

Usage in the Field

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Taking a cast:

1. Start a record of the cast on the CTD log sheets required. *Record details such as the date/time, location (lat/long), station name, water depth, operator and other relevant notes.*
2. Remove the tubing around the conductivity cell, which will normally be stored partially filled with double-distilled deionised water (DDW). *Pull **STRAIGHT BACK – DO NOT TWIST OR WIGGLE** the hosing (you could break the glass conductivity cell).*

It is not usually necessary to keep it filled between stations if they are not too far apart in time, but it should be filled overnight

3. Remove the protective cap on the fluorescence sensor.
4. Hang the CTD over the water, and just before it enters the water switch ON the CTD with the ON-OFF switch (and record the time on the log sheet). *Move the switch with one swift and decisive movement (to trigger the magnetic switch inside).*
5. Put the CTD into the water and let it “soak” near the surface for ~ 2 minutes after it is turned on. This gets rid of bubbles in the plumbing which will otherwise stall the pump. *Make sure the Y-valve is submerged (you should see air bubbles leaving the system if the surface is calm). Soak depth is as close to the surface as possible but deep enough that the plumbing **STAYS SUBMERGED AT ALL TIMES**. In heavy seas it may be better to soak the CTD at a depth of 5-10m, then raise it briefly to near the surface before lowering for the cast.*

During the soak period, you may see the blue fluorometer light turn on (if you have one)

*HELPFUL TIP – Be consistent in the way you do things and don't vary from cast to cast (it will make processing easier later on if you are consistent). In particular, time the soak **EXACTLY** and make it consistent for all casts.*

6. After the “soak”, complete the cast. *You want to lower the instrument at no more than ~1 m/s (~ full speed on the winch), and slower if you want high vertical resolution. You can bring the CTD up at full speed as you typically won't use the upcast data. When bringing the CTD up, make sure the wire winds neatly on the winch.*
7. Pull the CTD out of the water and turn it OFF (recording the time on the log sheet again).
8. Take a quick look at the bottom of CTD for signs of clinging mud (ESPECIALLY if you have reason to believe that you hit the bottom – a big no-no). *If mud is in the plumbing you should back flush the system thoroughly with water (and note it on the log sheet).*
9. At the end of the trip, thoroughly hose off (rinse) the CTD in fresh clean water before returning it to storage. Attach the double-distilled deionised water-filled storage tubing around the conductivity cell (push on – no wiggling).