SC-144DR Series

Sulfur/Carbon

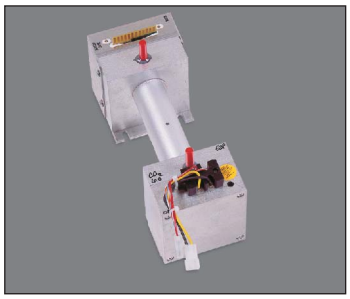
The SC-144DR Sulfur and Carbon Analyzer is designed to determine the sulfur and carbon content in a wide variety of organic materials such as coal, coke, and oils, as well as some inorganic materials such as soil, cement, and limestone by combustion with non-dispersive infrared detection.

How It Works

Analysis begins as a sample (0.350 g nominal) is weighed into a combustion boat. The sample within the combustion boat is placed in a pure oxygen environment typically regulated at 1350°C and then undergoes complete combustion, releasing the sample's carbon as carbon dioxide (CO_2) gas and sulfur as sulfur dioxide (SO_2) gas. The sample's combustion gases are first swept through the boat stop to the back of the inner combustion tube and then forward between the inner and outer combustion tubes, allowing the combustion gases to remain in the high temperature zone for a longer period and permitting efficient oxidation.

From the combustion system, the gases flow through two anhydrone tubes removing moisture and then through a flow controller that sets the flow of the combustion gases through the infrared (IR) detection cells. The carbon IR cell measures the concentration of carbon dioxide gas. The sulfur IR cell measures the concentration of sulfur dioxide gas.

The SC-144DR is controlled by an external PC using Windows®- based operating software.



IR Detection System
Measures sulfur and/or carbon from ppm levels to high-percent concentrations

Sample Boats
Hold nominal sample mass of 350 mg

Combustion Tube
- Allows combustion of sample in an oxygen-rich environment at ~1350°C
- Ensures complete oxidation of various matrices due to concentric design

Delivering the Right Results