

Particle Analysis System for Fluids Series FAS



Particle Analysis System for Fluids FAS 361

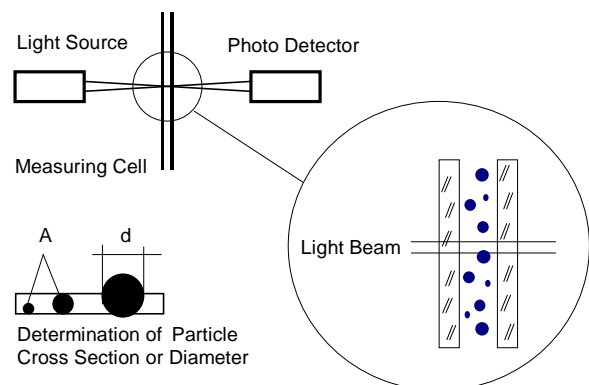
Measuring Method

Particle sizing methods based on single particle counting classify a physically measurable quantity according to particle size independently and under no assumptions. Such methods provide high sensibility and accuracy combined with very quick response of particle system analysis. A further advantage is that the correlation between optical effects and particle size can transparently be described.

Based on such optical, single particle counting methods the series FAS was developed for particle sizing as well as concentration measurements with high sensitivity and resolution in a wide concentration range.

Application

- Measurement of particle size distributions as well as concentrations
- Cleanness analysis
- Determination of separation efficiencies
- Flocculation investigations
- Analysis of biological or bacterial systems



Scheme of the Optical Unit

Advantages

- Non touching, optical measuring method with quick response
- Wide concentration range
- Extreme low dependency on particle material
- Optimally designed sensing volume
- No assumption of distribution function
- User friendly Windows® software
- Easy to use
- Robust, small dimensions and low weight

Specifications

Principle

The measuring instrument of the series FAS can be divided into two main components: the sensor and the signal processing unit.

The sensor is mounted separately and contains the optical measuring setup (light source, measuring cell, photo detector and amplifier) and a sample unit with glass vessel, stirrer and a magnetic valve for sample flow control.

For the series FAS, the physical effect is used where an illuminated particle will cause a definite light extinction (blockage) corresponding to its cross section and size, respectively. For this, the particle system is continuously streaming through a sensing zone inside a measuring cell. Particle concentration and measuring volume must be in such a relation that with high probability, the sensing zone contains only one particle at any time. Electrical pulses of the photo detector caused by single particles are amplified and classified by their height into different channels. The signal processing unit performs data sampling as well as reduction and the data transfer to the host computer connected by a serial RS232 interface.

Options

For high accuracy measurement of particle concentration it is necessary to know the analysed volume very exactly.

For this purpose a new feature has been added to the PASWin software package where the user can connect a micro balance to an additional serial interface at the host computer. The micro balance will be read out during the measurement in order to obtain the precise mass flow through the sensor.

Look at our World Wide Web site at <http://www.granuloshop.com/to/> now.

Specifications

Particle size range	2 ... 200µm (5 ... 500µm)
Particle concentration	Max. 5000#/cm ³ (Max. 2500#/cm ³)
Flow rate	20ml/min (60ml/min)
Power supply	110 ... 230VAC
Light source	20W halogen lamp, laser diode
Size channels	64
Dimensions	450 x 350 x 300mm
Weight	4.2kg

- Real-time data acquisition by 16bit processor
- Real-time Windows[®] software PASWin for instrument control and calculation of particle size distribution
- Calibrated with PSL standards

Topas Particle Analyzer Software PASWin

- Runs under Windows[®]
- Calculation of different type particle size distributions weighted by number, surface or volume
- Display and printouts as graphics or table
- User defined integration limit, channel resolution, logarithmic and linear size axis
- Background measurement and real-time subtraction
- Multi tasking
- Data exchange with other applications
- Communication with micro balance via RS232 interface (optional) for precise flow rate measurement

Specifications are subject to change without notice.
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