

WORKGROUP FOR MULTIPHAS FLOWS

Optical single particle counter

There are many optical measuring instruments physically basing on different phenomena of light scattering. For the user appropriate classification leads to devices allowing measurements of single particles and such analysing an entire parti ensemble at the same time. First ones are also called particle counters.

In this case, however, the optical detection of a particle is frequently only one part of the measuring procedure (countin Generally, information about the size of the particle are also won from the intensity of the optical signal at the same tin According to this measured value the particles will be classified in given size classes (classification).

Optical counting methods make a very high resolution of the particle size possible, i.e. a certain particle size interval can represented by relatively many and accordingly narrow single classes.

The optical measuring methods can be used equally profitably independent of the fact whether the particles are dispersed liquids or in the gas-carried condition.

The measuring ranges for the available optical particle counters are in detail:

For suspensions:

- ▶ laser-scattered light measuring device: 0.1 - 10 μm
- ▶ white light-extinction measuring device: 2 - 250 μm

Particles in air:

- ▶ scattered light measuring device PCS: 0.2 - 20 μm (process measuring device)