Ultrasonic Cleaning Indicator

Rev. 0 / 10.2019

Tuttnauer
Innovation · Legacy · Partnership

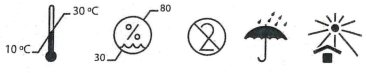
WTL198-0086

Results reference guide

Unprocessed

Failures

Processed and correct



Cleaning indicators

For cavitation capacity testing of ultrasonic washers

Control of cleaning and washing process of medical instruments an materials is very important as this result influences the success o subsequent disinfection and / or sterilization processes. Ultrasonic washers are a key point in this process as they allow the removal of soil in areas of difficult access such as joints, crevices and lumens o medical instruments. The cleaning power of ultrasonic washers is due t the cavitation process, where small vacuum bubbles at high temperatures collapse quickly creating liquid flows at high pressure tha impact on the instruments removing the residues present in there surface.

Product description

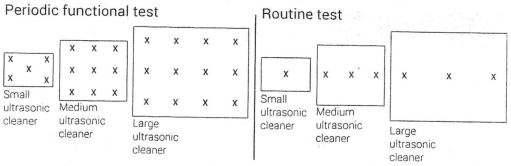
WTL198-0086 indicator was designed to monitor the cavitation process It allows testing the operation of ultrasonic washing machines with different washing configurations by measuring the generated cavitation energy. The indicator consists of a clear vial, with a reactive blue-colored solution and ceramic cylinders immersed in it. When the cavitation energy is adequate, vibration of the cylinders triggers a color change in the solution, from blue to yellow, through a range of green colo intermediates.

Characteristics

The indicator does not require a special holder to be used. Simply, place one vial on the ultrasonic machine zone you wish to monitor and ultrasonic washer cycle is started.
The indicator can be used for monitoring ultrasonic cleaning processes in washing machines operating in a temperature range of 18 °C to 70 °C with detergent or washing solution, and at 35 kHz or higher frequencies

Instructions for use

Ultrasonic washers should be checked at least once per week and the results should be recorded. There are two types of tests (see figure) and the indicator can be used in both:
-Periodic functional test: for initial set-up of the washing machine, and at regular intervals of three months or after a repair. The purpose of this test is to verify the uniform distribution of the cavitation process in the washer tank.
-Test routine: is performed weekly or daily, to verify that the cavitation works correctly. This test allows detecting a possible failure in the performance of the ultrasonic washing machine.



Procedure:

1-Prepare the tank with cleaning solution following both the manufacturer's instructions for the ultrasonic washing machine and the manufacturer of the detergent used.
2-Degassify the tank according to indications of use of the detergent manufacturer.
3-Adjust the temperature according to indications of use of the detergent manufacturer.
4-Take the necessary number of indicators according to the Test you want to perform (Periodic Functional Test or Routine Test) and the size of the washer tank.
5-Place them in the basket without load according to the distribution of the Test to be performed.
6-Place the basket in the tank and run the desired ultrasonic cleaning program.
7- Completed the program to remove the indicators from the bathroom.
8- Analyze the results according to the table and record the data obtained.

Interpretation of results

Not exposed Cavitation failures Correct cavitation

The color change from blue to yellow is an accepted result and this indicates the presence of cavitation energy suitable for washing. The time in which this color change occurs is a measure of the strength of cavitations energy. Green color result indicates a failure to reach the cavitation energy necessary for a good cleaning.
In both tests, the slower change in color of an indicator (in average) indicates the presence of an area with less cavitation energy or a "weak point" of the tank, while a failure result indicates the presence of a "cold spot" or an area without the cavitation energy necessary for a good wash.
In addition to the correct operation of the ultrasonic washer, the cavitation process is influenced by multiple variables such as: presence