

PRODUCT INFORMATION

marionda

marine analytics and data

Total alkalinity and dissolved inorganic carbon in seawater (VINDTA 3C):



VINDTA 3C (VINDTA # 007)

The **VINDTA 3C** (Versatile **I**Nstrument for the **D**etermination of **T**otal inorganic carbon and titration **A**lkalinity) combines the proven VINDTA alkalinity titration concept with a simplified extraction unit for coulometric dissolved inorganic carbon (DIC) measurement.

The alkalinity part of the VINDTA 3C is nearly identical to the [VINDTA 3S](#) system; an additional part for the extraction of CO₂ from seawater for coulometric titration has been added to allow for determination of dissolved inorganic carbon from the same sample simultaneously (the DIC-only system is available as [VINDTA 3D](#)).

The sample transport is performed with peristaltic pumps and the acid addition is done using a membrane pump; therefore no pressurizing system is required (in contrast to the SOMMA system) and only one gas supply (nitrogen or dry and CO₂-free air) is necessary. As option, a Peltier cooler system for the condenser (this saves one circulation bath) is available.

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features:

- determine alkalinity and dissolved inorganic from the same sample simultaneously
- easily transportable and sea-going
- only one gas (carrier gas) required
- precision typically $\pm 1 \mu\text{mol/kg}$ (AT and/or DIC; open ocean water)
- simplified operation for DIC compared to the SOMMA
- user friendly software interface using LabVIEW™
- optional control PC (Shuttle-PC) tested with the hardware and with all software and drivers installed

LabVIEW™ is a trade mark of National Instruments Inc.

Additional hardware required or recommended:

UIC coulometer model 5011, 5012, or later (with 5011 emulator option)

Old METROHM hardware: Titrino (719SET or similar) with stirrer 728 and 5 mL burette unit

Metrohm reference electrode # 60729.100

Thermo Orion ROSS electrode #8101BN

New METROHM hardware: pH module 867, Dosino 800, 5ml burette unit, stirrer 801

Metrohm Aquatrode plus

circulation bath for temperature control (20 or 25°C) of the system equilibration of sample bottles

second circulation bath for the condenser ($\sim 2^\circ\text{C}$; not required with Peltier option)

carrier gas supply (nitrogen or dry and CO₂-free air)