

Checking the detergent stability



Why does it need to be checked and what are the main methods?

Dear user and prospective customer.

An optimal cleaning result in the electronics cleaning depends to a large extent also on the optimal working ability of the used detergent. If too many impurities (eg colophony entry) have been taken up, if cleaning temperatures of 50 ° C upwards are applied (here the cleaner may lose larger proportions of liquid due to evaporation) or if too much concentrate has been added, the detergent may lose its stability and therefore significantly efficiency.

Therefore, a cyclic examination of the cleaning mixture is necessary to measure the current concentration and (if necessary) by post-dosing / adjusting the cleaner to ensure its effectiveness.

Two methods are generally used for this purpose:

- Cleaner concentration monitoring by ultrasonic measurement
- Cleaner concentration monitoring by refraction measurement (measurement scale percent Brix / %Brix)

Applying the concentration / density measurement by ultrasonic waves, the substance-dependent sound propagation time is evaluated for density determination. On this basis, the associated concentration is calculated from each measured sound propagation time value.

Applying the refraction measurement, light waves are sent into the fluid. Depending on the density, these are broken differently. The detection of these refractions makes it possible to determine the concentration of a mixture.

The ultrasonic measurement, which originates from the field of particle measurement, is not always immune to common interfering factors, such as solid particles in the bath, vibrations (for example, by a running machine) or the flow rate of the fluid. These factors may then lead to falsified results.

The refraction measurement measures only the liquid. Other factors do not affect the light beam and its refraction. Refraction measurement is a virtually trouble-free process, which was originally developed for liquids. The machine inline / online application is significantly cheaper than a comparable ultrasonic device and refraction measurement can also be performed manually by the user without much effort and at low cost.



kolb inline / online refraction measurement / monitoring unit



kolb ServiceCase 400 for manual refraction measurement

kolb offers both inline / online cleaning concentration monitoring via ultrasound, as well as by refraction measurement. As a series option, we offer an innovative refraction measurement unit exclusively, but also provide ultrasound monitoring on customer request.

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