

VENDOR WATER QUALITY COMPLIANCE PACK: EMAIL TEMPLATE & CHECKLIST FOR ST108 ALIGNMENT

Overview: This comprehensive pack helps you obtain and **compare your equipment vendors' water quality requirements** (e.g. Steris, Getinge, Belimed) against your facility's water test results, then guides you in closing any gaps with an **EndoTherm-grade water treatment solution**. Following the steps below will ensure your sterile processing department meets **ANSI/AAMI ST108** standards for water quality and protects both **patient safety and your equipment**.

WHY REQUEST VENDOR WATER QUALITY REQUIREMENTS?



Example of heavy mineral scale deposits inside a sterilizer due to poor water quality. High hardness and silica in feed water can cause such scale buildup, interfering with equipment sensors and heating elements.

Each manufacturer of washers, disinfectors, and sterilizers specifies acceptable water quality parameters for their equipment. Using water that meets these specs is critical: "Quality water for processing instruments improves cleaning chemistry effectiveness, reduces corrosion/damage, and improves steam quality". In contrast, failing to meet water requirements can result in stains, corrosion, and device malfunctions, ultimately compromising patient safety. Poor water quality increases infection risks (e.g. surgical site infections) and pyrogenic reactions due to endotoxins, while also damaging instruments through pitting and rust. It can even void your equipment warranty and shorten its lifespan by several years. Vendors like Steris, Getinge, and Belimed have updated their guidelines considering AAMI ST108:2023, the new enforceable standard for medical device reprocessing water.

For example, Belimed now offers water testing services to ensure facilities stay within AAMI ST108's accepted ranges for critical water characteristics. It is the facility's responsibility to provide water of sufficient quality – manufacturers explicitly advise consulting them and note that the customer must supply water that meets their guidelines. Bottom line: Proactively requesting your vendor's latest water quality requirements (e.g. maximum hardness, conductivity, chlorides, etc.) is the first step to compliance. These specs define the target for your water treatment. (For instance, Getinge recommends final rinse "critical" water with <30 µS/cm conductivity and <50 mg/L hardness, among other limits. Knowing these numbers allows you to identify where your current water falls short.

EMAIL TEMPLATE: REQUESTING THE LATEST WATER SPECS

To help you obtain the necessary information, we've included an email template you can use to ask your vendor for their latest water quality specifications.

Customize it with your facility and equipment details, and send it to your vendor's technical support or sales representative:

Subject: Request for Water Quality Requirements – [Equipment Model/Name]

Dear [Vendor Name] Support,

We are updating our sterile processing water program in light of **ANSI/AAMI ST108** and need to ensure our **[Washer/Disinfector or Sterilizer Model]** is operating with water that meets your specifications. Could you please provide the **latest recommended water quality requirements** for this equipment? Specifically, we're looking for acceptable ranges or maximum levels for:

- **Hardness (mg/L as CaCO₃)**
- **pH range**
- **Conductivity or TDS** (total dissolved solids)
- **Chlorides, iron, copper, silica**, and other ionic contaminants
- **Total bacteria (CFU/ml)** and **endotoxins (EU/ml)** if applicable
- Any other water quality parameters you specify for optimal performance.

This information will help us compare your requirements to our current water test results and address any gaps to remain in compliance and protect our equipment. Thank you for your assistance.

Sincerely,
[Your Name & Title] [Hospital/Clinic Name]

Using this template ensures you gather all relevant parameters. Be sure to mention ST108 compliance and your specific equipment model, as vendors might have updated specs or addenda for newer standards. Once the vendor replies with their water quality spec sheet or guidelines, you're ready for the next step.

WATER QUALITY COMPARISON CHECKLIST

After obtaining the vendor's specs, use the comparison checklist to evaluate each parameter against your latest water analysis. Below are the key water quality parameters to check, and why each matters (common requirements and issues are noted):

- **Hardness (Calcium & Magnesium):** Vendor Limit Example: ≤ 50 mg/L.
- **Why it matters:** Excess hardness causes limescale and white mineral crusts inside washers and sterilizers, which impair heating elements, clog jets, and reduce cleaning efficacy. Hard water scale can also increase maintenance needs and shorten equipment life if not controlled.
- **Chlorides and Corrosive Ions (e.g. Chloride, Iron, Copper):** Vendor Limit Example: $\text{Cl}^- \leq 5\text{--}10$ mg/L, $\text{Fe/Cu} < 0.2$ mg/L.
- **Why it matters:** Even small amounts of chloride or iron can lead to corrosion and pitting of stainless-steel components. Chlorides in particular cause rust-colored staining and rapid instrument degradation. Iron and copper from plumbing can deposit on instruments as reddish-brown or blue green stains and accelerate the wear on tanks and chambers. If your water report shows elevated corrosive ions above vendor specs, it's a red flag for potential equipment damage.
- **Silica:** Vendor Limit Example: ≤ 0.2 mg/L SiO_2 .
- **Why it matters:** Silica in water leaves a cloudy white film or glassy deposit on instruments and chamber surfaces. This chalky residue won't be removed by standard filters and can make devices appear dirty. High silica requires special treatment (like RO or DI) to remove, so compare your silica level to the spec – it's often a parameter that many facilities overlook until deposits form.
- **pH and Alkalinity:** Vendor Range Example: pH 6–8.5.
- **Why it matters:** Water that is too acidic or too alkaline can reduce the effectiveness of detergents and disinfectants and contribute to material degradation over time. A neutral pH (around 7) is generally ideal for most cleaning chemistry and to avoid surface damage. Ensure your water's pH is within the range the vendor specifies. Alkalinity (buffering capacity) ties into pH stability; high alkalinity alongside high pH can cause scale and soap buildup, whereas low pH can leach metals.
- **Conductivity (Total Dissolved Solids):** Vendor Limit Example: < 30 $\mu\text{S/cm}$ (which corresponds to low TDS).
- **Why it matters:** Conductivity is an aggregate indicator of minerals and ions in the water. If conductivity or TDS exceeds vendor specs, it means your water carries a high load of dissolved solids. High TDS leads to spotting, filming on instruments, and poor rinsing outcomes. It's essentially an early warning – when conductivity is trending up, issues like scale, stains, and microbial growth aren't far behind. Track this number closely against the allowable limit.
- **Microbial Content (Bacteria & Endotoxins):** Vendor Limit Example: ≤ 100 CFU/100 ml; Endotoxin ≤ 0.25 EU/ml for final rinse.
- **Why it matters:** Even if your water looks "clean," bacterial contamination and endotoxins can be present and are a serious patient safety hazard.

WATER QUALITY COMPARISON CHECKLIST

- **AAMI ST108 sets strict limits on bacteria and endotoxin** in critical water because any microbial biofilm or pyrogens left on instruments can cause infections or fever reactions in patients. Compare your water's microbiological test results to the vendor's limits. If any colony counts or endotoxin levels exceed specifications, immediate remedial action is needed (e.g. improve filtration or disinfection of the water supply).

Use the checklist by listing each parameter, the vendor's spec (from their email or manual), and your measured values side by side. Highlight any parameters where your values exceed the vendor's acceptable range. Those are the gaps that must be addressed. (Common gaps in many facilities' water are hardness, chlorides, and silica – which you may find are above the stringent levels recommended by OEMs.)

CLOSING THE GAP WITH AN ENDOTHERM SOLUTION

Identifying a gap is only step one – next, you'll implement solutions to correct the water quality issues. This is where our **EndoTherm-grade water treatment solution** comes in. The EndoTherm solution is tailored for *healthcare sterile processing* and designed to *meet or exceed vendor water specs* by employing a multi-tiered treatment approach:

- **Pre-Filtration & Softening:** To protect downstream equipment, EndoTherm systems first remove sediment and reduce hardness via filtration and water softeners. Removing hardness at the source prevents the limescale deposits that damage washers and sterilizers.
- **Reverse Osmosis (RO) Purification:** An advanced RO unit then removes 95–97% of dissolved inorganic and organic impurities, including ionic contaminants like chlorides, silica, and heavy metals. RO significantly lowers conductivity and TDS to produce high-purity water ideal for final rinses and steam generation. (By comparison, RO water easily meets the example $<30 \mu\text{S/cm}$ conductivity spec.)
- **Deionization & Polishing:** For facilities requiring ultra-low mineral content, EndoTherm can incorporate deionization as a polishing step after RO. DI beds strip out remaining charged ions, yielding extremely low conductivity water. This ensures even trace minerals are below vendor limits. (DI is typically used to guarantee hardness, chloride, and silica are essentially zero in the final critical water.)
- **UV Sterilization and Ultrafiltration:** To address microbes and endotoxins, the EndoTherm solution includes ultraviolet (UV) disinfection units and optional ultrafilters at points-of-use. UV light neutralizes bacteria in the water without chemicals, and ultrafiltration (with sub-micron filters) can physically retain endotoxins and bacteria before water contacts your instruments. This multi-barrier approach ensures the water not only meets chemical purity specs but also the stringent microbial standards of ST108
- **Monitoring & Maintenance Program:** Achieving specs is not a one-time event – maintaining them is equally important. EndoTherm solutions come with monitoring tools and service support (e.g. regular water testing, filter changes, system sanitizations) to sustain compliance over time. As noted by industry experts, ongoing testing and tracking are now critical under ST108 – daily monitoring helps catch trends (like rising conductivity or microbial counts) before they become problems. The EndoTherm service ensures your water stays within the required ranges and that your system performs optimally with preventative maintenance.

By deploying the EndoTherm solution, any gaps identified in your checklist will be closed. For example, if your chloride or TDS levels were high, RO and DI will bring them down well below vendor limits. If hardness was an issue, softening and RO will remove the calcium/magnesium that cause it. If bacteria/endotoxins were a concern, UV and ultrafiltration will address those. In short, this integrated solution delivers “Critical Water” quality that aligns with AAMI ST108 and manufacturers’ specs, safeguarding your instruments and patients.

CONCLUSION

Water quality compliance in sterile processing is no longer optional – it’s an essential part of equipment upkeep, infection prevention, and regulatory compliance. By **asking your vendor** for their latest requirements, **comparing specs vs. your water report**, and then **investing in the right water treatment (EndoTherm)**, you create a closed-loop process for quality assurance. Facilities that take these steps will minimize contamination risks and equipment damage, meet or exceed ST108 standards, and extend the life of their valuable washers and sterilizers.

Use this Vendor Compliance Pack as your roadmap to achieve peace of mind knowing your water is up to par. With the email template and checklist in hand, and EndoTherm solutions to resolve any deficiencies, you’ll keep your sterile processing water supply in perfect shape – protecting patients, instruments, and your accreditation all at once.

Sources: The importance of water quality and ST108 compliance is documented by Steris and AAMI, while equipment manufacturers like Getinge and Belimed provide specific water criteria. Ensuring these criteria are met prevents the well-known issues (corrosion, scale, infections) associated with poor water. Advanced water treatment methods (RO, DI, UV, ultrafiltration) are recommended to achieve critical water specifications. This guidance consolidates best practices from industry standards and vendor recommendations to help your facility stay compliant and safe.

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