

# ISO 13319:2007-07 (E)

## Determination of particle size distributions - Electrical sensing zone method

---

Contents	Page
Foreword .....	iv
1 Scope .....	1
2 Normative references .....	1
3 Terms and definitions .....	1
4 Symbols .....	2
5 Principle .....	3
6 General operation .....	4
6.1 Response .....	4
6.2 Size limits .....	4
6.3 Effect of coincident particle passage .....	4
6.4 Dead time .....	5
7 Repeatability of counts .....	6
8 Operational procedures .....	6
8.1 Instrument location .....	6
8.2 Linearity of the aperture/amplifier system .....	6
8.3 Linearity of the counting system .....	7
8.4 Choice of electrolyte solution .....	7
8.5 Preparation of electrolyte solution .....	7
8.6 Recommended sampling, sample splitting, sample preparation and dispersion .....	8
8.7 Choice of aperture(s) and analysis volume(s) .....	9
8.8 Clearing an aperture blockage .....	10
8.9 Stability of dispersion .....	10
8.10 Calibration .....	11
9 Analysis .....	11
10 Calculation of results .....	12
11 Instrument qualification .....	12
11.1 General .....	12
11.2 Report .....	12
Annex A (informative) Calibration for the measurement of porous and conductive particles .....	13
Annex B (informative) Technique using two (or more) apertures .....	16
Annex C (informative) Chi-squared test of the correctness of instrument operation or sample preparation .....	18
Annex D (informative) Table of materials and electrolyte solutions .....	20
Annex E (informative) Mass integration method .....	30
Annex F (informative) Calibration and control of frequently used apertures .....	36
Bibliography .....	37