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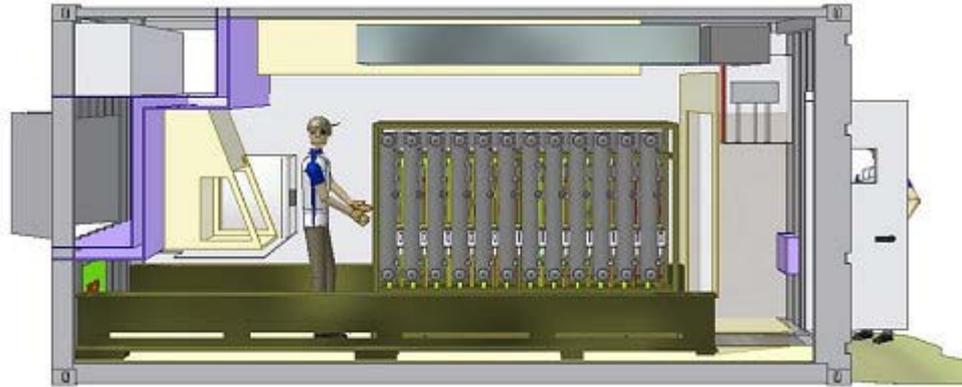
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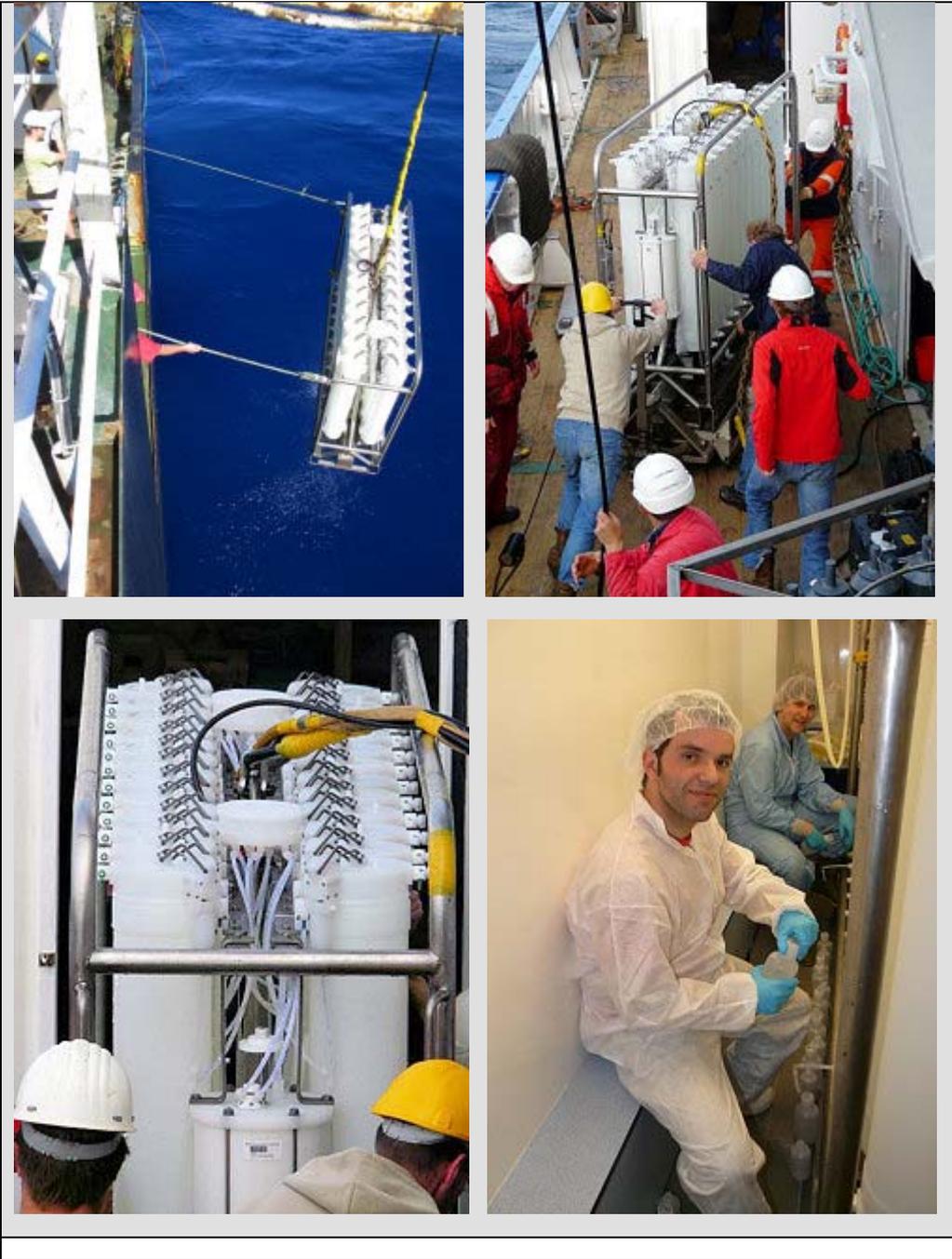
www.nioz.nl/mtec-en

www.deepseacentre.nl

NIOZ PRISTINE Ultra Clean CTD System (UCC-System)

Goal	High accuracy and Ultra Clean CTD-operations including the use of following additional sensors: fluorometer, DO-sensor, transmissiometer and PAR. The UCC-system enables large scale research on trace-elements (e.g. iron, aluminium and manganese) and isotopes.
Description	<p>The system consists of 2 major modules:</p> <ul style="list-style-type: none"> • A box-shaped titanium CTD frame with 24 PVDF sampling bottles with modified butterfly valves. • A clean air container for contamination-free (sub)sampling <p>For deployment of this CTD-system a winch with an iron free CTD-cable with a SWL of at least 2.5 ton is needed.</p> <p>To avoid contamination the frame of the UCC-system is made of titanium. All electronic pressure housings and other parts are made of titanium or clean plastics like Teflon, PETP or POM. The frame can be parked and secured 'seasave' inside the clean air container. Prior to a cast the frame is prepared inside this container and transported to the CTD-launching spot using a custom made aluminium pallet and an extended forklift. After the cast the frame can be returned to the clean air container within minutes thereby avoiding contamination of the equipment with grease, rust or smoke particles from the ship. Once the container is closed the air treatment system starts to clean the air using HEPA-filters. Frame, bottles and electronics can be rinsed with fresh water. All the UCC-equipment, procedures and test results are described in a paper published in Marine Chemistry (pdf-version is available upon request, contact sven.ober@nioz.nl). A poster about the UCC-system is available for a first impression.</p> <p>The electronic system consists of a SBE9plus underwaterunit, a SBE11plusV2 deckunit, a NIOZ-developed multivalve bottle-controller, a SBE3plus thermometer, a SBE4 conductivity sensor, a SBE5T underwaterpump, a SBE43 dissolved oxygen sensor, a Chelsea Aquatracka MKIII fluorometer, a Wetlabs C-Star transmissiometer (25 cm, deep, red), a Satlantic logarithmic PAR-sensor for underwater PAR and a Satlantic linear PAR-sensor for deck reference.</p>

	<p>For Ultra Clean water sampling 24 sampling bottles made of PVDF are used. These bottles with a volume of 27 liters have modified butterfly valves on both ends enabling a near-perfect flow of water through the bottle when going through the water column. The samplers are controlled with a hydraulic system. For bottom-detection 2 devices are installed: A Benthos PSA-916 altimeter and a bottom switch with a weight. The SBE11+ has a NMEA interface for navigational data. On the logging computer Seasoft for Windows is installed (Seasave V7.20 and SBE Data Processing V7.20).</p>
<p>Remarks</p>	<p>Detailed information about the sensors (e.g. accuracy) and other system modules is available via the links above. Extra sensors such as a secondary pumped CT-set or a SBE35 reference-thermometer are available upon request.</p>
<p>Contact</p>	<p>Sven Ober</p>
	
	



DFe SAMPLE DATA

