

## Calcimeters

The compounds responsible for scale build-up in drilling fluids must be determined before an effective chemical treating program can be implemented to control the scale.

**FANN CALCIMETERS** are used to determine the amount of Calcium Carbonate and Magnesium Carbonate (Dolomite) in a sample of alkaline earth carbonates such as oil well cores or drilled cuttings. Calcite build-up in drilling fluids and in water treatment processes causes scaling problems. Data from the Fann Calcimeter can help determine the proper chemical treatment.

These instruments comply with the ASTM D 4373-84 **STANDARD TEST METHOD FOR CALCIUM CARBONATE CONTENT IN SOILS**. This test method is under the jurisdiction of ASTM Committee D-18 on Soil and Rock and is the direct responsibility of Subcommittee D-18.13 on Marine Geotechnics.



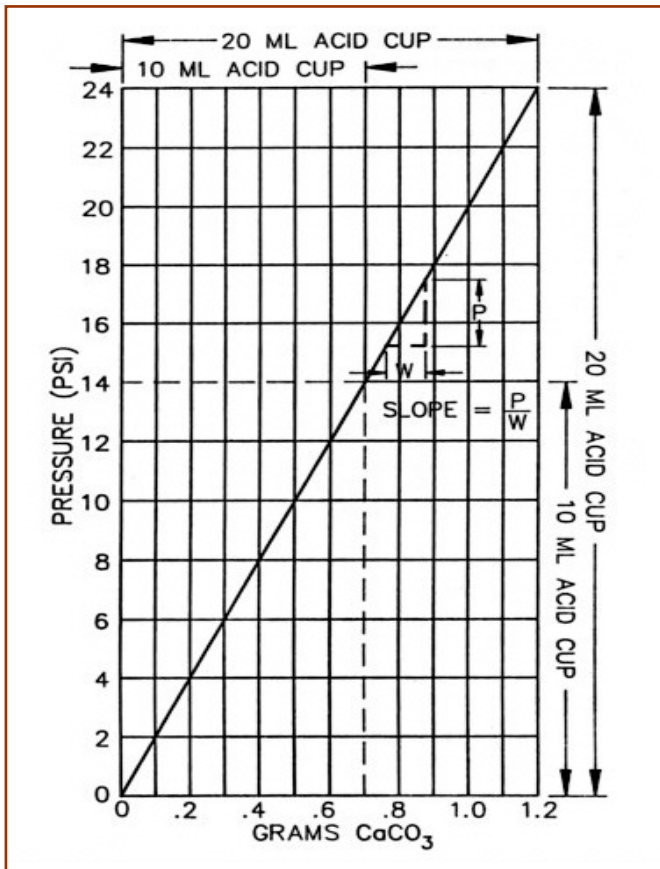
**Model 43210**  
**Recording Calcimeter**



**Model 432**  
**Gauge Calcimeter**

In Fann Calcimeters the calcium carbonate and magnesium carbonate are reacted with 10 % Hydrochloric Acid to form  $\text{CO}_2$ . This is done in a sealed reaction cell and the pressure build up due to the  $\text{CO}_2$  is measured using either a pressure gauge or a pressure recorder. The use of a Calibration Curve, determined through the use of pure Calcium Carbonate reagent, allows the pressure developed to be related to the weight of calcium carbonate in the calibration sample. Several weights of sample are suggested to provide an accurate curve. These tests can be conducted using either the pressure gauge or recorder with the reaction cell. The sample can be weighed on a portable balance with 10 mg precision.

## Calibration Curve



The calcium carbonate content is determined by treating a 1 gm dried specimen with hydrochloric acid (HCl) in an enclosed reactor vessel. Carbon dioxide gas is evolved during the reaction between the acid and carbonate fractions of the specimen. The resulting pressure generated in the closed reactor is directly proportional to the carbonate content of the specimen.

FANN Calcimeters can determine, quickly and with a high degree of accuracy, if the scale build-up is composed of calcium carbonate. Both models of the Calcimeters are suited to a differential measure of the calcite to dolomite content of the unknown sample. The main difference in the two models lies in the fact that an operator must be present during the test with Model 432 (Pressure Gauge Model) to record readings at regular intervals. The Model 43210 records its results directly to a strip chart, leaving the operator free to perform other duties. In both models, the calcite contents are available in a matter of seconds and the dolomites can be determined in 15-20 minutes.

**fann**<sup>®</sup>  
*The Original Testing Equipment Company*<sup>™</sup>

## Ordering Information

### Model 43210 Recording Calcimeter – Part Number 209698

Includes:

Reaction Chamber with Basket  
0-15 psig Recorder - Digital Balance  
Reagents - Hardware - Instructions  
Stainless Steel Carrying Case

### Model 432 Gauge Calcimeter – Part Number 209696

Includes:

Reaction Chamber with Basket  
30 psig Gauge - Instructions

***Fann Instrument Company offers a complete line of equipment, materials and supplies  
for use in testing drilling fluids in accordance with The American Petroleum Institute:***

**API Recommended Practice 13I, ANSI/API 13I/ISO 10416**

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