

The photo shows a version without handles on the legs

Box Corer Model 80.000 and 80.100

Manual

KC Denmark A/S

Research Equipment
Limnology • Oceanography • Hydrobiology

Manual for Box Corer, 600 and 1000 cm² Model no. 80.000 and 80.100



Caution

The box corer is very dangerous in unskilled hands and serious precautions must be taken to avoid accidents.

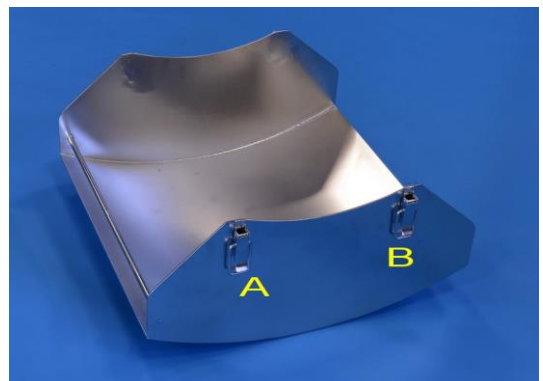
KC Denmark A/S is not, and cannot be held, responsible for any damage(s) made to equipment or to operators who ignore safety precautions or because of misuse or wrong operation.

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



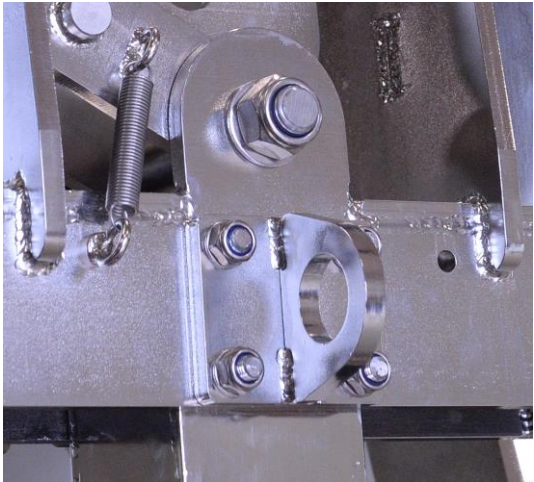



General information:

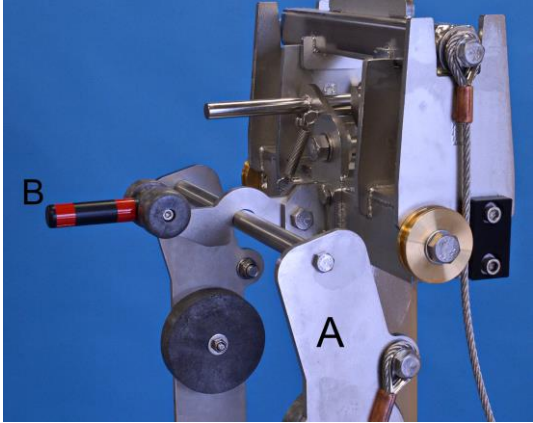

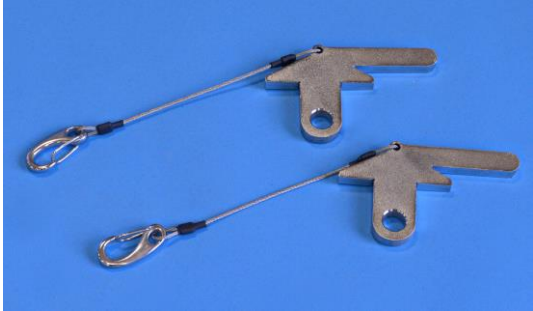

The rack for the box corer supports both 600 and 1000 cm² sample tubes. The sample tube must always be used with the corresponding size of inner shovel.

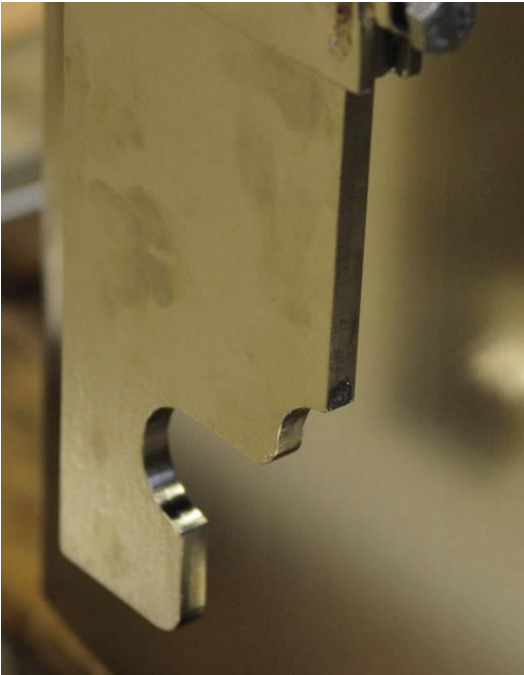



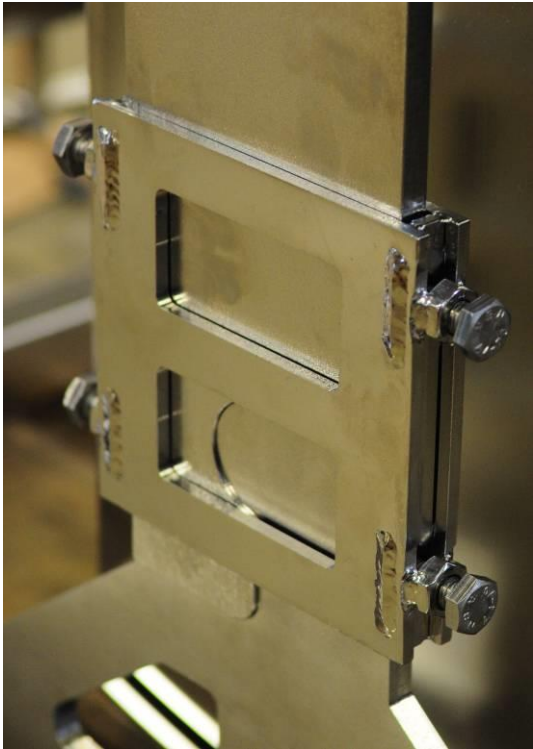
All legs have integrated brackets for easy handling when the box corer is lifted by the winch.



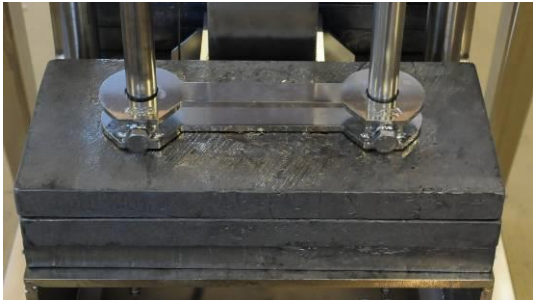




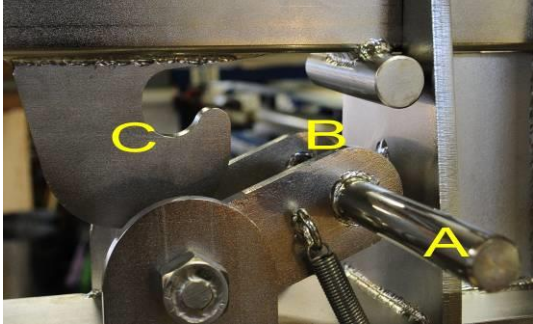


	<p>The top of the main rack has an eye which can be used for a security line or for pulling the box corer towards the deck.</p>	
	<p>The box corer supports various types of sample tubes, seen from the left:</p> <ul style="list-style-type: none"> - Standard sample tube - Sample tube, removable front - Polycarbonate tube. <i>Only for very soft sediment</i> 	
<p>Preparation:</p>		
<p>1</p>	<p style="text-align: center;">  Caution </p> <p>Before working, the spring-loaded safety pawl must be inserted, and it is very important, that the lever arm (A) will lock correctly. The pawl will protect against an unattended release of the box corer, which may cause serious injury to people.</p> <p>Before deployment: Inspect the talurites and the two 8 mm steel wires very thoroughly to detect wear and corrosion damages. If both wires fail, you will leave the main rack on the sea floor!</p>	

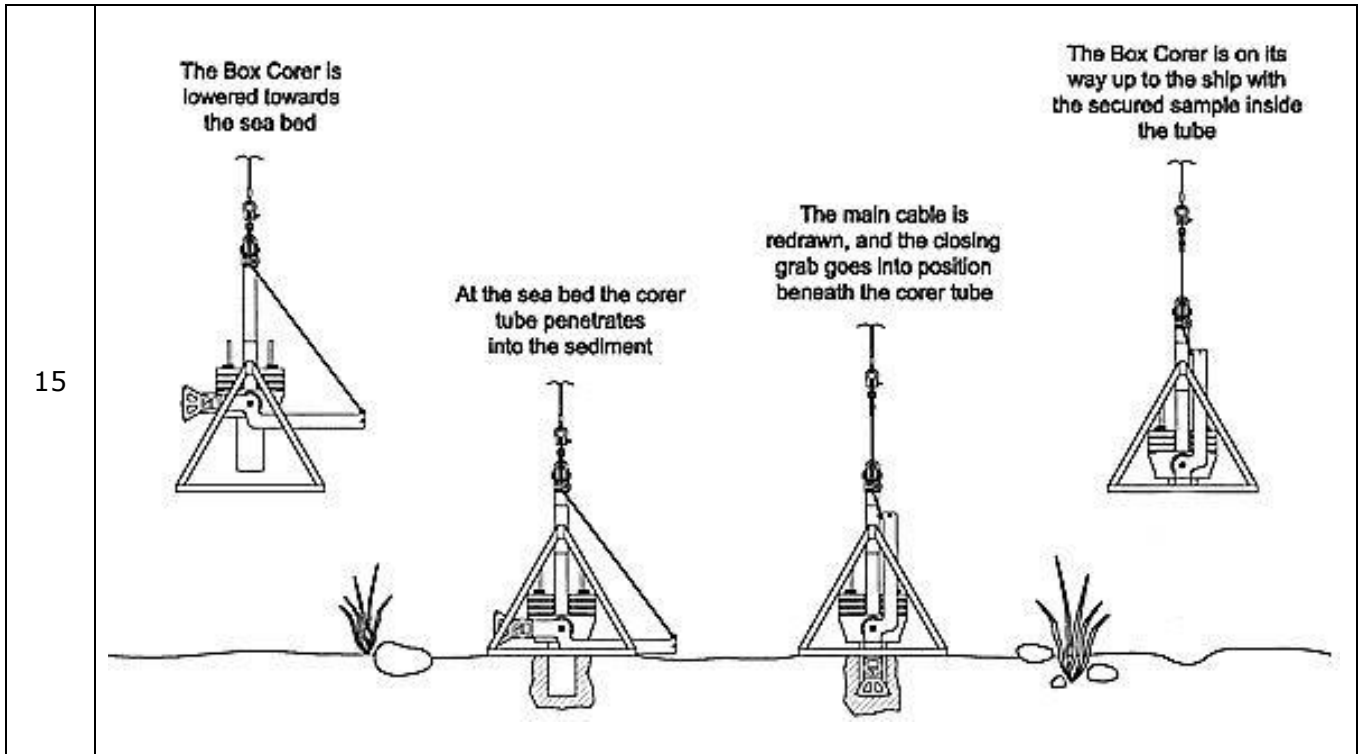
2	<p>The following operation demands two people for safety work:</p> <p>While holding the arms "A", release the lock "B" and the arms will lower to horizontal position. In order to load the sample tube, you must lift the arms "A" by 15 cm approx.</p>	
3	<p>The box corer has two sets of rollers for easy loading of the sample tube. Push the sample tube into the two guiding rails.</p> <p>You may use the hydraulic carriage; follow items 22-25 in reverse order.</p> <p>Both rails have a rectangular hole for attaching locks for securing the sample tube during deployment, see item 4.</p>	
4	<p>Two locking clamps with snap hooks.</p>	
5	<p>Insert 2 locking clamps in the rectangular holes and secure them with the snap hooks.</p>	


<p>6</p>	<p><i>Mounting of the outer shovel, items, 6 - 8, is already done before the delivery.</i></p> <p>The box corer has 2 arms for fastening the outer shovel.</p>	
<p>7</p>	<p>Align the outer shovel to the notch of each arm.</p>	

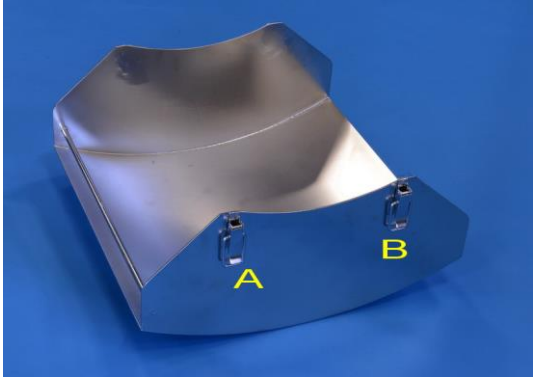
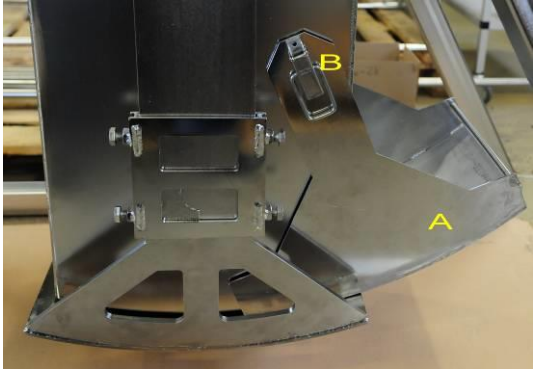

8	<p>Push the locking clamps downwards so they will cover the notches. Tighten the bolts firmly to avoid loss of the outer shovel.</p>	
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Adding lead weights		
9	<p>Follow the instructions in item 2. Leave the arms "A" in horizontal position.</p>  <p>Take care that no body parts are getting jammed.</p>	
10	<p>Add, or remove the desired amount of lead weights and secure with the brackets.</p> <p>You must add an equal number of weights at both sides.</p>	




11	Mount the lifting hook from the winch.	
12	<p>While pushing "A" upwards and slowly hoisting the box corer with the winch, force "B" into the notch "C", so the main wire from the winch is taut.</p> <p> Caution During the hoisting you must keep a safe distance to "B and C" to avoid any injury.</p> <p>The box corer is now loaded, ready for deployment to the sea.</p>	
13	<p> Caution Remove the security pawl (preferable when the box corer is outside the bulwarks to avoid injury by an unattended release).</p>	
14	<p>The box corer is now ready for deployment.</p> <p>When lowering the box corer, use a controlled, reasonable speed of 1-2 m/sec.</p> <p>Reaching the seabed, the releaser is activated, see item 14 for a brief description.</p>	





16	<p>As soon as the box corer hits the seabed, the upper part releases from the main rack. Upon retrieval, the upper part will hold the box corer by means of the two 8 mm steel wires attached to the arms.</p> <p>When the box corer returns to the deck, align the top part into the forks.</p>  <p>Caution</p> <p>Repeat item "11" and hoist the box corer slowly, then insert the safety pawl and secure it.</p>	
17	Remove the two locking clamps (item 4)	

<p>18</p>	<p>To secure the sediment sample you will need the inner shovel. It had two, adjustable locking hinges "A" and "B" on both sides.</p>	
<p>19</p>	<p>Facing the transverse bar to the front, force the inner shovel "A" between the sample tube and the outer shovel; Lift up the locking hinges "B" while inserting the shovel. Otherwise, there is no room for the locking procedure.</p> <p>Secure the locking hinges to the sample tube.</p>	
<p>20</p>	<p>The inner shovel is secured with the locking hinges.</p>	

<p>21</p>	<p>Now the inner shovel is locked, and you can remove the sample tube.</p>	
<p>22</p>	<p>Follow the instructions in item 2. Leave the arms "A" in horizontal position.</p>  <p>Caution</p> <p>Take care that no body parts are getting jammed.</p>	
<p>23</p>	<p>Use the hydraulic carriage for removal of the sample tube.</p>	

24	<ol style="list-style-type: none"> 1. Push the carriage beneath the sample tube. 2. By pushing the handle "A" downwards, you can elevate the forks by moving the lever "B" up and down. 3. Forcing the handle "A" in an upwards direction, you will release and lower the forks. A gently pressure on "A" will lower the forks very slowly. 	
25	<ol style="list-style-type: none"> 1. Push the lever B into horizontal position, so you can push the carriage all way in. 2. When located under the sample tube, you must elevate the forks gently, until the sample tube gets loose from the guiding rail. 3. Once the carriage is placed underneath the sample tube, add the two brackets (see item 26) and fasten the nuts, so the box is secured. 4. Now the sample tube is ready for transportation. 	
26	<p>Attaching the two bars for securing the sample tube to the carriage.</p>	

27	The sample tube has been removed from the box corer.	
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	Maintenance
	All parts of the box corer can be rinsed using salt water or fresh water. It is highly recommended to do a regular cleaning with fresh water and you must move all moveable parts individually to ensure all dirt is removed. Before storing, rinse all parts thoroughly with fresh water.
	Safety information
	 <p>Caution</p> <p>An expert maintenance technician, fully familiar with the attendant hazards, must only do all maintenance, inspection and repairs.</p> <p>Persons charged with working on the winch and the accessories, must be trained specially for the purpose with special abilities and experience in this area as well as being equipped with the appropriate tools and individual safety equipment. Failure to meet these requirements constitutes a risk to personal health and safety and economic damages.</p> <p>When working on 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.</p> <p>Replace worn component with original spare parts.</p>

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