

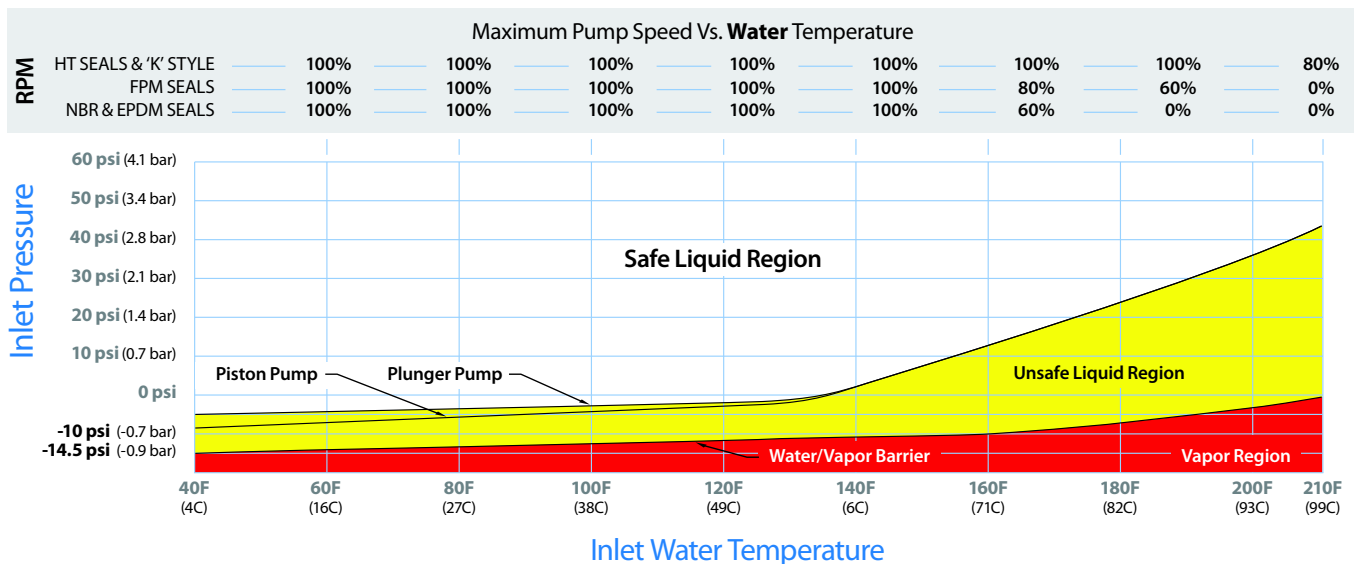
# Inlet Design

## Temperature

Standard pumps are rated to operate with a maximum fluid temperature between 140° F – 180° F / 60° C – 82° C depending on the model. For some fluids special elastomers are available to allow temperatures to 240° F / 115° C.

As the temperature of water increases, the vapor pressure (pressure required to remain liquid) also increases. By increasing the inlet pressure to the pump, you can minimize the increased risk of cavitation. Several aspects of the system should be considered with elevated temperatures to achieve optimum performance.

- Pressurize inlet above 130° F / 54° C
- Reduce pump RPM
- Pump seal configuration above operating temperature
- Increase inlet line size to the pump



It is important to operate the pump and system within the “Safe Liquid Region” as shown in graph. As liquid temperatures increase, higher inlet pressures are required to maintain the fluid in its liquid stage. The graph above shows the liquid stage for water. If pumping water with additives or liquids other than water, the liquid phase will be different. Contact Cat Pumps for assistance in determining liquid properties and temperature effects.