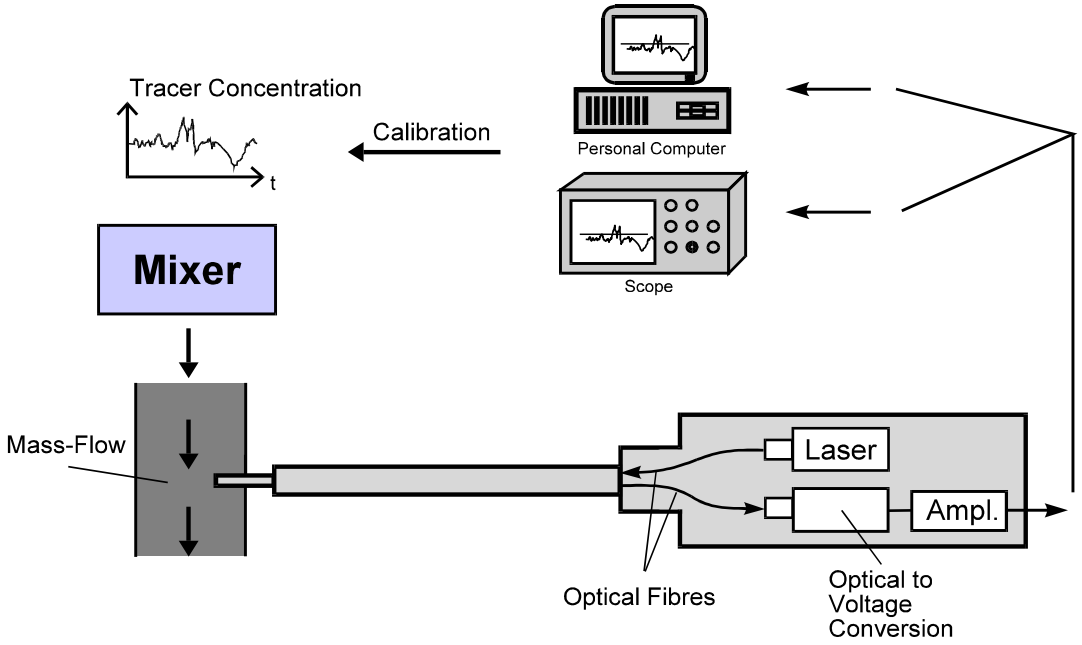
MSE Meili AG
Multiphase Systems Engineering

LABASYS® 100-M

Optical Probe for On-Line Tracer Concentration Determination



Measuring Principle

Light guided through an optical fibre illuminates the solids mixture of two optically differential particle fractions passing the probe optics preferentially in mass-flow. The **light quantity backscattered** by the solids depends on the **tracer concentration**. A second optical fibre receives this backscatterd light and guides it to a photometer, which converts the light into voltage proprotional to the detected light intensity.

For quantitative concentration measurements **calibration** with several sample mixtures covering the concentration range is necessary. Depending on the optical properties of the two solids fractions the wave length of the applied light for optimum results may vary.

Features

'LABASYS® 100-M' an instrument for laser backscatter measurements integrates all optical and electronical components in an easy to operate & robust case.

- **In-line** tracer concentration & flow structure determination.
- **modular design** allows an easy change of components such as laser diode, photodiode or probe tip with optics in order to **adapt the instrument optimally** for each measuring task.
- specially designed photometer modul **ensures high precision and reliable measurements**.

Suited for **in-line process & quality control!**

Specifications

- **Tracer concentration:** Depending on the optical properties of the solids and the light wave length.
- **Laser:** λ = 650 nm, P = 3 mW
  (standard light source, others upon request)
- **Stability of optical components:**
  ± 1.0% typ. ± 3% max (25 ±10 °C)
- **Output Signal:** Voltage 0 - 1 (3) V
- **Sampling Rate:** up to 100 kHz.
- **Probe tip:**
  - parallel or crossed fibres
  - shaft O.D.: 16.0 mm
  - length: 100 - ?? mm (customer specification)
  - material: stainless steel (1.4301)
- **Temperature:** ≤ 110 °C (probe tip)

Upon request special models with other geometries, for temperatures up to 400 °C or corrosive media are available.

MSE Meili AG – Multiphase Systems Engineering
Rheinweg 1, CH-8200 Schaffhausen, Switzerland
Tel: +41-(0)44-440 55 00, Fax: +41-(0)44-440 55 04
info@msemeili.ch, http://www.msemeili.ch

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