fluidan
Rheology on track

sonicdebubble
by USEPAT

RHEOSTREAM® FC-SD

*Get accurate process viscosity measurements together with sonic**debubble** - especially when samples contain microbubbles*

CHALLENGE

Hand dishwashing detergents and laundry detergents, which are liquid products containing surfactants, tend to form minute bubbles during the mixing process. The viscosity of these liquids must be monitored and controlled during manufacturing.

These liquids are ***non-Newtonian***, making traditional in-line viscometers inadequate. Typically, viscosity is monitored using manual off-line methods. The bubbles impacts viscosity and must be removed before the measurement - traditionally by centrifugation.

Manual sample preparation and measurement proceduress are prone to human error, and the required waiting time prevents real-time control and automation.

SOLUTION

On-line Instrument - RheoStream® integrates seamlessly into production lines (at mixing tank or downstream from conti-mixer), sampling automatically and offering results without interrupting the manufacturing process.

Build-in Debubbling of Sample - RheoStream® FC-SD includes the unique in-line sonic**debubble** system from usePAT removing even micro-bubbles as the sample flows into the rheometer.

Real-Time Monitoring - (2 minutes per sample measurement displayed at 3 selected shear rates) enables precise and instant adjustments to maintain optimal viscosity level.

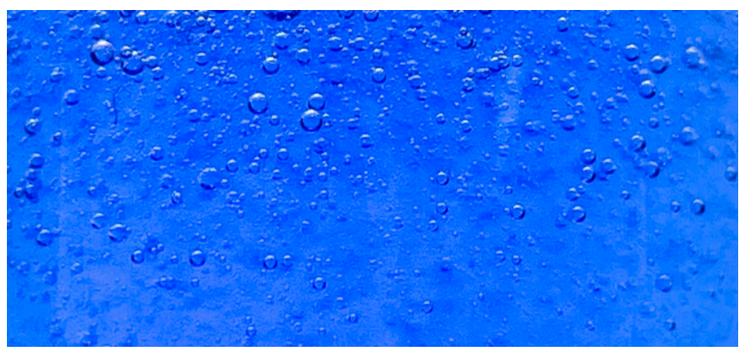
High Accuracy and Precision - eliminating variations through reliable and persistent results.

BENEFITS

Real-Time Quality Control - any deviation in viscosity can be immediately detected, allowing for swift adjustments in the production process to ensure the desired product quality.

Save Time, Reduce Waste and Rework - this leads to increased efficiency, reduced costs, and improved overall production output.

Consumer Delight - The continuous and comprehensive viscosity analysis ensures that every bottle meets the expactations of the consumer.



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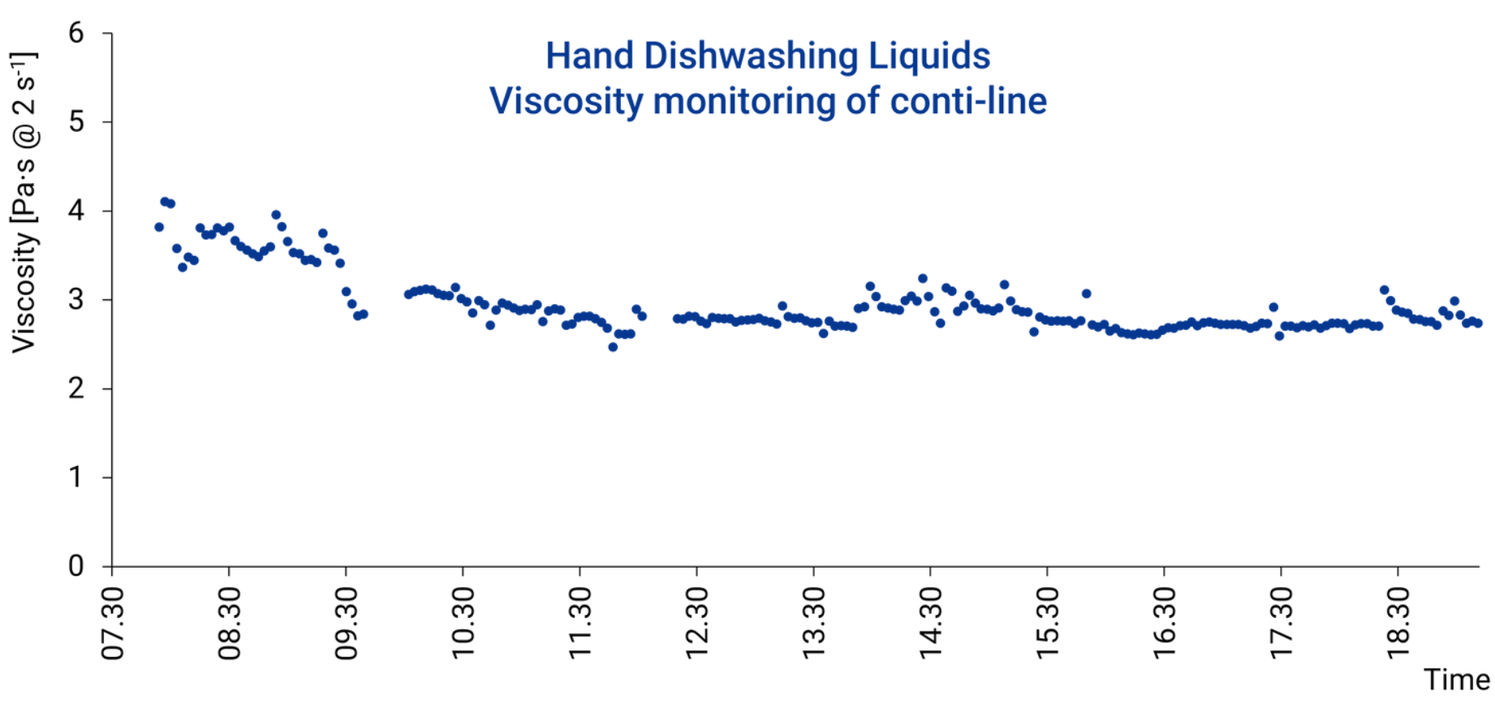
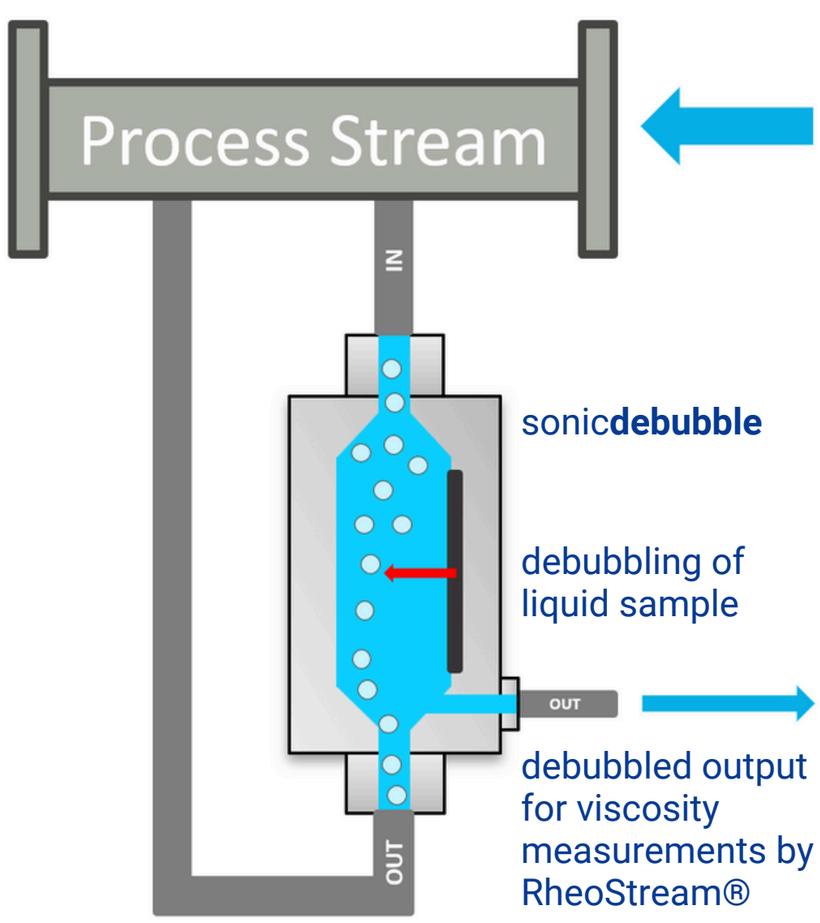
APPLICATION EXAMPLE

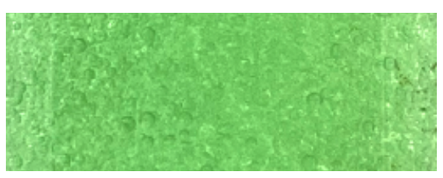
Viscosity was tracked with RheoStream® during continuous production of hand dishwashing liquid. Note that the data spans several batches of different product varieties.

Before introducing RheoStream®, samples were taken manually at regular intervals. The samples were taken to the QC lab and centrifuged prior to manual measurement.



COMBINED SOLUTION BY USEPAT AND FLUIDAN





Liquid with bubbles during process

Clear liquid due to ultrasound = sonic**debubble**

sonic**debubble**

- Creates bubble free zones in liquids
- Allows accurate measurements in real-time
- Increases data quality of in-line process analyzers

sonic**debubble** allows to keep particles or bubbles in liquids away from in-line process analyzers directly in the flow.

usePAT and Fluidan have jointly developed a combined solution, RheoStream FC-SD, making it possible to measure in real-time the viscosity of industrial liquids with bubbles from the mixing.

The bubbles are removed by an ultrasound wave which pushes particles including bubbles to specific layers creating a bubble free zone. The now bubble free liquids or samples within a bypass can then be accurately measured by RheoStream.

Want to learn more? Contact us at

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