

A background image featuring dynamic water splashes and droplets in shades of blue and white. A teal diagonal banner cuts across the upper portion of the image.

AAMI TIR34: CRITICAL WATER MANAGEMENT

WATER QUALITY EXPERT

A vertical logo consisting of a white stylized water drop shape on the left and a white vertical bar with horizontal lines on the right.

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Jeffrey Paquet | President & CEO
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Beyond Clean Water Quality Expert™:

AAMI TIR34: CRITICAL WATER MANAGEMENT

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One of the most important aspects of AAMI TIR34 impacting our daily lives in sterile processing is the production and management of Critical Water. Critical Water is the term that AAMI defines as deionized water used in final rinses. TIR34 extensively covers water quality system design best practices as well as the necessary monitoring, control, and maintenance. This is because Critical Water has two surprising characteristics that can cause more problems for us than it solves.

Water has some unique qualities that make it ideal for attracting charged particles or ions. Water is “happy” when it contains these ions in solution. When we use reverse osmosis or deionization tanks to remove the ions, water becomes very electrically unstable because it wants the ions back. Because water doesn’t like being ion-free, it will locate ions elsewhere in the components it is in contact with like fixtures, pipes, and valves. Material selection of plumbing is vitally important to prevent Critical Water from literally dissolving your plumbing and equipment over.

The other surprising quality of purified water is its susceptibility to becoming quickly contaminated with bacteria. The purification process removes the disinfectant, in most cases chlorine, from the water making it a perfect medium for bacteria and viruses to thrive. That is why Critical Water plumbing should be constructed in loops that continuously re-circulate the unused water back to the purification equipment where any biological contaminants can be neutralized and removed. Even the best designed systems will experience biological contamination, measured in Colony Forming Units, CFU’s, exceeding AAMI standards in as little as a month. A critical water system sanitization will need to be performed regularly to knock-down the CFU levels which, if untreated, can form biofilms inside the plumbing. These biofilms can become impossible to eliminate and may force the facility to remove and replace the contaminated plumbing and equipment.

Have more questions for this expert? Contact Jeffrey at jpaquet@mmicmedical.com

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Jeffrey Paquet is the CEO of MMIC Medical Systems and its VERDA Water Quality Systems. Mr. Paquet is an expert in Product Realization and Commercialization that stems from his career that spans nearly 30 yeears in various industries including Healthcare, Automotive, and Aerospace. Jeffrey has a Bachelors of Science in Aerospace Engineering from UCLA with his career focused on design, product development, and manufacturing. His experience in the Aerospace industry has driven his belief that the technology and operational systems employed to monitor processes and provide the ability for rapid response to dynamic situations have direct and valuable application in the healthcare environment.

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