



## Water Quality Specifications and Requirements

AVS requires clean, filtered process water per the following recommended maximum specifications and characteristics:

- Total Hardness as  $\text{CaCO}_3$ : **100 parts per million (ppm)**
- Total Dissolved Solids (TDS): **200 ppm**
- Conductivity: **not to exceed 300  $\mu\text{mho/cm}$**
- PH: **7.0 to 8.0**
- Suspended Solids: TSS **10 ppm**

If water containing a large proportion of suspended solids is used for an extensive period, it could result in flow restrictions because of sedimentation or obstruction.

AVS supplies numerous water flow switches with each furnace which are used as safety interlocks. Restricted flow will cause the system to shut down once the flow is below the flow switch set-point thresholds.

If the flow switch set-points are tampered with and lowered from factory settings, restricted flow will eventually result in overheating and possibly cause damage to the system.

The most temperature sensitive items that are included with a furnace are Diffusion Pumps, Cryo-Trap Compressors, and Hydraulic Power Units ( All of which have an 85°F Maximum inlet temp. ) However, all three items operate more efficiently with an optimum cooling water inlet temperature of 70°F. The maximum temperature rise of the furnace has been calculated to be 35°F during heating at full power and a maximum of 50°F temperature rise during cooling while running the Chamber Cooling Fan at 100% output or in Emergency situations.

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