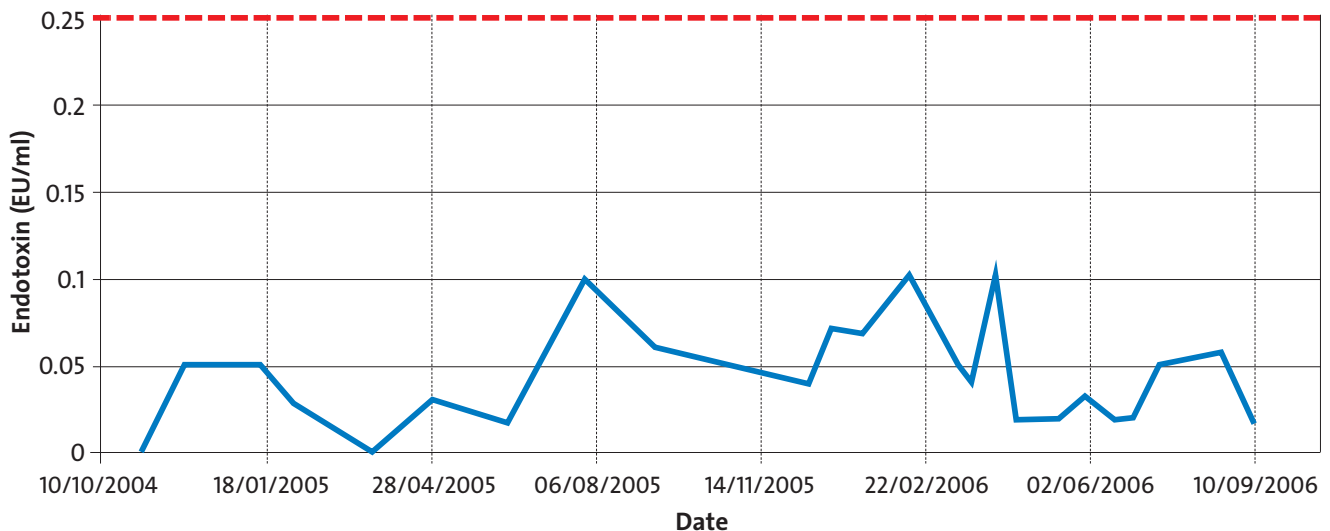


Biopure Endotoxin Levels

The Biopure product family continuously delivers purified water to meet the very latest standards (prEN15883, HTM2030/2031) for a wide range of washer disinfectors, automated endoscope reprocessors and autoclaves.

The absence of high levels of endotoxin is an essential (standard) requirement. This is achieved by ensuring bacterial and biofilm growth are minimized and that any remaining traces of endotoxin are removed by recirculation through an ultrafilter.

Figure 1 Endotoxin levels in the Biopure product Water



A Biopure has been operated for over 20 months providing water to a laboratory ring-main. The endotoxin levels measured are shown above. They are significantly below the HTM2030/2031 specification of <0.25 EU/ml.

Bacterial levels are controlled by passing the water through a reverse osmosis membrane and then recirculating the water through a series of technologies: exposure to a high dose of germicidal UV light at a wavelength of 254nm damages the cell DNA leading to sterility and ultimately death; passage through an ultrafilter effectively removes all bacteria present as well as endotoxins and other degradation by-products.

Regular disinfection/sanitization ensures that biofilm has little opportunity to establish itself. A Biopure water system regularly disinfected has been found to give bacterial count levels of 1 CFU/100ml or less.

Endotoxins are removed by an ultrafilter. Ultrafilters are highly effective at preventing the passage of endotoxins. When challenged with a feed water containing 1000 EU/ml the endotoxin in the product water was less than 0.001 EU/ml. This is a Log reduction factor of 6.

Conclusion

The Biopure range can consistently meet both industry and international guidelines.

ELGA LabWater

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