



# Potentiometric dosing with closed cell

*Profession: Measurements of total alkalinity and Dissolved Inorganic Carbon (DIC)*

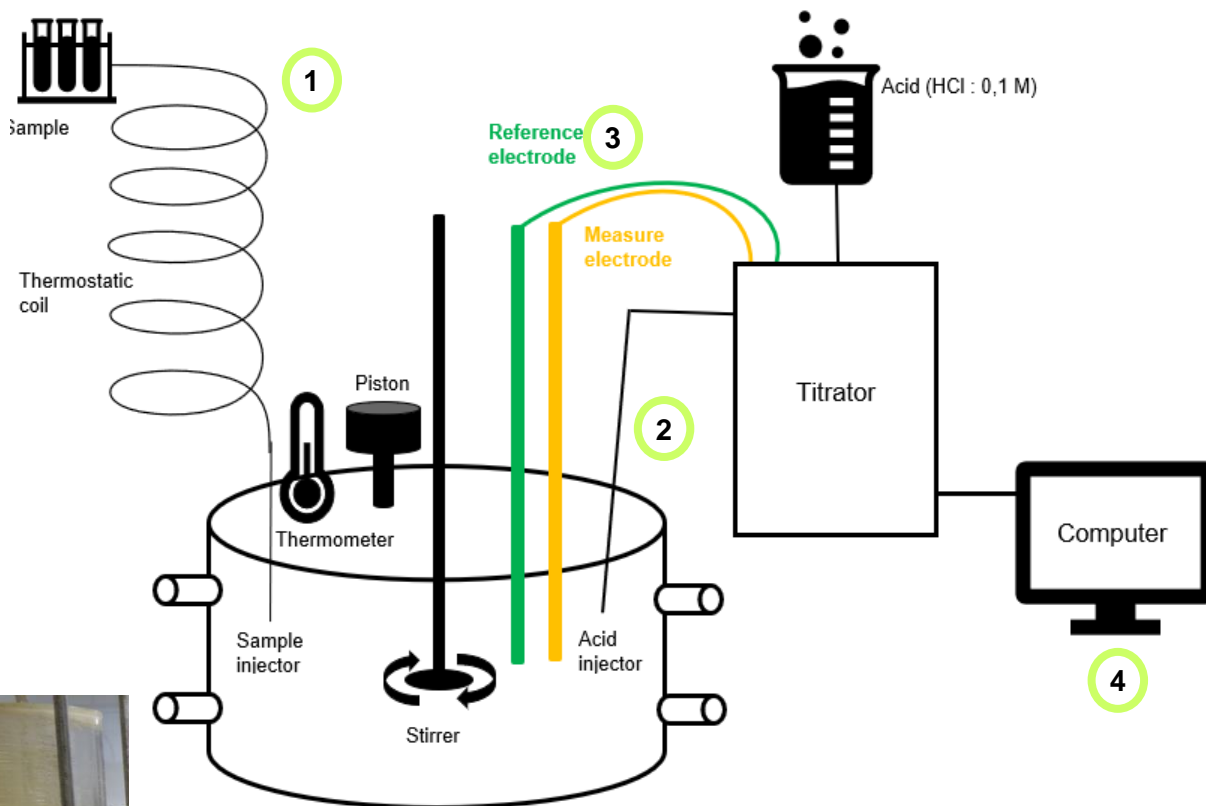
 Alkalinity (capacity of water to neutralise acids) and DIC

 LOCEAN – IPSL (FR)

 On board

 30 000 €

## Professional overview :

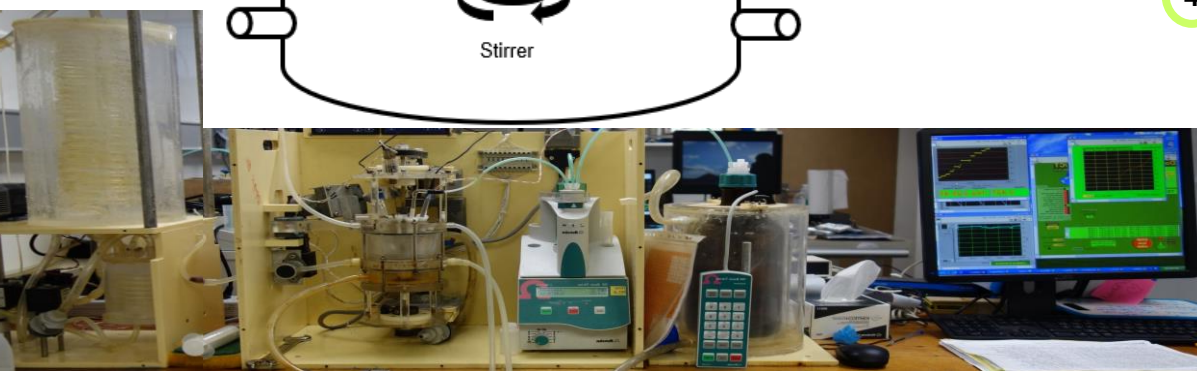


**1** The sample passes through the thermostatically controlled coil to regulate its temperature. It then arrives in the closed cell via the sample injector.

**2** Continuous addition of acids controlled by the titrator and homogenization of the solution thanks to the stirrer. The piston control the volume in the closed cell.

**3** Measurement of the difference of the electrode signal (called "potential").

**4** The computer deduce from the analyses the DIC concentration and the total alkalinity.



## Education

- **1970s** : Method proposed by Edmond
- **1980s** : Instrument developed for oceanographic cruises on the Marion Dufresne.

## Skills highlights

- **Automated and fast measurements** (15 minutes)
- Use for measurements **during transit** and for the **water collected** by rosette at each stations.
- **Reliable** with high precision of  $\pm 3 \mu\text{mol/kg}$ .

## Interests & curiosities

Simultaneous measurement of DIC and total alkalinity

Homemade : Easily adapted according to scientific needs