TYLER
Research Corporation
Biomedical Engineering

Product: **LAMR-2C5PVC**

Material: Polyvinyl chloride with silicone seals and stainless steel screws

The LAMR-2C5PVC is manufactured from Polyvinyl chloride, an advanced thermoplastic material commonly used in water transport and storage applications.

Sterilizing LAMR-cassette series devices:

NOTE: The LAMR-2C5PVC is **NOT** an autoclavable product.

Clean the LAMR-2C5PVC with mild detergents and warm water followed by thorough rinsing in deionized water, and treatment using one or more of the following procedures:

1. Exposure to ethylene oxide gas (available in many hospitals)
2. Exposure to ionizing radiation (Cobalt 60 gamma or X-rays)
3. Treatment with agents containing 2% glutaraldehyde (e.g. Cidex)
4. Soaking overnight in sodium hypochlorite solution (5%)
5. Prolonged exposure to sodium metabisulfite solution (15 g/liter)

IMPORTANT:

Ionizing radiation may cause surface crazing of some materials and may lead to color changes over time. In the event that procedures 3, 4, or 5 are used, it is important to soak and rinse the devices in sterile deionized water thoroughly before placing them back in service.

LAMR-2C5PVC

Assembly/Disassembly Instructions:

The LAMR-2C5PVC cassette series biofilm systems are precision devices consisting of two PVC manifold halves, two nylon inlet/outlet nipples, stainless steel socket head cap screws connecting the manifold halves, silicone O-rings, and two PVC cassettes capable of supporting 5 rectangular biostuds each.

Assembly or disassembly of the LAMR-2C5PVC device for cleaning requires a 5/32" hex drive wrench and a #2 Phillips screwdriver.

Disassembly of the LAMR-2C5PMMA

1. Use a #2 Phillips screwdriver to remove the stainless steel screws clamping the cassettes to the manifold. Once the cassette has been separated from the body of the device, the rectangular biostuds can be removed from their respective holders with sterile gloves or forceps. *[The two cassettes each contain 10 spring-loaded subassemblies to hold the rectangular coupons firmly in their respective cavities. Under normal circumstances it should **NOT** be necessary to disassemble and clean these, but to do so, remove the screws with their O-rings from the top of the cassette, extract the elastomeric spring using a hemostat, and gently push the stainless steel ball out of the cavity. After cleaning, install the stainless steel ball, push the elastomeric spring into the cavity until it is flush with the outside surface, place the O-ring on the screw under the hex head and replace the screw to affect a seal.]*
2. Use the 5/32" Hex drive to remove the eighteen stainless steel screws holding the two acrylic halves together. Once the screws have been removed, carefully separate the two halves and remove the silicone O-ring.
3. If desired, remove the inlet/outlet nipples from the lower manifold by turning counterclockwise with a wrench (for routine cleaning and sterilization this step is not required).
4. Place the LAMR-PVC cassette device face down and use a 5/32" hex-drive wrench to remove the socket head cap screws connecting the two manifold halves.
5. Carefully separate the two PVC halves and remove the silicone O-ring.
6. Wash all components using only mild detergent and water, and thoroughly rinse with deionized water. Allow to dry before reassembly.

Assembly of the LAMR-2C5PMMA

1. Lubricate all O-rings occasionally with silicone O-ring lube to promote sealing and prolong O-ring life. With the base upright on a bench, place the large silicone O-ring in the groove surrounding the central channel. Align the top manifold and place it gently onto the base, being careful not to dislodge the O-ring. While holding the halves firmly together, turn the manifold over on the bench to expose the holes for the socket head cap screws. Using a 5/32" hex drive wrench, install and partially tighten the cap screws, leaving a 1mm gap between the top and base of the manifold. Then tighten the screws uniformly, still leaving a tiny gap (approximately 0.1mm) between the manifold halves. Finally, tighten them sequentially just to bring about surface-to-surface contact between the manifold halves**. DO NOT OVERTIGHTEN!** The O-ring is fully compressed and any tightening beyond surface-to-surface contact will simply stress the threads in the upper manifold, leading to cracking and structural failure.
2. If the inlet/outlet nipples were removed during cleaning, replace and carefully screw them into the endport sockets only one full turn beyond finger tight. Again, **DO NOT OVERTIGHTEN** as this will simply lead to structural failure of the manifold.
3. Carefully insert an edge of the rectangular biostud into one of the recesses in the cassette holder. Gently slide the biostud fully into the recess and over the two stainless steel balls. The leading and trailing biostud edges should align with the side walls of the holder to permit the biostud to fit into the body of the manifold.
4. Place the cassettes in their respective ports and use the Phillips screwdriver to tighten the stainless steel screws into the body of the device. Be careful **NOT TO OVERTIGHTEN** the screws to avoid damaging the body of the device.