

CM50180 Coulometer

CM50180 Oceanographic CO₂ Coulometer Dissolved Inorganic Carbon (DIC) in Sea Water For use with CM5260 MODICA system



The Coulometer uses coulometric detection. The carbon Coulometer measures carbon as CO₂. The gas stream resulting from the MODICA unit is bubbled through the coulometer analytical cell. The carbon coulometer solution contains ethanolamine and a colorimetric pH indicator. The CO₂ from the gas stream reacts with the ethanolamine forming a strong titratable acid, causing the color indicator to fade. The coulometer photometer recognizes this condition and initiates the electrochemical generation of electrons returning the solution to the original color. The current for this 100% efficient coulometric process is integrated and digitally displayed in user selected units. The Oceanographic unit is supplied with the CM5011 Emulation firmware necessary to allow direct connection to the MODICA software. No other software is required.

The CM50180 Coulometer sits on a conventional lab bench capable of supporting 40 lbs. The Coulometer stands 12" wide by 12" high by 19.2" deep. The instrument is constructed of aluminum and steel. The unit is designed with a cell compartment, power switch, cell current switch, and an LCD touch screen to act as the user interface to the instrument. The instrument is supplied with is an analytical cell assembly, power conditioner, power cord with a NEMA 5-15 plug and an RS232 serial cable. The unit is also supplied with a set of cell reagents and operation manual. The unit when supplied for 110-120V 50/60 HZ operation requires one AC circuit capable of supplying 1.5 amps.

Part Numbers:

CM5018-01 for 110V / 50/60Hz

CM5018-02 for 220V / 50/60Hz

CM50180 CO₂ Coulometer

- No user calibration
- 100% efficient coulometric detection
- Wide, linear dynamic range
- Readability to 0.01 µg Carbon
- Relative standard deviations of < 0.2% for standard certified materials
- LCD Touch Screen
- Typical analysis time of 8-10 minutes
- LIMS compatible

CM210-032 – Titration Cell includes:

1. CM200-051 – Titration Cell with Side Arm
2. CM119-027 – Cathode Top, White Teflon
3. CM101-135 – Platinum Electrode (black lead)
4. CM190-020 – Gas Inlet Tube (blue tag)
5. CM190-021 – Gas Exit Tube (red tag)
6. CM119-028 – Anode Top, White Teflon
7. CM101-033 – Silver Electrode (red lead)
8. CM121-001 – Stir Bar

CM310-001 – Cell Reagent Kit includes:

- CM300-001 – Carbon Cathode Solution (1 gallon)
- CM300-002 – Carbon Anode Solution (16 ounces)