



Micrometrixtm



CHARGE MEASUREMENT AND COAGULANT DEMAND ANALYSIS



Model PCA

Particle Charge Analyzer

BENEFITS

ESTABLISH
CHEMICAL
DOSAGE

ASSESS
PERFORMANCE
OF ADDITIVES

OPTIMIZE
PROCESS
PERFORMANCE

QUALITY
CONTROL

REDUCE
CHEMICAL
COSTS

THE MICROMETRIXTM PARTICLE CHARGE ANALYZER MEASURES IONIC AND COLLOIDAL CHARGE IN LIQUID SAMPLES. OPTIMUM CHEMICAL DOSAGE CAN BE DETERMINED MUCH QUICKER THAN WITH STANDARD "JAR TESTING". ANIONIC OR CATIONIC CHARGE DEMAND IS DETERMINED BY TITRATION. THE DIGITAL DISPLAY INDICATES THE ZERO CHARGE ENDPOINT VALUE WHEN TITRATING.

APPLICATIONS

PAPER
INDUSTRY

CHEMICAL
INDUSTRY

WATER
WASTEWATER

PHARMACEUTICALS

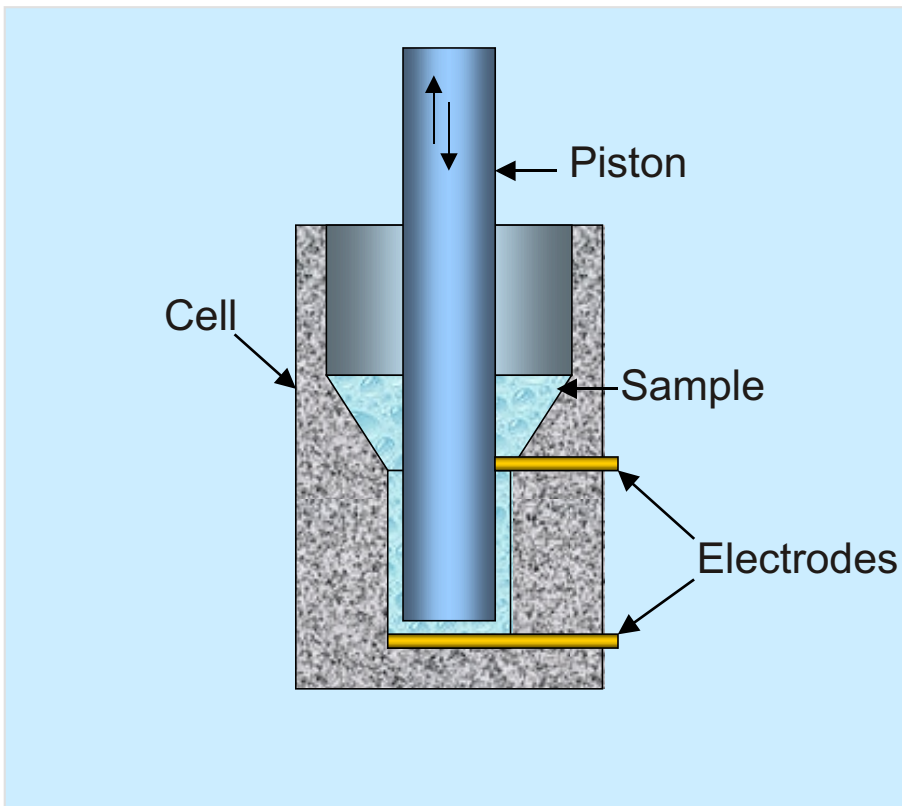
BEVERAGE
INDUSTRY

CERAMICS

PIGMENTS

SPECIFICATIONS	MODEL PCA
MEASUREMENT	STREAMING CURRENT
POWER	110 / 230 VAC
RANGE	-1000 TO +1000
DISPLAY TYPE	DIGITAL LED
SAMPLE VOLUME	10 TO 100 ML
OUTPUT CONNECTOR	BNC TYPE
RESPONSE TIME	1 SECOND
DIAGNOSTICS	SENSOR LED
CELL MATERIALS	TEFLON PTFE
OUTPUTS	-1000 TO +1000 MV
CONTROLS	SENSITIVITY GAIN
AUTO-TITRATION	(OPTIONAL)
WEIGHT	4.5KG / 10LBS
DIMENSIONS-MM	380HX178WX178D
DIMENSIONS	15" H x 7" W x 7"D

Description of the Measurement



PCA Measurement Cell

The Streaming Current cell (SC cell) determines the charge of the sample and the end point of the titration. The measurement cell consists of a precision bore cylinder closed at the bottom end and containing two electrodes, one at the bottom, and an upper electrode. The electrodes are connected to the contacts extending from the lower front portion of the instrument housing. The measurement cell is designed as a container to allow sample to be poured in from the top. The typical sample volume is 50ml. A precision piston oscillates up and down in the cylinder with a frequency of approximately 4hz. Polyelectrolyte (polymer) or coagulants are used as titrants to determine the charge demand of the sample. Colloidal particles are temporarily attached to the piston and cylinder walls. The mobile counterions of the fixed electrolyte move through the liquid stream creating an electric current due to the partial charge distribution measured between the two electrodes. This streaming current is measured by the electronics in the main unit.