi-corer, it is very important to mount the safety clamps before doing any job on the sampler.</p>	
	<h2 style="text-align: center;">Securing and ejecting the sample</h2>	
<p style="text-align: center;">19</p>	<p>For emptying the sample tube, you must hold a thin plate at the end of the tube to keep the sample while removing the tube.</p>	
<p style="text-align: center;">20</p>	<p>The sample extruder is optional.</p> <ol style="list-style-type: none"> <li>1. The sample tube is placed on the piston (D)</li> <li>2. Tighten the handle (C) to fasten the tube.</li> <li>3. Turn the handle (E) and remove the desired height of sample.</li> <li>4. To lower the piston at its start position, you must lift the pawl, (F) and turn the handle backwards.</li> </ol>	

21	A complete unit, ready for ejecting the sample.	
<b>Storing the multi corer</b>		
22	 <p><b>Caution</b></p> <p>Before storing the sampler all parts must be rinsed carefully with fresh water to avoid rust and corrosion.</p> <p>You can store the sampler in two ways:</p> <ol style="list-style-type: none"><li>1. In loaded position having both safety clamps attached.</li><li>2. You may remove the safety clamps and the sample tubes. By use of the winch, lower the multi corer slowly, so it will empty the hydraulic damper.</li></ol>	

<b>Troubleshooting and maintenance</b>	
23	<p>When using the corer, you might encounter problems with the sampling.</p> <p>If the sediment is too soft, it will not be able to take a correct sample, as you will need a "bung" of hard(er) sediment to hold the sample inside the core tube. Otherwise the soft sample will seep away because of the small space of app. 1 - 2 mm between the bottom of the sample tube and the moveable closing mechanism. (Will depend on the change of temperature from sea deck to bottom of the sea).</p> <p>If the depth of penetration is too low, it will be necessary to add more weights to the weight station at the top of the rack.</p> <p>When you raise the sampler, it is important to have a reasonable weight on the rack to ensure the closing mechanism will work correctly. If the weight of the rack is too small and you raise the sampler, the rack will begin to rise before the closing mechanism has locked and secured the sample. Please add more weights to the rack.</p> <p>For a smoother operation we recommend regularly use of silicone grease on the vertical bars, where the parts move up and down.</p>

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