



October, 2025

# Particle Size Analyzer (PSA) Report



UNIVERSITAS  
AIRLANGGA

LIHTR

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Measurement range: 1-10000 nm

Print Time: 10/6/2025 3:07:43 PM

### Sample information

Sample name: Gel

Sample supplier: Universitas Muhammadiyah Sidoarjo

### Test Condition

Test temperature: 21°C Dispersion medium: Water Medium viscosity: 9.779E-04Pa·s

Medium refractive index: 1.333 Angle: 90.0Deg Delay Unit Time: 20us

LightColor: Red

### Test Information

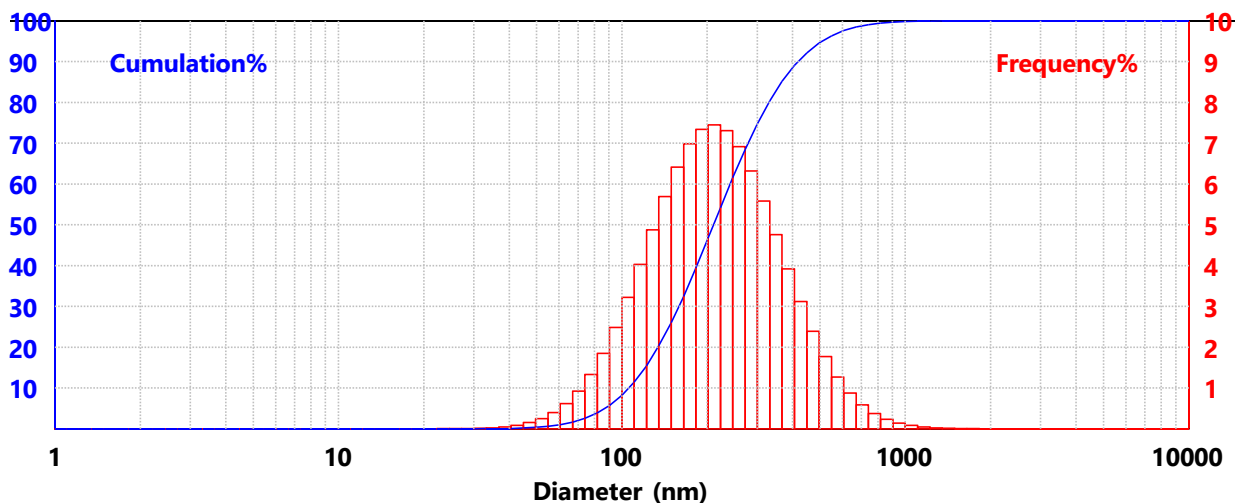
Test company: LIHTR

Tester: LIHTR Test time: 10/6/2025 3:07:42 PM

### Test Result:

Dav Diameter: Xav=340.38 nm Dispersion Index: PI=0.3326 Photon Count: 7

D10= 105.82 nm D50= 210.71 nm D90= 419.31 nm



Size	V%	S%	Size	V%	S%	Size	V%	S%	Size	V%	S%
24.62	0.00	0.00	74.06	0.93	2.55	222.75	7.45	54.23	670.02	0.88	98.48
27.21	0.00	0.01	81.85	1.33	3.88	246.21	7.31	61.53	740.57	0.59	99.06
30.08	0.01	0.01	90.47	1.85	5.73	272.13	6.92	68.45	818.55	0.38	99.44
33.25	0.01	0.03	100.00	2.49	8.22	300.79	6.32	74.77	904.74	0.24	99.68
36.75	0.03	0.05	110.53	3.22	11.44	332.46	5.58	80.36	1000.00	0.14	99.82
40.62	0.05	0.10	122.17	4.03	15.47	367.47	4.76	85.12	1105.30	0.08	99.90
44.89	0.09	0.19	135.03	4.87	20.35	406.16	3.92	89.04	1221.68	0.05	99.95
49.62	0.15	0.35	149.25	5.69	26.04	448.93	3.12	92.16	1350.31	0.03	99.97
54.84	0.25	0.60	164.96	6.41	32.45	496.19	2.39	94.55	1492.50	0.01	99.99
60.62	0.40	1.00	182.33	6.98	39.43	548.44	1.77	96.33	1649.65	0.01	99.99
67.00	0.62	1.62	201.53	7.34	46.77	606.19	1.27	97.60	1823.35	0.00	100.00

### Contact Us

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# BIOBASE BK-802N

**BIOBASE BK-802N** dynamic light scattering nanometer particle size analyzer which based on the dynamic light scattering principle. Based on Brownian motion principle, smaller particle, faster speed, bigger particle, more slowly. It adopt great performance of Japan HAMAMATSU photomultiplier and self-developed high speed digital correlator as core parts, Get diffusion coefficient by test scattering light change in some angle, and calculate particle diameter and distribution according to stokes-Einstein equation. the machine is with characters of fast calculation, high resolution ration, good accuracy and repeatability, therefore it's widely used in company product lab research and university use.

## APPLICATION:

Nano metallic oxide, Nano metallic powder, Nano ceramic material, protein, polymer latex, preparation of pharmaceutical, water/oil emulsion, paint, coating material, pigment, ink, toner, cosmetics and other fields of research, preparation and application of nano materials.

## MAIN SPECIFICATION:

<b>MODEL</b>	<b>BIOBASE BK-802N</b>
Standard	GB/T 19627-2005/ISO 13321:1996GB/T 29022-2012/ISO 22412:2008
Measure range	1nm-10000nm
Conc. range	0.1mg/ml--100mg/ml
Accuracy error	<1%( CRM D50)
Repeatability error	<1% ( CRM D50)
Light source	Semiconductor laser $\lambda=532\text{nm}$ P=30mW
Detector	HAMAMATSU photo-multiplier (5-90°C)
Scattering angle	90°
Sample cuvette	1-4mL
Test temperature	5-40 °C (temperature controller 5-90°C, precision within 0.1°C)
Test speed	<5 Min
Power Supply	220V 50HZ/60HZ
Outer Dimension	L48cm*W27cm*H17cm

G.W.	12Kg	
Analysis	Average particle diameter, particle distribution, photon counting rate etc.	
Digital Correlator	Model	CR256
	Auto-correlation channels	256
	Baseline channel	4
	Physical channels	5000
	Unit delay time	100ns-10ms

## MAIN FEATURES:

### 1) Advanced test principle:

Dynamic light scattering principle and photon correlation spectrum technology, according to Brownian motion speed of particle to test particle size, different size of particles have different speed, when laser illuminate these particles, it will make scattering light happen different speed of fluctuations- downs.

Photo correlation spectrum method will analyze these particle size according to Photon fluctuations -downs in particular direction.

### 2) High resolution:

Using PCR technology test nanometer-scale particle size, must be able to distinguish nanosecond signal fluctuations. The core components of the instrument is CR256 digital correlator developed by our company, with 8ns high resolution speed.

### 3) High sensitivity and Noise-signal ratio

Detector is composed of HAMAMATSU photomultiplier, so ensure good accuracy.

### 4) High speed data collection and calculation

Self-developed patent product-CR256 digital correlation, It could finish dynamic scattering light intensity collection and autocorrelative function real time calculation, Data processing speed is up to 162M, effectively reflect dynamic scattering light information of different sizes of particles.

### 5) High stable optical path system

Photon correlation spectrum detect system adopt optical-fibre technology, smaller size and high anti-interference and reliability.

### 6) High precision constant temperature control system

Semiconductor temperature control technology, precision control within  $\pm 0.1^{\circ}\text{C}$ , make samples be in a constant state throughout the testing process, prevent testing error because temperature change will change liquid viscosity and Brownian movement speed.

### 7) Output parameters: Real particle size distribution, freely set D10-D100, D[4,3], D[3,2], D[2,1], D[1,0] and specific surface area.