



Cleaning Effectiveness Mapping

Troubleshooting Guide for Ultrasonic Washers Instructions for use 009

Included Products:

- VeriTest Tags
- VeriTest Multi Basic
- VeriTest Multi 360

Included Processes:

- Cleaning Effectiveness Mapping

For best results, read the entire instruction manual before using VeriTest devices.

IFU 009

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Important Information

Following IFU 001 “VeriTest Multi Usage”, section A) “Cleaning Effectiveness Mapping – Ultrasonic Washers”, the following troubleshooting guide will walk through the possible outcomes of the mapping process and give detailed solutions and possible causes for a range of results. Please consult IFU 001 for detailed instructions on how to carry out the Cleaning Effectiveness Mapping process for both Automatic Washers and Ultrasonic Washers and ensure that you are using the correct troubleshooting guide for the type of washer in question.

NOTE:

It is crucial that Cleaning Effectiveness Mapping is conducted with **only** multi devices in the washer (empty load) in order to produce accurate data on cleaning performance within different locations/levels of the chamber.

The purpose of the Cleaning Effectiveness Mapping is not to completely clean all VeriTest Multi Devices within the washer. The purpose is to identify the location with the poorest cleaning performance within the washer. This location should be used during Routine Process Monitoring (See IFU 001 section C. “Routine Process Monitoring”).

In Ultrasonic Washers, it is expected that there will be little change in cleaning performance between locations as the ultrasonic transducers are designed to provide complete coverage within the wash basin. If no noticeable differences are observed after Cleaning Effectiveness Mapping, any location within the washer would be deemed appropriate for use during Routine Process Monitoring or Process Verification (See IFU 001 sections B and C).

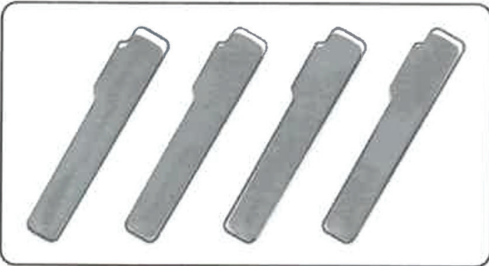
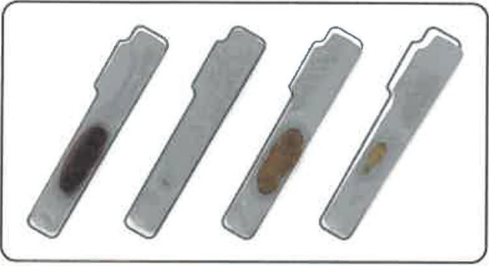
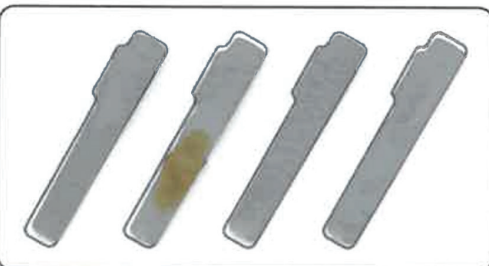
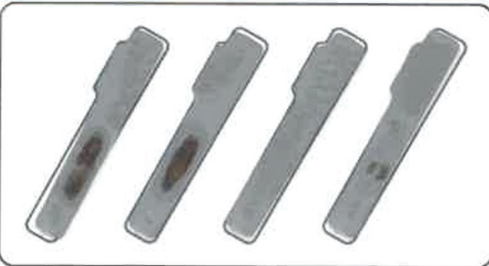
Troubleshooting Disclaimer

The following troubleshooting guide has been designed by our team at Aseptium using our extensive knowledge of process challenge devices and washers, both Automatic and Ultrasonic. We have worked tirelessly to produce a troubleshooting guide that represents real-life results that you may expect to find when using our products. Our hope is that these guides allow you to quickly identify and diagnose issues with equipment and processes to reduce costly downtime of equipment. It is important to note that cleaning cycles in both Automatic and Ultrasonic washers are subject to countless variables and random events. For this reason, these troubleshooting guides should be used as a supplement to aid in the identification of issues and not be used as the ultimate basis for any decision making. If in doubt about the working condition of a washer, always consult your maintenance service provider. Aseptium does not accept any responsibility for consequences following any decisions that may be made after consulting these troubleshooting guides.




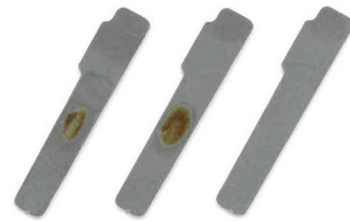
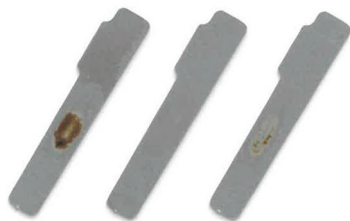
Cleaning Effectiveness Mapping Troubleshooting Guide	
Result	Possible Cause/Solutions
All Multi Devices throughout washer completely clean	<p>The purpose of the Cleaning Effectiveness Mapping process is to identify the “area with poorest cleaning performance” within a washer. If the full wash cycle has successfully cleaned every tag on all locations of each VeriTest Multi Device, then the location in question has not been identified.</p> <p>In this instance, in order to identify the area with poorest cleaning performance, restart the process but this time, manually stop the wash cycle program halfway through the “Main Wash” phase (section of wash program with chemical),</p> <p>This should ensure that the VeriTest Multi Devices still possess some of the test soil.</p> <p>At this stage, simply assess the VeriTest Multi devices visually or using a protein quantification method (VeriTest Blue, ProReveal etc.) to determine the location with poorest cleaning performance.</p>
Considerable difference in cleaning across different areas of the washer.	<ol style="list-style-type: none"> 1. Check water level to ensure required volume of water has been met 2. Check the performance of the ultrasonic transducers using a cavitation meter or thin foil test. <p>If no issues as described have been identified, contact maintenance service provider.</p>
Slight differences in cleaning performance throughout the Ultrasonic Washer	<p>Slight differences may be simply a characteristic of the machine, wherein the coverage of the ultrasonic transducers is not entirely uniform throughout the washer.</p> <p>In the instance of results such as these, ensure that all other parameters have been met.</p> <ol style="list-style-type: none"> 1. Check the performance of the ultrasonic transducers using a cavitation meter or thin foil test. 2. Ensure water level requirement has been met. <p>If there are no noticeable issues with the transducers or the volume of water within the washer, it is safe to assume that the difference in cleaning performance throughout the washer is simply a characteristic caused by its design.</p> <p>Using this information, identify the area(s) with the poorest cleaning performance and record them. Choose the location with poorest cleaning performance and use this location for Routine Process Monitoring and/or Process Verification.</p>

VeriTest Multi Troubleshooting Guide

VERITEST MULTI RESULT	FAULT DESCRIPTION	TROUBLESHOOTING
	<p>Well optimised cycle.</p> <p>Result:</p> <ul style="list-style-type: none"> • No visible contamination on any surface 	<ul style="list-style-type: none"> • Well optimised cycle demonstrates good overall cleaning
	<p>Blocked spray arm above the VeriTest Multi Block.</p> <p>Result:</p> <ul style="list-style-type: none"> • Position 2 clean • Positions 1 and 3 visibly contaminated • Position 4 partially cleaned <p>Likely cause of the problem:</p> <ul style="list-style-type: none"> - Instrument blocking the spray arm - Nozzle blockage - Seized spray arm due to build-up of debris - Damage to the rack or spray arms 	<ul style="list-style-type: none"> • Check the spray arm above the Multi Block for ease of rotation – it should rotate easily and smoothly when pushed by hand. • Check for any blocked nozzles or debris trapped inside or on the outside of the spray arm. • On the next cycle place the block in the same place and inspect the rack and shelf above for any damage of deformation that may block the spray arm. • Inspect and loading of instruments to ensure nothing blocks the rotation. • Compare the speed of rotation of the spray arm in question with others by counting revolutions per minute (it should be within +/- 10% of the average).
	<p>Blocked spray arm below the VeriTest Multi Block</p> <p>Result:</p> <ul style="list-style-type: none"> • Positions 1, 3 and 4 clean • Position 2 visibly contaminated <p>Likely cause of the problem:</p> <ul style="list-style-type: none"> - Instrument blocking the spray arm - Nozzle blockage - Seized spray arm due to build-up of debris - Damage to the rack or spray arms 	<ul style="list-style-type: none"> • Check the spray arm below the multi block for ease of rotation – it should rotate easily and smoothly when pushed by hand. • Check for any blocked nozzles or debris trapped inside or on the outside of the spray arms. • On the next cycle place the block in the same place and inspect the rack and shelf for any damage of deformation that may block the spray arm. • Inspect the loading of instruments to ensure nothing blocks the spray arm rotation. • Compare the speed of rotation of the spray arm in question with others by counting revolutions per minute (it should be within +/- 10% of the average). • If no issue is identified inspect the chemicals as per the point below.
	<p>Issue with with cleaning chemistry</p> <p>Result:</p> <ul style="list-style-type: none"> • Position 3 clean • Positions 1, 2 and 4 visibly contaminated <p>Likely cause of the problem:</p> <ul style="list-style-type: none"> - Chemical dosing system - Chemical itself - Dosing calibration - Leaks or obstructions in piping - Wrong programme or programme parameters - Excessive foaming - Insufficient water level, pump cavitation 	<ul style="list-style-type: none"> • Inspect the chemical bottle and connections to make sure the right detergent is dispensed. • Check the use by date of the chemical. • Check for leaks from the bottle and tubing (in the chemical compartment as around the machine). • Check whether chemical delivery tubing is not bent, twisted or squashed. • Investigate the volume of the chemical dispensed and verify dosing calibration. • Check for abnormal noise while dosing pump is running by comparing it with other dosing pumps. • Check for excessive foaming, main pump cavitation (inconsistent sound), intermittent drop in pump pressure and spray arm rotational speed.



VeriTest Multi 360 Troubleshooting Guide

VERITEST MULTI RESULT	FAULT DESCRIPTION	TROUBLESHOTING
	Well optimised cycle Result: <ul style="list-style-type: none">• No visible contamination on any surface	<ul style="list-style-type: none">• Well optimised cycle demonstrates good overall cleaning
	Blocked spray arm above the VeriTest Multi Block Result: <ul style="list-style-type: none">• Position 2 and 3 clean• Positions heavily contaminated Likely cause of the problem: <ul style="list-style-type: none">- Instrument blocking the spray arm- Nozzle blockage- Seized spray arm due to build-up of debris- Damage to the rack or spray arms	<ul style="list-style-type: none">• Check the spray arm above the Multi Block for ease of rotation – it should rotate easily and smoothly when pushed by hand.• Check for any blocked nozzles or debris trapped inside or on the outside of the spray arm.• On the next cycle place the block in the same place and inspect the rack and shelf above for any damage of deformation that may block the spray arm.• Inspect and loading of instruments to ensure nothing blocks the rotation.• Compare the speed of rotation of the spray arm in question with others by counting revolutions per minute (it should be within +/- 10% of the average).
	Blocked spray arm below the VeriTest Multi Block Result: <ul style="list-style-type: none">• Position 3 clean• Position 1 and 2 visibly contaminated Likely cause of the problem: <ul style="list-style-type: none">- Instrument blocking the spray arm- Nozzle blockage- Seized spray arm due to build-up of debris- Damage to the rack or spray arms	<ul style="list-style-type: none">• Check the spray arm below the multi block for ease of rotation – it should rotate easily and smoothly when pushed by hand.• Check for any blocked nozzles or debris trapped inside or on the outside of the spray arms.• On the next cycle place the block in the same place and inspect the rack and shelf for any damage of deformation that may block the spray arm.• Inspect the loading of instruments to ensure nothing blocks the spray arm rotation.• Compare the speed of rotation of the spray arm in question with others by counting revolutions per minute (it should be within +/- 10% of the average).• If no issue is identified inspect the chemicals as per the point below.
	Issue with with cleaning chemistry Result: <ul style="list-style-type: none">• Position 2 borderline clean• Positions 1 and 3 visibly contaminated Likely cause of the problem: <ul style="list-style-type: none">- Chemical dosing system- Chemical itself- Dosing calibration- Leaks or obstructions in piping- Wrong programme or programme parameters- Excessive foaming- Insufficient water level, pump cavitation	<ul style="list-style-type: none">• Inspect the chemical bottle and connections to make sure the right detergent is dispensed.• Check the use by date of the chemical.• Check for leaks from the bottle and tubing (in the chemical compartment as around the machine).• Check whether chemical delivery tubing is not bent, twisted or squashed.• Investigate the volume of the chemical dispensed and verify dosing calibration.• Check for abnormal noise while dosing pump is running by comparing it with other dosing pumps.• Check for excessive foaming, main pump cavitation (inconsistent sound), intermittent drop in pump pressure and spray arm rotational speed.