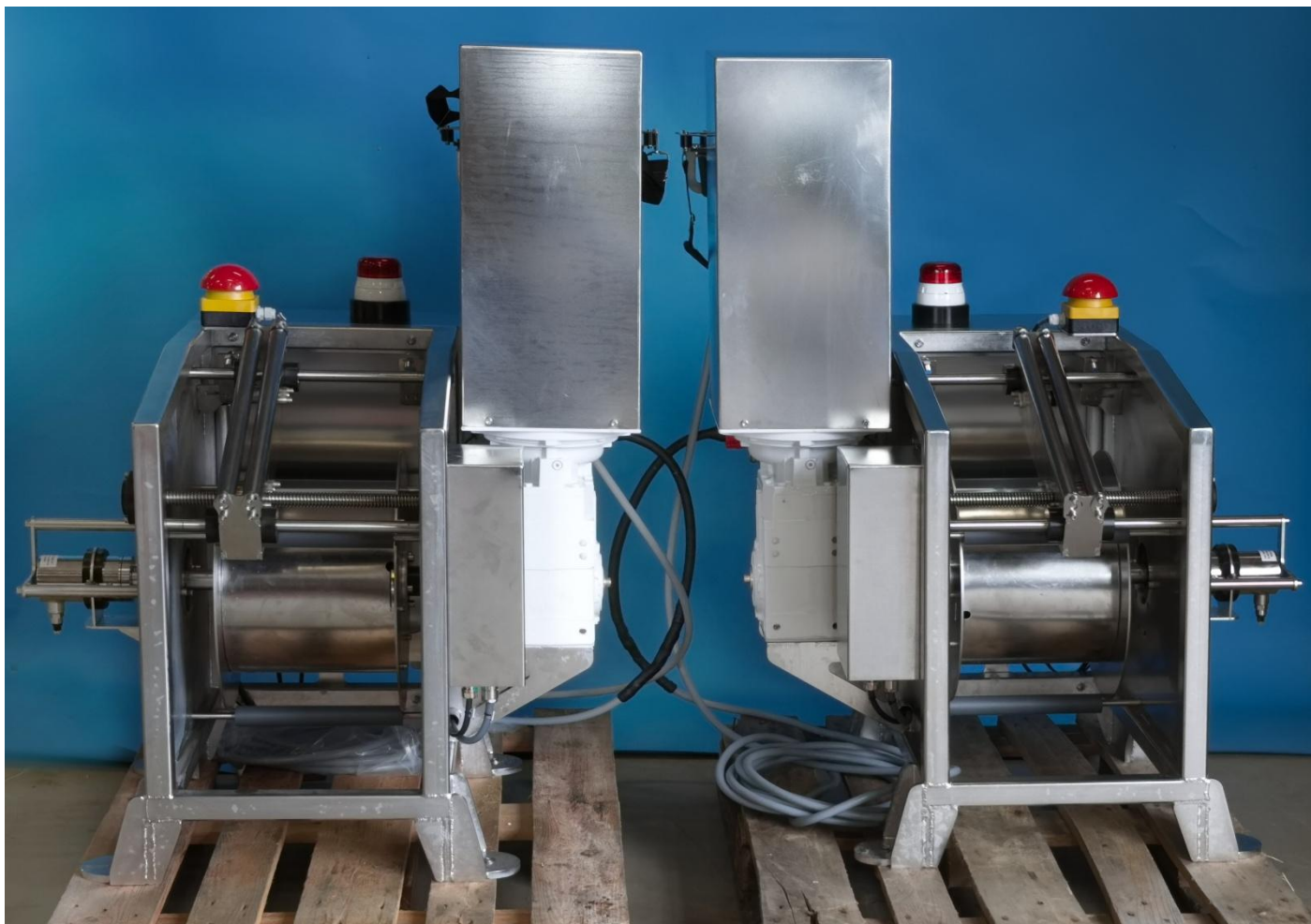




The winch is available as a mirror-image version

Winch Model 700.022 – 2,2 kW

Manual

KC Denmark A/S

Research Equipment
Limnology • Oceanography • Hydrobiology

IMPORTANT



All power installation work must be performed by an authorized technician.

Power requirements:

- 230 V AC/1 phase/2,2 kW
- 50 Hz



It is important to carry out a test deployment with a representative load, such as a box corer or similar, and then rewind the cable onto the drum under load. At the factory, we cannot spool the cable onto the drum under the same load as the box corer provides, so the cable will not be wound as tightly or evenly as it will be after the first operational deployment.



For all maintenance, inspection, and repair work on the winch, disconnect the power supply to prevent any unintended operation that could result in injury to personnel or damage to the winch.

Maintenance, inspection, and repair work shall only be carried out by qualified maintenance personnel fully familiar with the associated hazards.

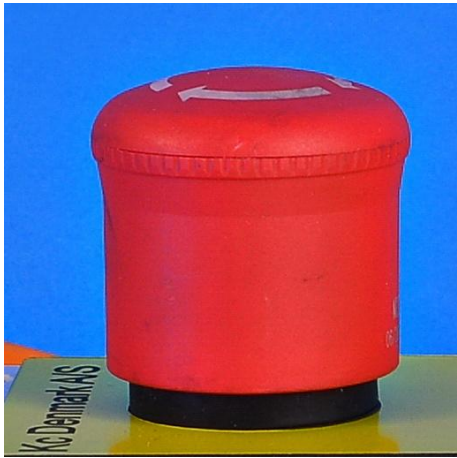
Personnel assigned to work on the winch and its accessories shall be specially trained for the task and shall possess the necessary skills and experience in this field. They shall also be provided with the appropriate tools and personal protective equipment. Failure to comply with these requirements may result in a risk to personal safety and property damage.

When working on the unit in areas that are difficult to access or present hazards, ensure that adequate safety precautions have been taken for the operator and other personnel, in accordance with applicable health and safety regulations.

Winch preparation

1	Secure the winch on a flat surface before use. Use the four fastening brackets located at each corner of the winch. All power installation work must be performed by an authorized technician.	
2	The remote control is equipped with an emergency-stop function and a joystick for controlling the speed and wire direction.	
3	Connect the remote control to the SubConn connector on the side of the electronics box.	

Emergency stops

4	The winch is equipped with four emergency stops. Note that there are two different designs: • One on the remote control • One on the electronics cabinet Activation: It must stop all dangerous movements immediately, and the winch must not be able to restart until the emergency stop has been manually reset. Resetting is done by turning (shown with arrows on the knob) or pulling out the button. If activated, the yellow ring beneath the button is not visible.	
5	Once you have pressed the emergency knob you must pull it backwards and push the green button on the remote control to reactivate the winch. If any doubt, look beneath the red knob; if activated, you will only see the black ring.	
6	The knob is now pulled backwards, and you can see the yellow ring, indicating that the emergency stop is not activated.	

7	Next to the emergency stop, a warning light indicates that the winch is in operation.	
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Operating the winch

8	Turn the main switch clockwise to position "On".	
9	On the remote control, press "Activate" and move the joystick forward to spool out the wire. Pull the joystick back to spool in the wire. The joystick controls the wire direction and the winch speed. The further you move the joystick, the higher the speed.  <i>Before changing direction, it is very important that the winch drum is completely still to avoid damage.</i>	
10	Jog control for spooling adjustment, mounted on the electronics cabinet. The jog control is a manual operation mode used for short, precise movements of the wire guide system - known as jogging or inching - achieved by repeatedly pressing the control button in the desired spooling direction. It is commonly used during spooling to make smaller adjustments to the layer pattern. Pushing the Reset switch restores the factory settings.	

Meter and speed counter

Standard delivery of the winch does not include a counter. Adding a counter also requires a meter wheel. A standard counter measures wire length with a resolution of 10 cm. Optionally, it can be replaced with a dual-display counter that measures both wire length and wire speed.

Power supply:

The counter requires an external power supply of 10–24 V AC or DC. Maximum power consumption is 200 mA. Upon request, it can be supplied with built-in batteries, a power supply, or a charger.

Connection for power supply:

Brown and blue wires: 10–24 V AC or DC. No polarity is required.

Yellow/green wire: Earth. No ground connection is required.

Before fitting the cable to the meter wheel, check the wheel's counting direction by turning the wheel manually.

Connection for meter wheel:

Attach the Subconn connector to the meter wheel.

Operation:

Press the green button to switch on the counter and its backlight.

When lowering the equipment, reset the counter to zero by pressing the red button when the equipment reaches sea level.

The display:

The display shows the cable length with a resolution of 10 cm. Built-in illumination ensures good visibility at night and easy readability even in bright sunlight.

The digits:

The first digit displays a maximum of three bars. The upper and lower bars indicate the counting pulses, while the middle bar indicates that the power supply is connected.

Heating element:

The counter has an internal heating element to prevent condensation. It is always connected, regardless of the position of the green button.

Interface:

The counter can be equipped with various interfaces, including RS-232, RS-485, and USB. For this purpose, the counter is supplied with a SubConn connector and a matching cable. Special software is available on request.



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12	Slave display(s): One or more slave displays can be added for simultaneous use on deck and in the wheelhouse. The counters must be linked using a five-conductor cable. To prevent accidental resetting, we recommend making the on/off and reset functions available on only one counter.	
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Troubleshooting for counter system

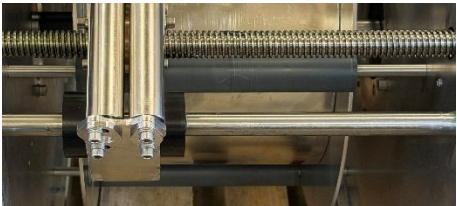
13	<i>No count or flashing bars on the display:</i> Check that the power supply is correct and within the range of 10–24 V AC or DC. If one or more bars are missing from the leftmost digit, this indicates either a missing power supply or a missing signal from the sensors in the meter wheel. When the counter wheel is turned slowly, the upper and lower bars should flash alternately. A missing bar indicates that there is no signal from one of the sensors in the meter wheel. Check all cable connections. Using a voltmeter, measure the voltage between the negative wire (terminal 8) and P1, and between the negative wire (terminal 8) and P2. The voltage should equal the supply voltage and should change from 0 V to the maximum supply voltage as the meter wheel is turned.	
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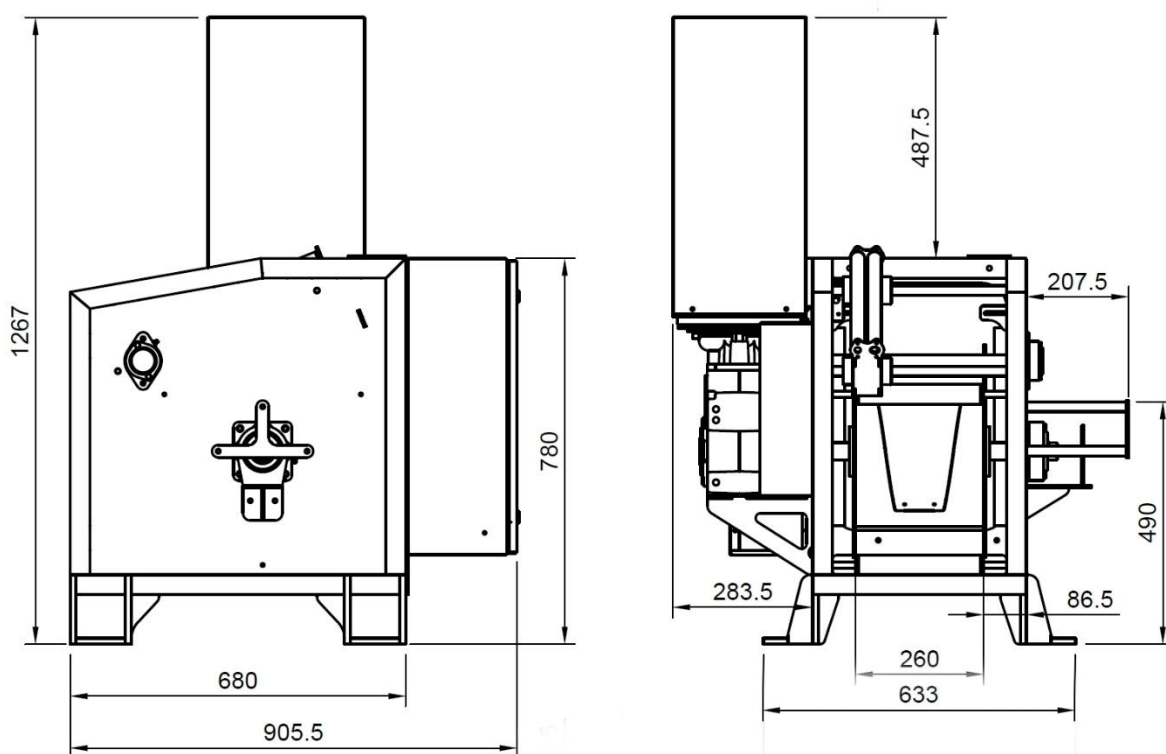
Electronics

14	The electronics cabinet contains complete documentation for the servo system and a diagram of the winch. All software is available on CD and a USB key. If you may need any support for the electrical design, please refer to the serial number, as mentioned on the inner side of the door.	
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15	If you cannot activate the winch, and the frequency converter shows "Fejl 44 – safe torque off" you must check, if any of the emergency stops have been pressed. Release the knob(s) and press "Activate" for restarting the winch.	
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Maintenance

16	The two ball bearings must be greased at least every six months. They are located on the side of the winch, opposite the electric motor.	
17	The spindle and the guiding system must be greased as needed.	
18	Replace worn component with original spare parts. Use the lubricants (oil and grease) recommended by the manufacturer.	



Dimensions

Technical Specifications

- Dimensions: Footprint: 91 x 93 cm, height 127 cm
- Weight: 240 kg inclusive the counter system
- Drum dimensions: Ø430 x 260 mm
- Cable capacity: approx. 150 m of 6,53 mm wire
- Lifting capacity, inclusive the weight of line/wire: 75 kg

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Power requirements:

- 230 V AC/1 phase/2,2 kW
- 50 Hz

Speed: 0-1 m/sec.

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