



PINNACLE™

Monitor
for

AUTOMATED

Enzymatic Cleaning Process

Product Code 5176

Product Code for Accessories:
5176H Resin Strip Holders
5176SS Stainless Steel Strip Holder

PINNACLE Test Strip (unused)
Indicator pad Reference pad

Resin Strip Holder – 5176H

Stainless Steel Strip Holder – 5176SS

NEW and IMPROVED STRIP HOLDERS

INDICATIONS FOR USE:

The **PINNACLE** Monitor for Enzymatic Cleaning (AEC) is used to monitor the cleaning efficacy of automated medical washer-disinfectors and ultrasonic cleaners *using enzymatic detergents*. **PINNACLE AEC** tests all factors of the automated cleaning process including enzyme activity, cycle time, temperature and mechanical action in both washer-disinfectors and ultrasonic cleaners. **PINNACLE AEC** also tests cavitation in ultrasonic cleaners *using enzymatic detergents*. A test device can be placed on one or every level of the washer-disinfector or ultrasonic cleaner based on your facility's procedures, policies or the level of assurance required.

Washer Disinfectors
Instructions for Use

1

Remove the required number of PINNACLE AEC test strips from the bottle and, using a permanent marker, write the equipment identification, date, time and location, if applicable, on the strip handle.

2

Insert the strips into the channel of the holders ensuring the pads are centered within the window of the holder. Close the holder securely.

3

Attach the test devices inside the baskets or on the perimeter of the washer-disinfector rack making sure there is no contact with the spray arm. The test device may also be placed flat in the basket, but the test must not be obstructed by surgical instruments.

4

After the wash cycle is complete, remove holder from the washer, open and remove the test strip. Lay the strip, with pads facing up, on a white paper towel and interpret results.

5

Compare color of the larger indicator pad to the smaller reference pad. Record results. The strip can be archived for up to 2 years or discarded according to federal, state and local regulations.

Ultrasonic Cleaners
Instructions for Use

1

Remove the required number of PINNACLE AEC test strips from the bottle and, using a permanent marker, write the equipment identification, date, time and location, if applicable, on the strip handle.

2

Insert the strips into the channel of the holders ensuring the pads are centered within the window of the holder. Close the holder securely.

3

Attach the test devices to instrument baskets. Do not place the holder on the bottom of the ultrasonic cleaner. The test strip must not be obstructed by surgical instruments.

4

After the ultrasonic cycle is complete, remove holder from the ultrasonic bath, open and remove the test strip. Lay the strip, with pads facing up, on a white paper towel and interpret results.


5

Compare color of the larger indicator pad to the smaller reference pad. If the two pads are similar in color when wet, blot the strips with a clean, dry paper towel to aid in interpretation. Record results. The strip can be archived for up to 2 years or discarded according to federal, state and local regulations.

RESULTS


PASS/FAIL results are determined by **comparing the indicator pad to the reference pad** of a PINNACLE AEC test strip. The diagrams below are for example only.


OPTIMAL CLEANING CONDITIONS



Pass: The indicator pad is lighter in color than the smaller reference pad.


8:10 am






Amsco #2
1/15/20


8:10 am






Amsco #2
1/17/20


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




Amsco #2
1/18/20

8:35 am






Amsco #2
1/21/20

The amount of color change varies based on the:


- type/brand of washer
- detergent brand and concentration/enzyme activity
- cycle time
- cycle temperature
- mechanical action


SUBOPTIMAL CLEANING CONDITIONS



Fail: The indicator pad is similar to or darker than the reference pad.


8:15 am






Amsco #2
1/14/20

8:45 am





Amsco #2
1/16/20

For FAIL results, check the following:

- Insufficient detergent concentration or delivery
- Insufficient cycle time and/or main wash cycle temperature not reached
- Spray arm(s) partially clogged or immobilized
- Detergent degraded or expired

Refer to the PINNACLE Reference Guide on the back for additional information.



Reference Guide

If the PINNACLE Monitor for AEC yields a “FAIL” result, refer to the tables below to identify the possible cause/correction.

Multiple factors can affect PASS/FAIL results including the detergent concentration/enzyme activity, cycle time, cycle temperature, and mechanical action. Results may also vary based on equipment and detergent brands.

Test Result: Some color loss but the Indicator Pad color is similar to or darker than the Reference Pad

SOURCE	POSSIBLE REASON	CORRECTION
1 Insufficient detergent concentration or delivery	Concentrations of less than the recommended dosage can result in impaired cleaning performance.	Consult detergent manufacturers' instructions for use. Check for clogged or obstructed tubing/lines.
2 Insufficient cycle time and/or main wash cycle temperature not reached	Using less than the recommended cycle time and/or main wash temperature can lead to impaired cleaning performance.	Verify cycle settings are compatible with enzymatic detergent manufacturers' recommendations. Check temperature for wash cycle.
3 Spray arm(s) partially clogged or immobilized	An immobilized or clogged spray arm will not deliver enough detergent to the instrument trays.	Consult manufacturers' instructions on cleaning or repairing spray arm(s).
4 Detergent degraded or expired	Prolonged use, improper storage, extending the use life or expiration date of the enzymatic detergent can cause degradation of the active ingredients.	Replace with new enzymatic detergent solution and re-test.
5 Insufficient enzyme activity	Incorrect temperature, detergent is degraded or expired.	Correct the temperature per detergent manufacturers' instructions and/or replace with new enzymatic detergent solution and re-test.
6 Placement of test device	Obstructions in front of the test pads can result in less-than-optimal exposure to the detergent.	Place new test device into tray or on rack, ensuring proper placement without obstructions.
7 Difficulty interpreting test strip results	Holding the strip vertically or placing it on a black or stainless-steel surface can affect color perception.	Place the strip flat on a white paper towel, with the pads facing up, to interpret results.
8 Mottled or unevenly colored indicator pad	The indicator pad material is not homogenous or the pad is being obstructed.	Focus on overall pad color to determine PASS/FAIL results. Ensure the indicator pad was not being obstructed.

Test Result: No color loss; the color of the Indicator Pad is darker than the Reference Pad

SOURCE	POSSIBLE REASON	CORRECTION
9 No detergent delivered or no active enzyme present	No enzymatic detergent was present or a non-enzymatic detergent was used.	Check detergent solution used. Check for clogged or broken hoses/lines or spray arms. Contact service technician.
10 Loss of water pressure or mechanical failure	Detergent was not distributed throughout the washer or insufficient impingement.	Contact service technician.

Considerations for Testing Ultrasonics

When testing an ultrasonic unit, the detergent concentration, cycle time, and temperature will impact results. The test strips will be wet when removed from the sonic unit and may be blotted to aid in interpreting the results. Blotting is best accomplished by firmly pressing the pads facedown onto a clean paper towel. In some situations, PASS/FAIL determination requires dry strips.

After corrections are made, re-test to ensure appropriate results are obtained with the device. Follow hospital procedures for reprocessing loads.

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