



LaserTrack™

... true, on-line particle sizing

The LaserTRACK probe™, based on laser reflection technology, provides on-line (dynamic) process measurement of particle size and distribution.

Based on a patented design, this new combination of electronics and software is manufactured to HEL's specification to provide a true breakthrough capability compared with existing technologies.

Probes can also be integrated with process reactors providing control of stirring, temperature and dosing as well as particle size distribution data. With all data in a common file and displayed together a real understanding of a process can be obtained, live !

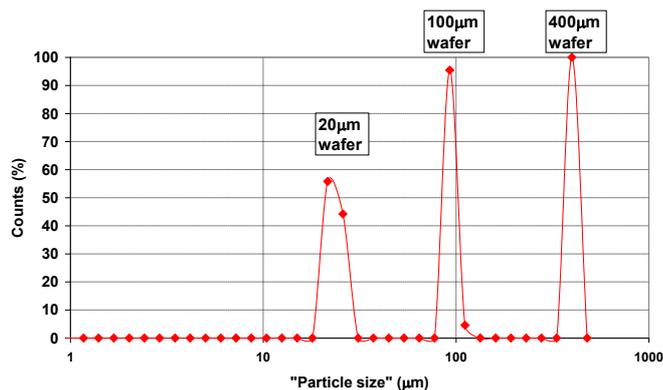


Features	Benefits
Zero base line counts	Reduced calibration requirements, no time for probe "polishing" to clean window. Saves time , Easier data interpretation .
Near-absolute particle size measurement	Reduced need for off-line analysis , meaning greater scope for and faster product improvement
32-bit processor & high quality electronics	Reduced noise, high resolution. Refined small particle detection below 0.5µm .
Advanced microprocessor and detection software	Enhanced discrimination of particle edges. Near-true determination of particle size (in place of random "cord lengths").
Moving optics	Wide measuring range achievable; $\leq 0.5\mu\text{m}$ to $\geq 1,000\mu\text{m}$ (or greater). Single system has multiple applications , and can track complete crystallisation process.

Near True Size Determination

This feature is easily demonstrated by placing metal wafers of known thicknesses in front of the LaserTRACK™ probe.

When there is nothing in front of the window, no particle count is reported – hence, the sharp peaks, and nothing in between.





Data quality & reproducibility

Trials were performed at several different locations around the world where the LaserTrack™ was positioned in a single stirred vessel and particle size data was recorded simultaneously.

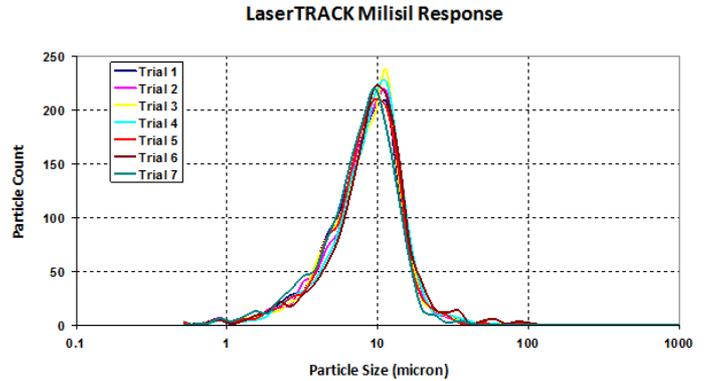
A total of 4 LaserTrack™ probes were assessed, the data from the different trials can be seen in the graph.

Quartz (milisil) was used as a reference material, with quoted specifications of: -

D50 = 10micron

D95 = 34micron

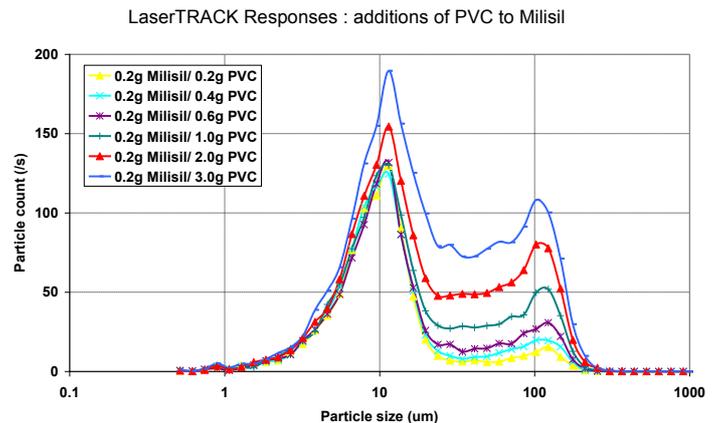
The graph reports the response from the LaserTRACK™ probes and the data shows consistently reproducible responses with distributions accurately centred on the quoted reference specification and with clarity of data to below 1 micron.



Resolution of mixed particles

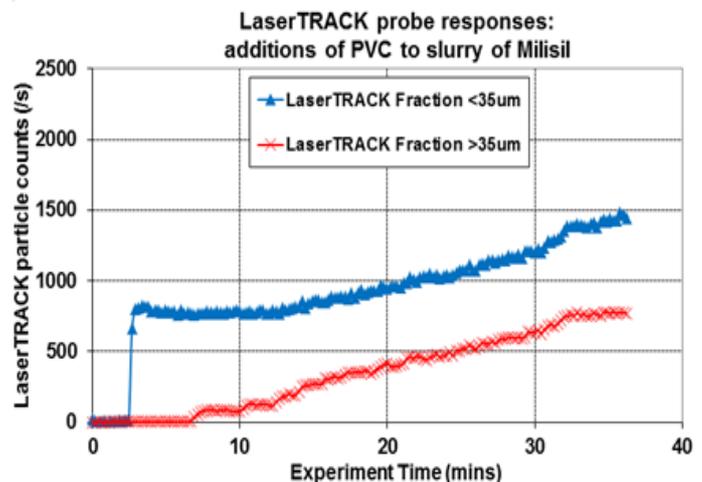
Stepwise addition of large (mean size ~100µm) PVC particles to an initial sample of quartz particles (as shown in graph above).

LaserTRACK™ correctly shows the sudden appearance of the PVC and gradual increase in count, accompanied by a slow increase in the fines count. (The fines count increases due to the presence of small 'dust' particles in the PVC sample).



Correct tracking of trends

The fines and coarse count from the PVC/quartz experiment is shown here. LaserTRACK™ correctly shows the increase in both fractions.



For further information visit <http://www.helgroup.com>

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