HELOS

Particle size analysis with laser diffraction 0.1 μm - 8,750 μm

Highlights of HELOS (Helium-Neon Laser Optical System)

Outstanding performance characteristics common to all HELOS sensors:

One measuring principle for the complete size range from 0.1 μm to 8750 μm, in a parallel laser beam of 632.8 nm, fully compliant with ISO 13320.

Absolute accuracy is typically within ±1% with respect to the standard metre.

Up to eight measuring range modules are selected by so   ware, each using a specially designed(Fourier-) objective for highest precision and resolution of the particle size distribution.

Modular design structure for best adaptation of the sensor to the analysis of powders, suspensions, emulsions, aerosols and sprays with specific dispersing units.

Precision semicircular (180°) multi-element photo-detector with auto-alignment for optimum acquisition of the di   raction patterns, especially of non-spherical particles.

Automatic adaptation of the beam diameter to the measuring range allowing for largest working distances, which is important e.g. for the measurements of extended aerosols etc.

Evaluation of particle size distributions withFREE (Fraunhofer Enhanced Evaluation): Fraunhofer theory (applicable without knowledge of optical parameters) down to 0.1 μm or

MIEE (Mie Extended Evaluation):Mie theory (for spherical, isotropic, homogeneous particles with known complex refractive index,as an option) for 0.1 to 8750 µmCombination of Measuring Ranges:two to eight measuring ranges can be combined to a single particle size distribution (as an option).

WINDOX 5 so ware for control of the instruments and evaluation of particle size analysis data:

one so ware supports all o -line, at-line, on-line, in-line instruments, data base oriented, multi-sensor capable, designed for $> 10^6$ HELOS

measurements,compliant with 21 CFR rule 11.permanently 2000 particle size distributions per second are acquired, used integral or in the integrated time resolved mode at a defined sample frequencyuse of statistical information to improve the inversion algorithm

Rigid full metal housing with integrated precision optical bench allowing for the operation of the sensor in any orientation, i.e. upside down for spray applications or even vertical.

fast change of measuring ranges

Communication:

TCP-IP interface with concurrent communication to all sensor components and external devicessystem set-up via built-in web-interfacecontrol of special devices via aux-in/out and ZigBitTM wireless network