



Analytical Test Method

Particle Size Distribution Analyzer

LA-920

ATM084

Dry Standards

METHOD FOR TESTING DRY STANDARDS ON LA-920

Certified standards are commonly used to verify accuracy and proper operation of laser diffraction particle size analyzers. As these materials are somewhat different from normal materials, proper conditions and procedures are necessary to ensure correct results. The following standards are recommended to verify acceptable performance of the LA-920 particle size analyzer with PowderJet Dry Feeder.

Analytical test method

Applicable instruments: LA-920 with PowderJet Dry Feeder

Standards: NIST SRM 1982 (Yttria-stabilized Zirconia); BCR 68 (Quartz)

Set the following conditions:

- Measure Conditions
 - Air Pressure: High
 - Number of Data Samplings: 5
- Display Conditions
 - Form of Distribution: Standard
 - R.R. Index: 2.40-0.10i (SRM 1982); 1.54-0.10i (BCR 68)
 - Distribution Base: Volume
- Sample Information:
 - Sample Name: (nominal size of standard and tolerance)
 - Material: (material type)
 - Source: (name of vendor)
 - Lot Number: (lot number of standard being tested)

Procedure:

1. Start vacuum.
2. Perform alignment of detector.
3. Record blank.
4. Start compressed air feed and sample feeder.
5. Feeder speeds should be adjusted until transmittance value is 94-99%.
6. Confirm that transmittance value is in specification.
7. Begin measurement.

Results

Acceptable instrument performance will result in the mean of three separate runs having volume diameter values that are within three standard deviations of the stated size.

Percentile	SRM 1982 Size (microns)	Std. Dev.	Range	BCR 68 Size (microns)	Std. Dev.	Range
25%	34.8	1.74	29.6-40.0	287.3	17.24	339.0-235.6
50%	52.2	2.11	45.9-58.5	380.1	22.81	311.7-448.5
75%	73.2	3.66	62.2-84.2	493.5	29.61	404.7-582.3

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