Triple Clear Filtration Specification - Marriott Hotels

A. General Requirements:

1. Potable Water: Provide potable water to every fixture throughout the facility in compliance with the maximum contaminant levels as allowed by the World Health Organization (WHO) or the US Safe Drinking Water Act (SDWA).
   • Prior to design, obtain an independent third-party water quality analysis for the project site.
   • Develop a water management plan for the building in the event a water quality issue occurs.

   a. Water Filtration: Provide factory packaged 3-stage Point-of-Entry (POE) water purification system capable of removing particulate matter down to 3um equivalent and containments down to .001, achieving a 4 log reduction of virus, cysts with no use of chemicals and maximum peak clean pressure drop of 3 psi.
   • The system must include Force Field filters (TC-FF1-xx), capable of removing microbiological contaminants including the cellular remains of dead contaminants (endotoxins and cellular debris), viruses, bacteria, cysts, trace pharmaceuticals, and other contaminants, and shall permanently bond the debris to filter so that the contaminants (Virus and Bacteria) cannot be released. The filter shall also be capable of 99.999% removal of Legionella. The filters shall be capable of operating under max water temperatures of 160° F and max flow rates of 40 gpm per 35" filter element. Filters shall be NSF61 and NSF42 approved and USP Class VI testing and endotoxin testing.

c. **Water Filtration - Domestic Hot Water Return System**: The system includes Force Field filters (TC-FF1-xx), capable of removing microbiological contaminants including the cellular remains of dead contaminants (endotoxins and cellular debris), viruses, bacteria, cysts, trace pharmaceuticals, and other contaminants, and shall permanently bond the debris to filter so that the contaminants (Virus and Bacteria) cannot be released.

   • As part of this process, the filter shall also be capable of 99.999% removal of Legionella.

   • The filters shall be capable of operating under max water temperatures of 160° F and max flow rates of 40 gpm per 35" filter element.

   • Filters shall be NSF61 and NSF42 approved and USP Class VI testing and endotoxin testing.

d. Manufacturers shall conform to the performance criteria listed in this document, with performance verified by the Engineer of Record. Manufacturers who currently provide acceptable products include, but are not limited to, the following:

   • Triple Clear Water Solutions, National Account Contact: Patrick Verwys, (484) 888-9218 or e-mail patrick@tripleclear.com

B. Water Treatment:

1. Primary Water Filtration: Provide packaged multi-stage point-of-entry (POE) water purification system. Projects without the point-of-entry system shall provide the secondary systems.

2. Secondary Domestic Hot Water Filtration: Provide a factory designed domestic hot water filtration system and install on the return side of the hot water recirculation loop.

3. Secondary Point of Use Filters: Provide inline filtration where required for in room filtration, ice machines, food production areas, coffee stations, beverage stations, and hydration stations.

4. Filtration Requirements:
   • Carbon block filtration is not acceptable
   • Be approved by NSF61 and NSF42
   • Be tested to USP Class VI and endotoxin compliant
   • Certified to 99.99% removal of Legionella Able to remove particulate matter down to 3um equivalent
   • Able to remove containments down to 0.001 to achieve 99.99% reduction of bacteria, virus, cysts without the use of chemicals
   • Operate up to maximum water temperatures of 160° F
   • Operate at a maximum flow rate of 40 gpm per 35" of filter element
   • Operate without the use of chemicals
   • Maximum clean pressure drop of 3 psid.

5. Manufacturers shall conform to the performance criteria listed in this document, with performance verified by the Engineer of Record. Manufacturers who currently provide acceptable products include, but are not limited to, the following:
   • Triple Clear Water Solutions, National Account Contact: Patrick Verwys, (484) 888-9218 or e-mail - patrick@tripleclear.com