

NEW TEST METHOD FOR ROTATING SPRAY HEAD PERFORMANCE IN TANK CLEANING

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Abstract

The purpose was to develop a new, easy and fast, test method for evaluation of rotating spray heads (RSHs) performance in tank cleaning, which does not require advanced training.

A visual cleaning test was chosen, in which a visible soiling medium is spread on a plate and the cleaning time is recorded. Choosing a suitable soiling medium was important. Amongst others the following criteria should be met: Readily available, water soluble, adequate removal pattern. The removal pattern is important, as the test medium should be removed by water droplets and not, as seen with some soils, in flakes.

The chosen medium was a mixture of commercially available toothpaste and tap water. This mixture meets the needed criteria. One issue with the mixture was a tendency to foam formation, however an anti-foam agent was successfully used.

Final test method: Preparation of test medium; even spreading on a standardised stainless steel plate; positioning the steel plate in tank; record total cleaning time. The method was tested on four different RSHs from Alfa Laval. Cleaning times were recorded at different distances and flow rates.

Using the new method, it is possible to distinguish between RSHs based on the cleaning time at the same distances and flow rates. A new method for testing and comparing the performance of RSHs, is found and will help in development of a standardised method for objective evaluation of different RSHs.

Key words: *Test method, Spray head, Tank cleaning.*