

CM5018 Coulometer

CM5018 – CO₂ Coulometer

By Coulometric Detection Only

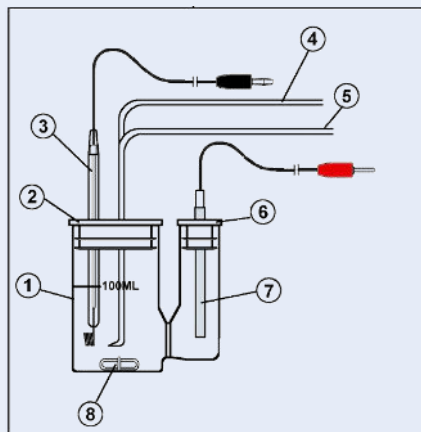


CM5018 CO₂ Coulometer

- 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
- User selectable display units
- Modern Windows-Based Interface
- Typical analysis time of 7-8 minutes
- Storage on Hard drive of PC
- 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)
- CM300-003 – Potassium Iodide (50 grams)

Applications include Pharmaceuticals, Sea Water, Amines and Hydrazines, Black liquors, Food, Soils and Sediments, Geological materials, Sludgers, Sulfur, Liquids containing particulates, Water and Wastewater, Brines, Process Fluids, Corrosive Agents, Acids.

CONFORMS TO ASTM D 513 AND D4129

CM5018 measures carbon as CO₂ in a carrier gas. The gas stream is bubbled into a coulometric titration cell which contains a CO₂-sensitive ethanolamine solution. There, CO₂ reacts to form a strong, titratable acid. That acid, in turn, causes the ethanolamine solution's coulometric pH indicator to fade from dark blue to clear. The CM5018 photometer recognizes this color change and automatically prompts the instrument to initiate a current within the cell.

The current electrochemically generates a neutralizing base at a rate roughly comparable to 1500 micrograms of carbon per minute. As the base is produced, the pH of the cell solution gradually returns to its initial level and the colorimetric indicator returns to dark blue. The current generated in this 100% efficient coulometric process is integrated to determine the total energy required. Using Faraday's Law of Electrolysis, the total charge used in the titration is directly proportional to the amount of CO₂ initially absorbed by the ethanolamine solution.

The automatic CM5018 allows the analyst to select the type of analysis to be run, as well as other user selectable parameters. Sample names, weights, volumes, or areas can be entered from a file or manually into the analysis screen to be used by CM5018 for calculating the final result.

Analytical progress is displayed on the laptop in user-selectable units. Detailed analysis information is automatically saved to reports folder on the laptop's hard drive. Detailed, full size reports with graphs and/or a summary report with all result can be user generated. Reports can be printed to any windows printer in full color. In addition, a raw data file is created when the summary report is generated for advanced data handling.

Part Numbers

CM5018-01 for 110V / 50/60Hz

CM5018-02 for 220V / 50/60Hz