

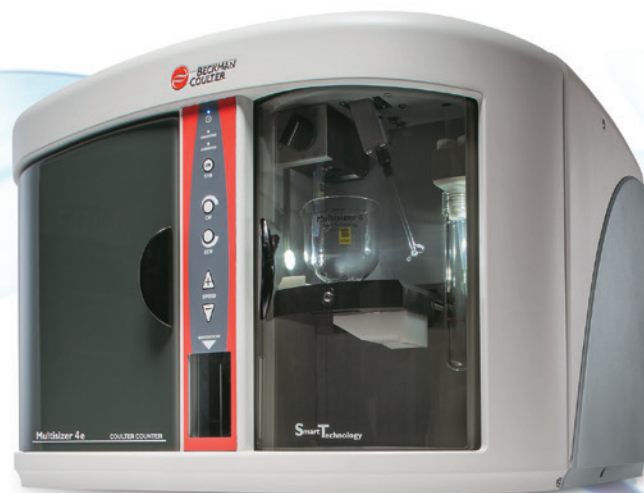
# Multisizer 4e COULTER COUNTER for Quality Control

High resolution sizing, counting and size distribution of cells, particles or sub-visible particles.

## Quality Assurance-Friendly System

The Multisizer 4e for QC is the newest member of the COULTER COUNTER family of high resolution particle counting, sizing and distribution products. The Quality Assurance-friendly system includes the following features:

- User-defined standard operation procedure
- Multiple security levels
- Software that enables 21 CFR Part 11 compliance
- Automated calibration and calibration verification for reliable results for both size and counts
- V-check validation package provides a comprehensive solution for today's quality assurance requirements
- Certification program to ensure instrument performance
- Software for the processing and presentation of data for industrial, biological and quality control applications



## Key Features:

- Digital Pulse Processor (DPP)
- Dynamic size measurements
- Provides number, volume, mass and surface area size distributions in one measurement
- Overall sizing range of 0.2  $\mu\text{m}$  to 1600  $\mu\text{m}$
- Not affected by particle color
- Increased dynamic range
- Increased resolution
- Proven technology
- Quality assurance friendly

### Pharmaceutical QC

- ▶ Filtration efficiency
- ▶ Sub-visible particle monitoring and characterization
- ▶ Bioprocessing monitoring

### Food & Beverage QC

- ▶ Yeast monitoring
- ▶ Flavor emulsions
- ▶ Monitoring particle levels

### Industrial QC

- ▶ Toner
- ▶ Abrasives
- ▶ Cosmetics
- ▶ Emulsions
- ▶ Beads
- ▶ Powders

Characterized  
*by ingenuity*

 **BECKMAN  
COULTER**

**Life Sciences**

## Multisizer 4e COULTER COUNTER Specifications

|   |   |
|---|---|
| Overall Particle Size Range                       | 0.2 $\mu\text{m}$ to 1600 $\mu\text{m}$ in diameter. 0.033 fL to $2.145 \times 10^9$ fL or $\mu\text{m}^3$ in volume  |
| Aperture Diameter                                 | 10 $\mu\text{m}$ to 2000 $\mu\text{m}$ apertures (nominal diameters)  |
| Aperture Dynamic Range                            | Standard 1:30 (by diameter)      Total 1:40 (by diameter)      Standard 1:27,000 (by volume)      Total 1:64,000 (by volume)  |
| Aperture Range                                    | Total range: 2% to 80% of aperture diameter. Standard Range: 2% to 60% of aperture diameter. Extended Range: 60% to 80% of aperture diameter  |
| Resolution  | User selectable   |
| Number of Channels                                | Pulse data is digitized and can be processed to achieve up to 400 size channels for a selected pulse range. Number of channels and range can be reprocessed as necessary  |
| Electrolyte Solutions                             | All aqueous and non-aqueous electrolyte solutions recommended for use with aperture technology will be suitable for use with the Multisizer 4e. Electrolytes should be compatible with glass, fluoropolymers, fluoroelastomers and stainless steel          |
| Digital Pulse Processor                           | Proprietary high-speed digitalization of the signal   |
| Pulse Data  | Time stamped pulses up to 525,000 per single analysis   |
| Size Distribution Data                            | Size distribution by diameter, volume and area for number, number%, number/ml, volume, volume%, volume/ml, surface area, surface area% and surface area/ml  |
| Pulse Distribution Data                           | Pulse distribution by time, sequence and width for pulse height diameter, pulse height volume, pulse height volt, pulse width, pulse area, average pulse height diameter, average pulse height volume and average pulse width. Number distribution by width |
| Linearity   | $\pm 1\%$ for diameter $\pm 3\%$ for volume   |
| Aperture Current Range                            | 30 $\mu\text{A}$ - 6000 $\mu\text{A}$ in 0.2 $\mu\text{A}$ steps  |
| Aperture Current Accuracy                         | $\pm 0.4\%$ of setting  |
| Polarity Error                                    | Less than 0.5%  |
| Time Mode   | 0.1 to 999 seconds, selectable in 10 ms increments. Typically, time analysis is 10 to 90 seconds  |
| Total Count Mode                                  | 50 to 500,000 counts  |
| Modal Count Mode                                  | 10 to 100,000 counts  |
| Volumetric Mode                                   | Continuously selectable from 50 $\mu\text{l}$ to 2000 $\mu\text{l}$   |
| Metering System                                   | Mercury-free, wide range metering pump  |
| Volumetric Pump Accuracy                          | Better than 99.5%   |
| Regulatory Compliance                             | The software enables 21 CFR Part 11 compliance  |
| Dimensions, Weight and Power (excluding computer) | Unpacked weight: 45 kg (99 lb)      Width: 64 cm (25 in)      Depth: 61 cm (24 in)      Height: 51 cm (20 in)<br>Input voltage within set ranges: 100 - 120 VAC; 230 - 240 VAC $\pm 10\%$ ; single phase  |
| Supply Frequency                                  | 47 to 63 Hz inclusive   |
| Power   | Less than 55 volt-amps (watts)  |
| Fuse Types  | 250 V, IEC (5x20 mm), Time delay (TD), 2.0 A  |
| Environmental Conditions                          | a) This instrument is safe for indoor use only.      b) Installation category: 11      c) Pollution degree: 1   |
| Operating Temperature                             | 5°C to 40°C   |
| Relative Humidity                                 | 30% to 85% non-condensing   |
| Altitude  | Up to 2000 m (6560 ft)  |

## Ordering Information

| Part Number | Description                   |
|-------------|-------------------------------|
| B43095      | Multisizer 4e COULTER COUNTER |



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