

TRISTEL RINSE ASSURE (RA)

HOW ARE YOU RINSING YOUR MEDICAL DEVICES?

Staff and patients are put at risk when medical devices are rinsed with water of inappropriate quality.¹ Researchers have found that using reverse osmosis (RO) and filtered mains water alone for rinsing can still result in cases of re-contamination, despite reducing the risks². As a result, the limitations of these methods remain a significant cause for concern.

A disadvantage of using RO systems is that biofilms cover the membranes and filters that are designed to purify the water passing through them. Problematically, biofilms can re-contaminate the treated water by releasing bacteria back into the water.³

High electricity costs are another concern when using RO systems. Water flows continuously from the storage tank, through the filters and back to the tank to control bacterial growth. Maintaining such a constant flow requires the pump to run continuously. Operating all day, whether in use or standing idle, the systems use high levels of electricity, resulting in steep costs.

Rinsing with Tristel RA

Contrastingly, Tristel RA is a water treatment system designed specifically with medical device decontamination in mind. It avoids the disadvantages and high risks of other water purification methods. Combining an RO machine and filters* with Tristel's proprietary chlorine dioxide chemistry (ClO₂), Tristel RA ensures both bacteria-free rinse water and filter disinfection.

Tristel ClO₂ is dosed in very low concentrations, after the RO membrane and before the final 0.2µm filter. This low-level dosing method prevents bacterial growth and biofilm formation. The result: water appropriate for use in an Endoscope Washer Disinfector (EWD) cycle.

Ensuring compliance

Maintaining water purity compliance for every rinsing procedure, Tristel RA features filters, RO* and chemical dosing to produce water quality compliant with HTM 01-06.

In the Health Technical Memorandum (HTM) 01-06 for the management and decontamination of flexible endoscopes, Part B: 'Design and installation' mentions that "the addition of a non-toxic biocide to the final rinse-water may help prevent the formation of biofilm."

Tristel ClO₂ has shown to be effective against *Pseudomonas aeruginosa* biofilm growing in tubing, simulating the internal channels found within endoscopes and following ISO 15883-1.⁴

Moreover, Tristel ClO₂ has demonstrated greater than 6-log reduction against *Mycobacterium terrae*.⁵ It is also effective in reducing proteins and polysaccharides within biofilm structures and reducing endotoxin levels.⁶

Completing rinsing procedures efficiently

The cost of efficiency cannot be overlooked for water purification, where chemistry can make all the difference in price and impact.

As opposed to RO systems, which need to constantly circulate to ensure the water is filtered and not left standing in the pipework, Tristel RA operates on a pressure demand; the pump is only running when required to reduce electricity costs. The daily cost of running Tristel RA is ten times lower than the average RO system, reducing costs to 54p a day instead of £5 per day.

Your rinse water solution

For the past century, chlorine dioxide has been used in the water treatment industry, with both the World Health Organization (WHO)⁷ and the United States Environmental Protection Agency (EPA)⁸ approving it for the disinfection of drinking water. Tristel ClO₂, as dosed by Tristel RA, produces internationally compliant, non-corrosive rinse water for use in EWDs.

Tristel RA eliminates bacteria, prevents biofilm formation, and significantly lowers endotoxin levels ensuring bacteria-free rinse water while requiring less electricity than RO alone.

To learn more about Tristel ClO₂ and Tristel RA, visit our website at www.tristel.com. Alternatively, you can speak to one of our Sales Representatives today on +44 (0)1638 721 500.

References:

¹Hanna Bielecka (April 2020), 'Treating rinse water: RA versus RO?' Clinical Services Journal, 7-10.

²Cooke et al. (1998), 'Bacteria-free water for automatic washer-disinfectors: an impossible dream?' Journal of Hospital Infection, 39: 63-65.

³Alvarado et al. (1991), 'Nosocomial Infections from Contaminated Endoscopes: A Flawed Automated Endoscope Washer. An Investigation Using Molecular Epidemiology' The American Journal of Medicine, 91 (suppl 3B): 272S-280S.

⁴Biotech-Germane (2004). Evaluation of The Biocidal Activities of Tristel Chlorine Dioxide Solution Against Biofilm. Document number 254. TRIL.04.

⁵Pace (2017), 'Tristel Rinse Assure Disinfection Study GLP Report', Nelson Laboratories.

⁶Pace (2017), 'Tristel Rinse Assure Water Quality Study GLP Report', Nelson Laboratories.

⁷World Health Organization (WHO) (2004), 'Guidelines for Drinking-water Quality'. 3rd edition.

⁸United States Environmental Protection Agency (EPA), 'Drinking Water Treatability Database'. Available online at: <https://iaspub.epa.gov/tadb/pages/treatment/treatmentOverview.do?processId=-1277754943>. Accessed: 11/10/2021.